

On-Time Public Comment List

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AGENDA CHANGE REQUEST FORM
ALASKA BOARD OF FISHERIES

The Board of Fisheries (board) will accept requests to change its schedule under certain guidelines set forth in 5 AAC 39.999. The board will accept these agenda change requests (ACRs) only:

- 1)r for a fishery conservation purpose or reason; orr
- 2)r to correct an error in regulation; orr
- 3)r to correct an effect on a fishery that was unforeseen when a regulation was adopted.r

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)].

Please answer all questions to the best of your ability.

1)rCITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible,r enter the series of letters and numbers that identify the regulation to be changed. If it will be a newr section, enter "5 AAC NEW".r

Alaska Administrative Code Number 5 AAC: 06.373 Alagnak River Sockeye Salmon Special Harvest Area (ARSHA).

2)r WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAILr THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly andr concisely. The board will reject multiple or confusing issues.r

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Gillnet specifications and operations are unclear for gillnet fisheries in the ARSHA. For example, it is unclear if the Board intended to allow set gillnet CFEC permit holders operate gear seaward, or off shore, of other set gillnet permit holders.

3)r WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the newr or amended regulation say?r

5 AAC 06.331 defines gillnet specifications and operations in Bristol Bay.

The purpose of this ACR is to reduce misunderstanding by defining in 5 AAC 06.373 which sections of 5 AAC 06.331 do not apply to the ARSHA and by adding language to 5 AAC 06.373 to clarify Board intent. Proposed language is not included at this time to allow the board to determine in the first instance what parts of 5 AAC 06.331 apply in the ARSHA.

Proposed language:

(e)rWhen the ARSHA is open under this section, a gillnet may only be operated as follows:r

- (1)ra set gillnet may not exceed 25 fathoms in length;r
- (2)ra set gillnet may not be set or operated within 150 feet of another set gillnet;r
- (3)rrepealed 5/26/2006;r
- (4)ra set gillnet must be operated in a substantially straight line perpendicular to the nearest bank of ther Alagnak River;
- (5)rrepealed 4/4/2013;r
- (6)rall gear and equipment associated with set gillnet fishing in the ARSHA must be removed from ther water when it is not being used to fish in the ARSHA;



(7) no more than 50 fathoms of drift gillnet may be used to take salmon;

(8) a CFEC permit holder may not use more than one gillnet to take salmon at any time;

(9) a drift gillnet vessel may not have more than 150 fathoms of drift gillnet on board the vessel.

(f) Repealed 5/26/2006.

(g) Repealed 5/26/2006.

(h) [additional provisions will specify which provisions of 5 AAC 06.331 apply in the ARSHA]

New language proposed above in 5 AAC 06.373(h) will describe which gillnet specifications and operations listed in 5 AAC 06.331 apply in the ARSHA.

4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.

a) for a fishery conservation purpose or reason:
NAI

b) to correct an error in regulation:
Regulations are in conflict and/or unclear.

c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:
It was unforeseen that the regulations would be in conflict.

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?
There will continue to be confusion and the Board's intent will be unclear.



6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.

The sequence of gillnet fisheries (allocation) is stipulated in 5 AAC 06.373(d) which is not addressed by this ACR.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.
NA

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)

Law enforcement

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.

Unknown.

Submitted by:

NAME Alaska Wildlife Troopers

Individual or Group

5700 E Tudor Rd Anchorage, AK 99507

Address **City, State** **Zip**

Home Phone 907-754-3453 scott.quist@alaska.gov

Work Phone **Email**

SIGNATURE:  **DATE:** 8/15/18

Note: Addresses and telephone numbers will not be published.

Mail, fax, or e-mail this completed form to:
Alaska Board of Fisheries
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Juneau, AK 99811-5526

Fax: 907-465-6094

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- 2) to correct an error in regulation; or
- 3) to correct an effect on a fishery that was unforeseen when a regulation was adopted.

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)].

Please answer all questions to the best of your ability.

| |
|---|
| <p>1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".</p> <p>Alaska Administrative Code Number 5 AAC: 06.100</p> |
| <p>2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.</p> <p>5 AAC 06.100 defines the Bristol Bay Area for commercial fisheries. The problem is that the definition does not include drainages of Bristol Bay, yet several regulations in 5 AAC 06 refer to drainages and specific rivers in the Bristol Bay watershed.</p> |
| <p>3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?</p> <p>The language in 5 AAC 06.100 should be amended to read the same as 5 AAC 01.300 which is the definition of the Bristol Bay Area in subsistence regulations and includes the phrase, "including drainages".</p> <p>Delete language: 5 AAC 06.100 Description of Bristol Bay Area [THE BRISTOL BAY AREA INCLUDES ALL WATERS OF ALASKA IN BRISTOL BAY EAST OF A LINE FROM CAPE NEWENHAM 58_ 38.88' N. lat., 162_ 10.51' W. LONG TO CAPE MENSNIKOF AT 57_ 28.34' N. lat., 157_ 55.84' W. LONG.]</p> <p>Amend language to read: 5 AAC 06.100 Description of Bristol Bay Area. <u>The Bristol Bay Area consists of all waters of Bristol Bay including drainages enclosed by a line from Cape Newenham at 58 38.88' N. lat., 162 10.51' W. long. to Cape Menshikof at 57 28.34' N. lat., 157 55.84' W. long.</u></p> |
| <p>4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.</p> |
| <p>a) for a fishery conservation purpose or reason:</p> <p>NA</p> |



b) to correct an error in regulation:

The current regulation is erroneous in that it does not include the drainages of Bristol Bay in the definition of the Bristol Bay Area. Excluding drainages from the definition has implications for other regulations.

c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:
NA

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?
Any commercial fishery conducted in the drainages of Bristol Bay such as the Naknek, Wood and Alagnak River Sockeye Salmon Special Harvest Area, will be conducted outside of the Bristol Bay Area because "drainages" are specifically excluded from the definition.

6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.
This ACR deals with area definition and will have the same effect on all user groups.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.
NA

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)
Law enforcement.

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.
Unknown

Submitted by:

NAME Alaska Wildlife Troopers
Individual or Group

5700 E. Tudor Rd. Anchorage, AK 99507
Address **City, State** **Zip**

907-754-3453 scott.quist@alaska.gov
Home Phone **Work Phone** **Email**

SIGNATURE:  **DATE:** 8-13-18

Note: Addresses and telephone numbers will not be published.



Mail, fax, or e-mail this completed form to:

Alaska Board of Fisheries

P.O. Box 115526

Juneau, AK 99811-5526

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Please answer all questions to the best of your ability.

1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".

Alaska Administrative Code Number 5 AAC: 06.200(b) [Click here to enter text.](#)

2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.

It is unclear whether drainages of Kvichak Bay, which include the Naknek River Sockeye Salmon Special Harvest Area (NRSHA) and the Alagnak River Sockeye Salmon Harvest Area (ARSHA), are in the Naknek-Kvichak commercial fishing district. There are implications on other regulations if drainages and special harvest areas are or are not in the district. For example, per 5 AAC 06.350(f), salmon may not be taken in any locations that are not described in 5 AAC 06.200. Currently drainages do not appear to be included in 5 AAC 06.200. There are several other areas in regulation that infer some drainages are in the commercial fishing district.

3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?

Amended regulation: 5 AAC 06.200(b) Naknek-Kvichak District: all waters of Kvichak Bay, including drainages, north and east of a line from 58 43.73' N lat., 157 42.71' W long. To 58 36.77' N lat., 157 15.82' W. long."

4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.

a) for a fishery conservation purpose or reason:
NA

b) to correct an error in regulation:
Current regulations are in conflict. The drainages of Kvichak Bay are not described in 5 AAC 06.200 therefore are closed waters based on 5 AAC 06.350(f), this includes the NRSHA and ARSHA. By



including drainages in the definition of 5 AAC 06.200 it will be clear that drainages can be open to commercial fishing, it will also clarify the application of other related regulations.

- c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:
See b) above.

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?
There will continue to be confusion as to how other regulations are applied to the NRSHA and ARSHA.

6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.
Clarifying the regulation would have equal effect on all user groups.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.
NA

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)
Law enforcement.

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.
Unknown.

Submitted by:

NAME Alaska Wildlife Troopers

Individual or Group

5700 E. Tudor Rd

Address

Anchorage, AK

City, State

99507

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Home Phone

907-754-3453

Work Phone

scott.quist@alaska.gov

Email

SIGNATURE: 

DATE: 8-13-18

Note: Addresses and telephone numbers will not be published.



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P.O. Box 115526
Juneau, AK 99811-5526

Fax: 907-465-6094

E-mail: dfg.bof.comments@alaska.gov



AGENDA CHANGE REQUEST FORM ALASKA BOARD OF FISHERIES

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Please answer all questions to the best of your ability.

1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".

Alaska Administrative Code Number 5 AAC: 06.360

2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.

Gillnet specifications and operation in the Naknek River Sockeye Salmon Special Harvest Area (NRSHA) are unclear. 5 AAC 06.331 describes gillnet specifications and operations in Bristol Bay, 5 AAC 06.360(d & e) add additional restrictions to the specifications and operation of gillnets in the NRSHA. In some respects the two regulations are in conflict and there is uncertainty with fishermen and enforcement as to which regulations apply in the NRSHA; the Board's intent is unclear.

Until the summer of 2018 the NRSHA had not been open to commercial fishing for over a decade, in the interim historical knowledge was lost and memories faded. In the days leading up to the fishery there was much discussion between Fish and Game, Alaska Wildlife Troopers (AWT) and commercial fishermen about the Board's intent and about which regulations apply to NRSHA. In the end AWT had to make guesses as to the Board's intent. For example, can one set gillnet permit holder set a net seaward of another set gillnet permit holder? Most fishermen remembered that it was the Board's intent to allow this and it was a common and accepted practice the last time the NRSHA was open. Regulations however do not seem to allow the practice. There are several other examples.

3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?

5 AAC 06.331 defines gillnet specifications and operations in Bristol Bay.

The purpose of this ACR is to reduce misunderstanding by defining in 5 AAC 06.360 which sections of 5 AAC 06.331 do not apply to the NRSHA and by adding language to 5 AAC 06.360 to clarify Board intent. Proposed language is not included at this time to allow the board to determine in the first instance what parts of 5 AAC 06.331 apply in the NRSHA.



Proposed language:

5 AAC 06.360. Naknek River Sockeye Salmon Special Harvest Area Management Plan.

(d) The following provisions apply to set gillnet fishing in the NRSHA:

- (1) no more than 37.5 fathoms of set gillnet may be used to take salmon;
- (2) a set gillnet may not be set or operated within 150 feet of another set gillnet;
- (3) beyond 500 feet from shore, all gear associated with set gillnet fishing must be removed when it is not being used to fish in the NRSHA;
- (4) repealed;
- (5) set gillnet running lines may not be in the water during a drift gillnet fishing period;
- (6) repealed;

(7) [additional provisions specifying what parts of 5 AAC 06.331 apply in the NRSHA]

New language in 5 AAC 06.360(d)(7) will describe which gillnet specifications and operations from 5 AAC 06.331 apply to the NRSHA.

4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.

a) for a fishery conservation purpose or reason:
NA

b) to correct an error in regulation:
Regulations are in conflict and/or unclear.

c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:
[Click here to enter text.](#)

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?
There will continue to be confusion and the Board's intent will remain unclear.

6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.

Set and drift gillnet fisheries occur at different times in the NRSHA, changes to the specifications and operations of one type of gear will have no effect on the other.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.
NA

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)
Law enforcement.



9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.
Unknown

Submitted by:

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Individual or Group

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SIGNATURE: [Signature] **DATE:** 8-15-18

Note: Addresses and telephone numbers will not be published.

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AGENDA CHANGE REQUEST FORM
ALASKA BOARD OF FISHERIES

The Board of Fisheries (board) will accept requests to change its schedule under certain guidelines set forth in 5 AAC 39.999. The board will accept these agenda change requests (ACRs) only:

- 1) for a fishery conservation purpose or reason; or
- 2) to correct an error in regulation; or
- 3) to correct an effect on a fishery that was unforeseen when a regulation was adopted.

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)].

Please answer all questions to the best of your ability.

1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".

Alaska Administrative Code Number 5 AAC: 06.358 Wood River Sockeye Salmon Special Harvest Area (WRSHA)

2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.

Gillnet specifications and operations are unclear for gillnet fisheries in the WRSHA. For example, it is unclear if the Board intended to allow set gillnet CFEC permit holders operate gear seaward, or off shore, of other set gillnet permit holders.

3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?

5 AAC 06.331 defines gillnet specifications and operations in Bristol Bay.

The purpose of this ACR is to reduce misunderstanding by defining in 5 AAC 06.358 which sections of 5 AAC 06.331 do not apply to the WRSHA and by adding language to 5 AAC 06.358 to clarify Board intent. Proposed language is not included at this time to allow the board to determine in the first instance what parts of 5 AAC 06.331 apply in the WRSHA.

Proposed language:

(d) When the Wood River Special Harvest Area is open under this section, the following apply within the open waters:

(1) set gillnets may be operated only as follows:

(A) a set gillnet may not exceed 25 fathoms in length;

(B) a set gillnet may not be set or operated within 150 feet of another set gillnet;

(C) all gear associated with set gillnet fishing must be removed when it is not being used to fish in the Wood River Special Harvest Area;



[(D) SET GILLNET RUNNING LINES MAY NOT BE IN THE WATER DURING A DRIFT GILLNET FISHING PERIOD] removed because it is redundant per (C) of this section.

(E) [additional provisions specifying what provisions of 5 AAC 06.331 apply in the WRSHA]

New language proposed above in 5 AAC 06.358(d)(1)(E) will describe which gillnet specifications and operations listed in 5 AAC 06.331 apply in the WRSHA.

4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.

a) for a fishery conservation purpose or reason:
NA

b) to correct an error in regulation:
Regulations are in conflict and/or unclear.

c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:
It was unforeseen that the regulations would be in conflict and unclear.

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?
There will be continued confusion and the Board's intent will continue to be unclear.

6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.
This ACR clarifies specifications and operation and applies to all users equally.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.
NA

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)
Law enforcement.

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.
Unknown.

Submitted by:

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Individual or Group

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*Alaska Dept. of Fish & Game, Boards Support Section 907-465-4110
Rev. Jan. 2018*



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AGENDA CHANGE REQUEST FORM
ALASKA BOARD OF FISHERIES

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- 1) for a fishery conservation purpose or reason; or
- 2) to correct an error in regulation; or
- 3) to correct an effect on a fishery that was unforeseen when a regulation was adopted.

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)].

Please answer all questions to the best of your ability.

| |
|--|
| <p>1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".</p> <p>Alaska Administrative Code Number 5 AAC: 06.200(a)</p> |
| <p>2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.</p> <p>It is unclear whether drainages, which include the Wood River Sockeye Salmon Special Harvest Area (WRSHA), are included in the Nushagak District. There are implications on other regulations if drainages and special harvest areas are, or are not in the district. For example, per 5 AAC 06.350(f), salmon may not be taken in any locations that are not described in 5 AAC 06.200. Currently drainages do not appear to be included in 5 AAC 06.200 but there are other places in regulation that infer that they are.</p> |
| <p>3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?</p> <p>Amended regulation: 5 AAC 06.200. Fishing districts and sections (a) Nushagak District: all waters of Nushagak Bay, including drainages, north of a line from a point at Nichols Hills at 58_ 33.77' N. lat., 158_ 46.57' W. long. to Etolin Point at 58_ 39.37' N. lat., 158_ 19.31' W. long.</p> |
| <p>4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.</p> |
| <p>a) for a fishery conservation purpose or reason:</p> <p>NA</p> |
| <p>b) to correct an error in regulation:</p> <p>Click here to enter text. Current regulations are in conflict. The drainages of Nushagak Bay are not described in 5 AAC 06.200 therefore are closed waters based on 5 AAC 06.350(f), this includes the</p> |



WRSHA. By including drainages in the definition of 5 AAC 06.200 it will be clear that drainages can be open to commercial fishing, it will also clarify the application of other related regulations.

- c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:
[Click here to enter text.](#)

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?
Continued confusion about how to apply regulations when the WRSHA is open.

6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.
This ACR simply clarifies that the WRSHA is within the Nushagak District and does not change allocations in any way.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.
NA

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)
Law enforcement.

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.
Unknown

Submitted by:

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AGENDA CHANGE REQUEST FORM ALASKA BOARD OF FISHERIES

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- 1) for a fishery conservation purpose or reason; or
- 2) to correct an error in regulation; or
- 3) to correct an effect on a fishery that was unforeseen when a regulation was adopted.

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)].

Please answer all questions to the best of your ability.

1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".

Alaska Administrative Code Number 5 AAC: 01.210.(e)

2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.

This is a twin proposal that will be in front of the YKRAC and Federal Subsistence Board. I would like for this to be considered at the same time as the Federal Subsistence Board to act. That way this will limit the confusion of State versus Federal regulations. Thank you, Alissa:

These closures do not prevent people from selling into the commercial fishery Chinook Salmon that they take in the subsistence fishery because only a few Yukon subsistence fishermen do this. There are always going to be a few bad actors, we know who they are, they have been fined before, and this regulation doesn't stop them. This regulation is burdensome on subsistence fishermen without any benefit.

3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?

Delete the regulation.

5 AAC 01.210. Fishing seasons and periods

(e)(1) in Districts 1, 2, and 3,

~~*(A) after the opening of the commercial salmon fishing season through July 15, salmon may not be taken for subsistence for 18 hours immediately before, during, and for 12 hours after each commercial salmon fishing period;*~~

~~*(B) after July 15, salmon may not be taken for subsistence for 12 hours immediately before, during, and for 12 hours after each commercial salmon fishing period;*~~

4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more



of the three criteria set forth below is not applicable, state that it is not.

a) for a fishery conservation purpose or reason:

This was a generated proposal that was supposed to be submitted prior to the deadline, but do to human or computer error a duplicated of another submitted proposal was selected instead of this proposal. Reasons, can't be exact.

Qualified reasons: This proposal will be going in front of the Federal Subsistence Board to take action. I would like this proposal to be considered for this Board of Fish cycle to it's "twin" through the federal system. That we don't cause more confusion if this was to be one or the other of either state or federal regulations.

This proposal is to be put in, because there is a burdensome regulation that is no longer needed due to the rise in Chinook salmon numbers that is expected to continue to rise over the next 2 decades or more. Due to the heavy restrictions on the Chinook Salmon, I believe it is safe enough to relax the restrictions back for simplicity.

We already know that this tool was an effective tool for subsistence versus commercial fishing during times of Chinook conservation, it should be added to the Yukon Management tools. That way managers can use this as a tool when needed versus mandatory on a yearly basis.

b) to correct an error in regulation:

This could be changed to a management too instead of a mandatory regulation, now that we are on the incline of Chinook Salmon returns and will be on the incline for the next 2-3 decades. All thanks to the heavily restricted years where subsistence and commercial fishing for Chinook salmon was used and used effectively.

c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:

There was no intention that this tool was going to be used perpetuity "or forever", this tool was a try-out tool that worked effectively on the behalf of commercial buyers.

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?

This tool will continue to be burdensome and could incur unnecessary violations during a good year of Chinook Salmon returns. I do not foresee that this tool will be used again, unless we have a major environmental disaster or over harvest of Chinook Salmon, regardless of what harvest stage of growth the Chinook cycle.

It is better to use regulations that are effective. That these tools are made readily available in the management tools. In support of "not to cause" unnecessary mandatory regulation that could potentially cause more conflict and trouble than they are worth in the long run.



| |
|--|
| 6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE. |
| 7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE. This was supposed to be in with the other 6 proposals, but it was accidentally mis-submitted by computer or human error during time of deadline. This proposal will be in front of the Federal Board as well and I would like this proposal to coincide with the twin proposal. |
| 8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.) I commercial fish on the Yukon River when possible and when budget deems more profitable as a commercial fisherman. I also subsistence fish on the Yukon River as well as many family members do too. |
| 9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING. No, this has not been considered before. I would appreciate the consideration for this proposal to become a board generated proposal due to the time sensitivity and "twining" with the Federal Board proposal. |

Submitted by:

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Individual or Group

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SIGNATURE: Electronic Signature: Alissa. Nadine Rogers  **DATE: 15 August, 2018**

Note: Addresses and telephone numbers will not be published.

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Chignik Advisory Committee

Chignik Advisory Committee
c/o Raechel Allen, Secretary
P.O. Box 84
Chignik, AK 99564

October 1, 2018

Executive Director Glenn Haight
Alaska Board of Fisheries
Board Support Section
P.O. Box 115526
Juneau, AK 99811-5526
dfg.bog.comments@alaska.gov

Dear Alaska Board of Fisheries Director, Chairman and Members:

The Chignik Advisory Committee (AC) submitted a timely Agenda Change Request (ACR) which the Board of Fisheries elected not to consider at its October 15 – 16 work session. That ACR is attached for your reference.

We understand that the Board considered the ACR to be an in-cycle proposal, and therein so elected not to accept the Chignik's ACR, although in the past the Board has taken action on similar proposals. The reason the Chignik ACR was submitted was due to the complete failure of both Chignik's two sockeye salmon runs this year and in recognition that the Shumagin Island and South Unimak fishery is only regulated by time and area without any provision for resource stewardship on Chignik and other migratory sockeye salmon stocks that for all practical purposes exclusively support this fishery in June, July, and early August. Furthermore, early indications suggest that it is likely that next year will be a poor Chignik sockeye year as well.

A reasonable level of protection and accountability in this fishery is needed for conservation and for an equitable distribution of available harvest between management areas. We understand that one likely justification for the Board's action to not take up the ACR is that it will have full latitude to address any and all regulatory issues pertaining to the Area M fisheries during its in-cycle meeting in February 2019 regardless of the printed proposals in the proposal book.

By making this public comment, the Chignik Advisory Committee respectfully puts the public on notice that this proposal is open for consideration by the BOF even though it is not officially in the proposal book. And although the Chignik ACR is not on the agenda for the Board's October work session, there is nothing preventing a Board of Fisheries member from making a motion at the October meeting to create a board generated proposal that encompasses the proposed regulatory change recommended in the Chignik ACR.

Thank you for your serious consideration of the issues raised by our Agenda Change Request.

Most sincerely,

Raechel Allen, Chignik Advisory Committee Secretary



AGENDA CHANGE REQUEST FORM ALASKA BOARD OF FISHERIES

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- 1) for a fishery conservation purpose or reason; or
- 2) to correct an error in regulation; or
- 3) to correct an effect on a fishery that was unforeseen when a regulation was adopted.

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)].

Please answer all questions to the best of your ability.

1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".

Alaska Administrative Code Number 5 AAC: 5AAC 09.365 (South Unimak and Shumagin Island June Salmon Management Plan) & 5AAC 09.366 (Post-June Salmon Management Plan for the South Alaska Peninsula)

2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.

The current disastrous sockeye salmon season in Chignik shows that there is inadequate sharing of the burden of conservation in the South Peninsula and, most notably, in the Shumagin Islands fishery. In particular, there are no windows during which there is no commercial fishing gear in the water during the June 7 - 30 time-period to allow reasonable opportunity for non-local sockeye stocks to pass to their terminal streams.

The Board's July 2018 emergency regulations related to this fishery were highly appreciated and well considered, but did not efficiently or effectively deal with a reasonable sharing of conservation burdens when Chignik stocks need protective measures in Area M waters. Chignik's sockeye early and late run need protective measures in Area M waters most especially in the Shumagins Islands fishery. Board action on this front would be reasonable at this time given the failed 2018 Chignik sockeye runs and the Board's adopted Policy for the Management of Sustained Salmon Fisheries (5 AAC 39.222). While this is an in-cycle issue the issue may very likely not be adequately addressed by the current proposals because the 2018 salmon season had not yet occurred, which highlighted an obvious deficiency in the current South Alaska Peninsula management plans.

3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?

Requested is a three-part approach: Part 1 amends the June management plan by establishing concurrent fishing for all gear types with windows during which fishing is closed to all gear types (See Figure 2). Part 2 is triggered if commercial harvests in Chignik are not likely to meet minimum requirements similar to the current Cape Igvak and Southeast District Management Plans (See Figures 3 & 5). Part 3 is triggered if escapement goals are not achieved in Chignik. The regulatory language would be as follows:



5 AAC 09.365 – South Unimak and Shumagin Islands June Salmon Management Plan

- (a) **amend to read:** The South Unimak and Shumagin Islands June fisheries harvest both sockeye and chum salmon in a mixed stock fishery during June. The sockeye salmon are predominately west-bound Bristol Bay, and east-bound Chignik and other stocks including Upper Cook Inlet and Kodiak fish. South Alaska Peninsula stocks are a minor component. The chum salmon are bound for a number of areas, including Japan, Russia, the Arctic-Yukon-Kuskokwin, Bristol Bay, and Alaska Peninsula, and southcentral Alaska. These stocks have historically been harvested along the south Alaska Peninsula during June. The management plan is intended to be consistent with the Policy for the Management of Sustained Salmon Fisheries (5 AAC 39.222) and the Policy for the Management of Mixed Stock Salmon Fisheries (5 AAC 39.220).
- (g) **add to read:** Notwithstanding (d) (1)(A)(B) and (d)(2)(A)(B) in the South Central District, Volcano Bay Section of the Southwestern District, and the Southeastern District except as provided in the Southeastern District Mainland Salmon Management Plan under 5 AAC 09.360, the seine and gillnet fisheries will run concurrently and begin on June 10 at 00:00 hours and run 72 hours until 24:00 hours two days later; commercial fishing will then close for 72 hours; subsequent fishing periods will begin at 00:00 hours three days later and run for 72 hours until 24:00 hours two days later; commercial fishing will then close for 72 hours; the final fishing period will end at 24:00 hours (midnight) on June 30.
- (h) **add to read:** Notwithstanding (g) beginning on June 16, if the Department projects that less than 300,000 sockeye salmon will be harvested in the Chignik Management Area (as described in 5 AAC 15.100) by July 7, fishing periods in South Central District, Volcano Bay Section of the Southwestern District, and the Southeastern District except for the Southeastern District Mainland will begin at 00:00 hours and run 36 hours until 12:00 hours the next day; commercial fishing will then close for 108 hours; subsequent fishing periods will begin at 00:00 hours five days later and run for 36 hours until 12:00 hours the next day; the final fishing period will end at 24:00 hours (midnight) on June 29.
- (i) **add to read:** Notwithstanding any other provision of this section, if the Department projects that Chignik's early sockeye salmon run escapement goal will not be achieved, all commercial salmon fishing periods in the South Central District, Volcano Bay Section of the Southwestern District, and the Southeastern District except for the Southeastern District Mainland, are suspended until escapement is reached.

5 AAC 09.366 Post-June Salmon Management Plan for the South Alaska Peninsula

- (a) **amend to read:** The purpose of this management plan is to provide management guidelines to the department for the management of the post-June salmon fisheries along the South Alaska Peninsula, to provide for the harvest of local stocks in terminal harvest areas, identify that non-local sockeye salmon stocks are intercepted including Chignik-bound sockeye salmon, and provide for both Chignik escapement and a Chignik harvest preference in the non-terminal harvest areas of the South Alaska Peninsula in the South Central District, Volcano Bay Section of the Southwestern District, and the Southeastern District salmon except as otherwise provided in the Southeastern District Mainland Salmon Management Plan under 5 AAC 09.360, and to establish fishing periods for the South Alaska Peninsula salmon fisheries outside of terminal harvest areas.



(k) add to read: Notwithstanding (c)(1) and (c)(2), (d)(1),(d)(2), and (c)(2), from July 6 through August 8 in the South Alaska Peninsula South Central District, Volcano Bay Section of the Southwestern District, and the Southeastern District salmon fisheries except as otherwise provided in the Southeastern District Mainland Salmon Management Plan in 5 AAC 09.360, if less than 300,000 sockeye salmon have been projected to be harvested by July 7 in the Chignik Management Area (as described in 5 AAC 15.100) and after July 8 if the Department projects that less than 600,000 sockeye salmon will be harvested in those same waters, commercial fishing periods will begin on July 6 at 06:00 hours and run for 18 hours until 00:00 hours the next day; commercial fishing will then close for 78 hours; subsequently fishing periods will begin at 06:00 hours and run for 18 hours until 00:00 hours the next day; commercial fishing will then close for 78 hours and reopen at 06:00 hours three days later. Commercial salmon fisheries in designated terminal harvest areas per 5 AAC 09.366 (f) (1) are excluded from 5 AAC 09.366 (k) provisions.

(l) add to read: Notwithstanding any other provision of this section, from July 6 through August 8 in the South Alaska Peninsula South Central District, Volcano Bay Section of the Southwestern District, and the Southeastern District salmon fisheries except as otherwise provided in the Southeastern District Mainland Salmon Management Plan in 5 AAC 09.360, if Chignik sockeye escapement goals are not being met, all commercial salmon fishing is suspended until escapement levels are reached. However, commercial salmon fisheries in designated terminal harvest areas per 5 AAC 09.366 (f) (1) are excluded from 5 AAC 09.366 (l) provisions.

| Figure 1: CURRENT REGULATIONS | | | | | | | |
|--|---|--------|---------|-----------|----------|--------|----------|
| June 2018 Shumagin Is. Section & Southcentral District Fishing Schedule by Gear Type | | | | | | | |
| Gear | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| Type | | | | | | 1 | 2 |
| Seine | Notice that under current regulations that between June 7 and June 30 that there are alternating overlapping openings for Set net and seine gear so that there are never any windows of closure for both gear types for fish to pass through to their terminal streams. | | | | | | |
| Set | | | | | | | |
| Gillnet | | | | | | | |
| | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Seine | | | | | | | |
| Set | | | | | | | |
| Gillnet | | | | | | | |
| | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Seine | | | | | | | |
| Set | | | | | | | |
| Gillnet | | | | | | | |
| | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Seine | | | | | | | |
| Set | | | | | | | |
| Gillnet | | | | | | | |
| | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Seine | | | | | | | |
| Set | | | | | | | |
| Gillnet | | | | | | | |



**Figure 2: Proposed Concurrent Fishing periods for Seine & Set net
June Shumagin, Southcentral & Southeastern District Fishing Schedule**

| Gear | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|-------------|---|--------|---------|-----------|----------|--------|----------|
| Type | | | | | | 1 | 2 |
| Seine | This Calendar shows an example of the original windows made in 1984 (not to exceed 96 Hrs per week and not more than 72 consecutive hrs.) that ran in conjunction with 1.5% GHL of Bristol Bay Harvest. We are not asking for any GHL or Chum caps and the justification is to return to this windows scenario to correct the unintended over harvest on Area L sockeye stocks. | | | | | | |
| Set Gillnet | | | | | | | |
| | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |

**Figure 3: A Reduction of approx. 50% after June 15 is Triggered if Chignik Harvest Allowance not acheived
June Shumagin Is. Section & Southcentral District Fishing Schedule**

| Gear | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|-------------|--|--------|---------|-----------|----------|--------|----------|
| Type | | | | | | 1 | 2 |
| Seine | When minimum harvest preferences similar to what occurs at Cape Ivgak and SEDM are not acheiveable then the more restrictive windows below are triggered. Note that this would have no impact on the Unimak District and all Area M gear types have access to this area, and is only triggered when Chignik's 300k, 600k harvent allowance is not considered acheivable. | | | | | | |
| Set Gillnet | | | | | | | |
| | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |



| Figure 4: Current Regulations | | | | | | | |
|---|--------|--------|---------|-----------|----------|--------|----------|
| July 2018 Shumagin Is. Section & Southcentral District Fishing Schedule by Gear | | | | | | | |
| Gear | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| Type | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 29 | 30 | 31 | | | | |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |

| Figure 5: Proposed Reduction is Triggered if Chignik Harvest Allowance not achieved | | | | | | | |
|---|--------|--------|---------|-----------|----------|--------|----------|
| July Shumagin Is. Section & Southcentral District Fishing Schedule by Gear | | | | | | | |
| Gear | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| Type | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |
| | 29 | 30 | 31 | | | | |
| Seine | | | | | | | |
| Set Gillnet | | | | | | | |

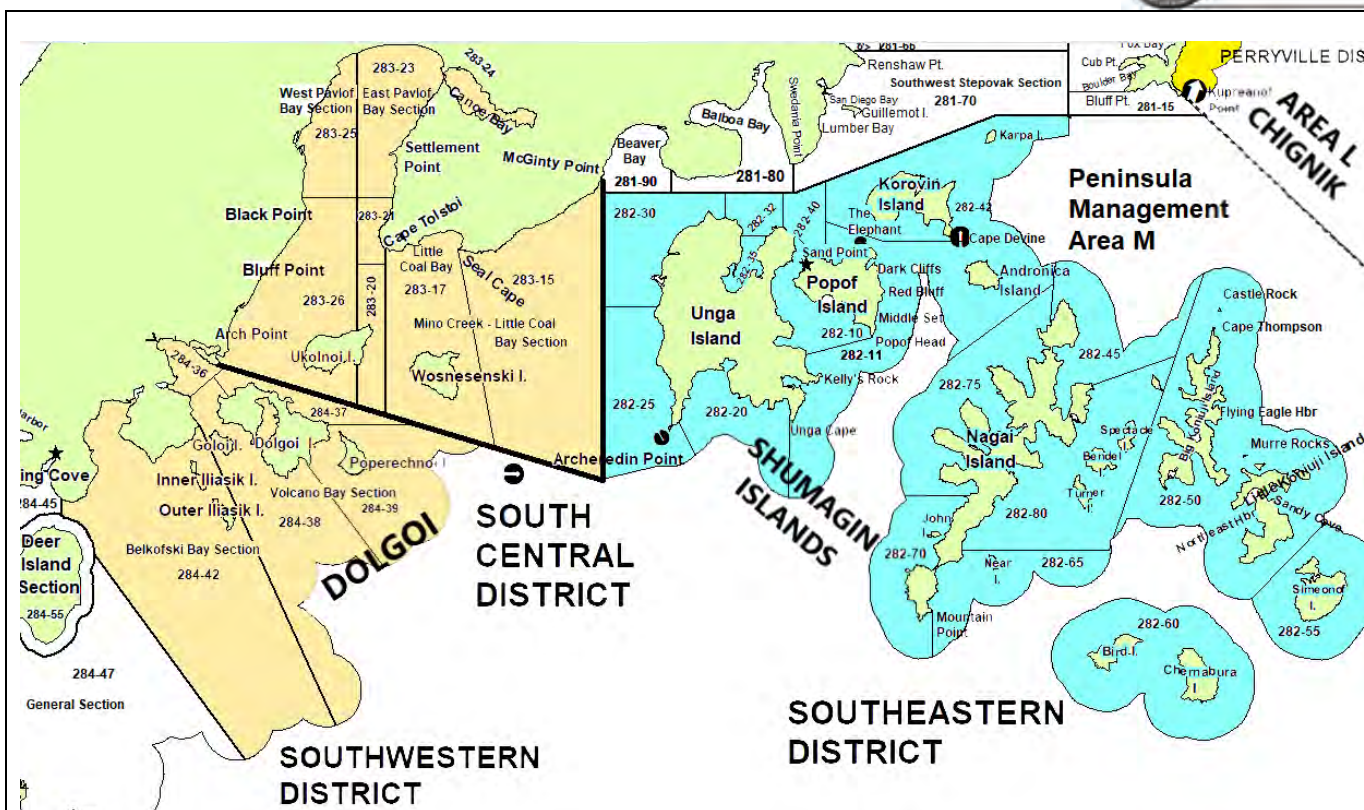


Figure 6: This Map shows the areas in the South Peninsula of Area M where major numbers of Chignik-bound sockeye are highly vulnerable to harvest before they can reach Chignik (Area L) waters.

4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.

a) for a fishery conservation purpose or reason:

In 2018 there has been no Chignik sockeye fishery and the likelihood of any local-stock alternative salmon fisheries occurring this season is dubious at best. Chignik's early (Black Lake) and late (Chignik Lake) sockeye runs have failed; both runs are substantially below escapement objectives. It is well known that Chignik sockeye have significantly contributed to the South Peninsula fishery in 2018, based on WASSIP data alone (see table below), particularly in the Shumagin Islands where there is no conservation tie limiting the harvest of Chignik-bound salmon or on any other non-local salmon stocks either in June or July. Local South Peninsula Sockeye stocks comprise less than 1% of the sockeye harvested in the South Peninsula. Note also that if WASSIP data had been collected and analyzed for 2018 that it would show virtually 100% of the harvest of Chignik sockeye being harvested in the South Peninsula of Area M. In accordance with the Policy for the Management of Sustained Salmon Fisheries (5 AAC 39.222) it is most warranted that the BOF instate a conservation assignment on the South Alaska Peninsula interception fishery to provide a level of protection and assurance of sustainability on Chignik bound sockeye salmon.

**Table 1: Where Chignik bound Sockeye Stocks are Harvested according to WASSIP****Black Lake and Chignik Lake Harvest and Harvest Rates**

Derived from Appendix F64 of the report on the Western Alaska Salmon Stock Identification Program (WASSIP)

| 2006 | | | 2007 | | | 2008 | | |
|---------------------------------------|-----------|--------------|---------------------------------------|---------|--------------|---------------------------------------|---------|--------------|
| Black Lake Harvest & Harvest Rates | | | Black Lake Harvest & Harvest Rates | | | Black Lake Harvest & Harvest Rates | | |
| Fishery | Harvest | % of Harvest | Fishery | Harvest | % of Harvest | Fishery | Harvest | % of Harvest |
| Chignik Area | 536,085 | 55% | Chignik Area | 235,768 | 76% | Chignik Area | 254,458 | 77.3% |
| South Pen of Area M | 444,645 | 45% | South Pen of Area M | 73,004 | 24% | South Pen of Area M | 74,491 | 22.6% |
| All Other WASSIP | - | 0% | All Other WASSIP | - | 0% | All Other WASSIP | 175 | 0.1% |
| Total | 980,730 | 100% | Total | 308,772 | 100% | Total | 329,124 | 100% |
| Chignik Lake Harvest & Harvest Rates | | | Chignik Lake Harvest & Harvest Rates | | | Chignik Lake Harvest & Harvest Rates | | |
| Fishery | Harvest | % of Harvest | Fishery | Harvest | % of Harvest | Fishery | Harvest | % of Harvest |
| Chignik Area | 335,201 | 57% | Chignik Area | 510,660 | 75.8% | Chignik Area | 373,841 | 71.7% |
| South Pen of Area M | 247,568 | 42% | South Pen of Area M | 161,223 | 23.9% | South Pen of Area M | 147,271 | 28.3% |
| All Other WASSIP | 549 | 0% | All Other WASSIP | 1,712 | 0.3% | All Other WASSIP | 0 | 0.0% |
| Total | 583,318 | 100% | Total | 673,595 | 100% | Total | 521,112 | 100% |
| Total Chignik Harvest & Harvest Rates | | | Total Chignik Harvest & Harvest Rates | | | Total Chignik Harvest & Harvest Rates | | |
| Fishery | Harvest | % of Harvest | Fishery | Harvest | % of Harvest | Fishery | Harvest | % of Harvest |
| Chignik Area | 871,286 | 55.7% | Chignik Area | 746,428 | 76.0% | Chignik Area | 628,299 | 73.9% |
| South Pen of Area M | 692,213 | 44.3% | South Pen of Area M | 234,227 | 23.8% | South Pen of Area M | 221,762 | 26.1% |
| All Other WASSIP | 549 | 0.0% | All Other WASSIP | 1,712 | 0.2% | All Other WASSIP | 175 | 0.0% |
| Total | 1,564,048 | 100% | Total | 982,367 | | Total | 850,236 | 100% |

b) to correct an error in regulation:

Not Applicable.

c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:

When the current regulations for the South Peninsula of Area M were instated it was unforeseen that Chignik's first and second runs of sockeye salmon would ever be impacted to where escapements would not be reached or that there would be zero harvest opportunity for Chignik fishermen. It is known that Chignik bound sockeye stocks are harvested in the South Peninsula in significant numbers based on WASSIP, and were it foreseen that Chignik escapements might not be met on some years, expectedly the Board would have assigned a conservation requirement on Chignik sockeye salmon in Area M's South Peninsula fisheries. Because neither the Board nor the Department foresaw this problem, this ACR is necessary.

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?

Not Applicable

6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.

It is not predominately allocative. This ACR is primarily about sharing the burden of conservation by ensuring that reasonable escapements and minimum harvest opportunities occur in Chignik.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.

This question is not applicable because while the request has allocative aspects, the proposal is actually in-cycle but possibly different than proposals that may have been submitted. The issue of the public having to deal with allocative issues out of cycle is not raised.



8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)

Chignik Advisory Committee

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.

No

Submitted by:

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SIGNATURE:

DATE: August 14, 2018

Jacob Shangin, Chignik Advisory Committee Chairman

Note: Addresses and telephone numbers will not be published.

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E-mail: dfg.bof.comments@alaska.gov



AGENDA CHANGE REQUEST FORM – Nushagak River Coho Salmon Management Plan ALASKA BOARD OF FISHERIES

The Board of Fisheries (board) will accept requests to change its schedule under certain guidelines set forth in 5 AAC 39.999. The board will accept these agenda change requests (ACRs) only:

- 1) for a fishery conservation purpose or reason; or
- 2) to correct an error in regulation; or
- 3) to correct an effect on a fishery that was unforeseen when a regulation was adopted.

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)]. Please answer all questions to the best of your ability.

| |
|---|
| <p>1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter “5 AAC NEW”.</p> <p>Alaska Administrative Code Number 5 AAC: 06.368 Nushagak River Coho Salmon Management Plan</p> |
| <p>2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.</p> <p>The current management plan for Coho salmon in the Nushagak district unnecessarily precludes harvest opportunities to all gear groups during times of healthy runs.</p> |
| <p>3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?</p> <p>Amend 06.368, Nushagak River Coho Salmon Management Plan, to allow for additional opportunity when the department determines in-season that the sustainable <i>escapement goal</i> range of 60,000-120,000 will be met.</p> |
| <p>4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.</p> |
| <p>a) for a fishery conservation purpose or reason: Click here to enter text.</p> |
| <p>b) to correct an error in regulation: In 2015 ADFG recommended a change to the Coho escapement goal from a point goal to a <u>SEG range</u> (60,000-120,000). The upper limit on the new range was used as the in-season trigger to either close or allow for opportunity in the Coho fishery (5AAC 06.368 (c)). This change is more restrictive than using the old point goal of 100,000, and, technically, permits fishing only if the range is expected to be exceeded. The management goal should be to fall within an escapement goal range and not beyond it, otherwise the range is meaningless. As a result, the change in 2015 precludes fishing opportunity in a year of normal and fishable abundance.</p> |



While adjusting the regulation, it would be worthwhile examine and possibly adjust the August 1 trigger. Currently, ADFG is to project the total Coho run on August 1, which historically is the first quartile point (25%) in a year of average run timing. In recent years the run timing has been skewed later which means ADFG is being asked to project the total run with less than 25% of the run accounted for by August 1. If the annual escapement is projected to be less than 120,000 (i.e., by August 25) the commercial fishery must close, and the in-river sport and subsistence fisheries would likely be restricted. The August 1 trigger is unnecessarily constraining given a sometimes-low portion of the return to the district by that date, and the time remaining to meet an escapement goal should more escapement be needed.

- c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:
THE SAME RATIONALE FROM (b) CAN BE USED FOR THIS CRITERIA IF THAT IS PREFERRED.

Yes. See (b) above.

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?

Loss of potential harvest opportunity provided from robust and fishable Coho salmon runs by all user groups for the next 3 years.

6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.

All of the users (commercial, sport and subsistence) will potentially benefit from increased access to the resource through the BOF's deliberative process.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.

N/A

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)

Commercial fisherman

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.

Board of Fisheries deliberations on the Nushagak River Coho Salmon Management Plan occur sporadically based on the tri-annual board cycle. In 2015, the BOF made several changes to the plan including changes to the SEG based on ADFG input. Currently there are no proposals submitted for the upcoming 2018 BB BOF meeting that will be held in Dillingham.



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FAX COVER SHEET

DATE: 7/29/08

FROM: CONSULT LLC

FAX NUMBER: 1-907-345-4715

TO: ADFGS, Jureau, and

COMPANY: Jason Dye,

FAX NUMBER: _____

SUBJECT: LIANA RIVER

NOTES: _____

working with others to
support this action -

FROM: RODGER DAVIS, CELL: 1-907-351-2436

FROM: _____ **CELL:** _____



AGENDA CHANGE REQUEST FORM ALASKA BOARD OF FISHERIES

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- 2) to correct an error in regulation; or
- 3) to correct an effect on a fishery that was unforeseen when a regulation was adopted.

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)].

Please answer all questions to the best of your ability.

1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".

Alaska Administrative Code Number 5 AAC: (unknown/ conservation of resource issues)

2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.

I have fished and owned property on the Iliamna River for more than 45 years. I pushed hard for restrictions on sport fishing on the river approximately 30 years ago when rainbow and char populations declined to the point of risking the spawning stocks. Beginning in 2014 I noticed a decline in fish stock again. Sport fishing pressure on the short river had more than doubled in the previous two years. Since then, the pressure has doubled again and "trout" stocks have collapsed. We've declined from rows of char and trout across every ripple to schools holding only in deep pools over the last four years. Virtually every large spawning size fish had torn mouths or eyes. This year the fish in the pools are gone. Worse, there are no "schoolies" or small fish feeding on insects on the flats. Whereas, in four hours of fishing for two people just two years ago would lead to at least a dozen "hookups," this year it might produce one. If you do find a spot holding fish, the next day you will find a dozen fishermen at that spot, the guides trying to get their clients anything. The next day those few fish are dispersed.

The fish counts today are a fraction of those when ADF&G took action three decades or so ago. THE RAINBOW AND ESPECIALLY THE CHAR STOCKS HAVE DISAPPEARED.

3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?

This river should be closed to fishing for "trout" or some form of aggressive limited entry should be instituted until a study of the collapse of the stocks can be completed and remediation plans can be both implemented and successful.

4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.

a) for a fishery conservation purpose or reason:

The "trout" meaning both rainbow and char stocks in the Iliamna River have collapsed. Without immediate and drastic cutbacks to pressure and a solution to what may yet be determined problems



to the fishery, it will never recover.

b)to correct an error in regulation:

N/A

c)to correct an effect on a fishery that was unforeseen when a regulation was adopted:

Catch and release, even with as little as a three percent mortality, cannot rebuild stocks. That is what the regulation is now, and is the rule we have followed to this collapse.

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?

This river will never again be a significant sport fishery.



6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.

Everyone needs to act in a manner to preserve the resource.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.
N/A

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)

I certainly was not the first to fish this river, but I put the first jet boat on the river more than four decades ago and have historically fished the river more than 45 days a year. My children and grandchildren own property and fish the river. I probably know it as well or better than anyone in Alaska. I hate the idea of the Iliamna River being closed to fishing, especially since I probably have only a few more years available to enjoy it, but am more concerned with the resource and what we leave for our grandchildren.

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.

Not to my knowledge

Submitted by:

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SIGNATURE: Rodger C. Davis

DATE: July 29, 2018

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AGENDA CHANGE REQUEST FORM ALASKA BOARD OF FISHERIES

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- 3) to correct an effect on a fishery that was unforeseen when a regulation was adopted.

The board will not accept an ACR that is predominantly allocative in nature in the absence of new compelling information, as determined by the board [5 AAC 39.999 (a) (2)].

Please answer all questions to the best of your ability.

| |
|---|
| <p>1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".</p> <p>Alaska Administrative Code Number 5 AAC: 5AAC 06.368 (c)</p> |
| <p>2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.</p> <p>The regulation as currently written directs the department to manage for above the escapement range rather than within the escapement range, and unnecessarily restricts users.</p> |
| <p>3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?</p> <p>(c) If the total inriver coho salmon return in the Nushagak River is projected by the department to be [LESS THAN 120,000 BUT AT LEAST 70,000 FISH] <u>less than 70,000 fish</u> by August 25, the commissioner shall close, by emergency order, the directed coho salmon commercial fishery in the Nushagak District by August 1; and</p> <p>(1) repealed 4/16/2016;</p> <p>(2) the commissioner may restrict, by emergency order, the coho salmon sport fishery in the Nushagak River drainage upstream from the department sonar counter located near the village of Portage Creek so that the harvest does not exceed 2,000 coho salmon by one or more of the following:</p> <p>(A) reduce the bag and possession limit;</p> <p>(B) prohibit the use of bait;</p> <p>(C) restrict fishing times and areas;</p> <p>(D) restrict terminal tackle to single-hook artificial lures; and</p> <p>(E) allow catch-and-release fishing only;</p> <p>(3) it is the intent of the board that the lower the projected inriver coho salmon return is, the more restrictive that management measures will be in the sport and commercial fisheries under this section.</p> |
| <p>4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.</p> <p>a) for a fishery conservation purpose or reason:</p> <p>Not applicable</p> |



b) to correct an error in regulation:

This appears to be an error in regulation. I believe this happened when the department went from a point escapement goal to a range escapement goal. I think it was intended that this be managed within the range rather than above the range. There is not regularly funding to count Coho. Closures due to Coho being counted this season have recently brought the issue to my attention.

c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:

Not applicable.

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE?

Unnecessary restrictions limit practical use of the resource for all users, and cause processors to leave the area early. If not corrected by ACR we will have three more seasons of possible lost opportunity before the next call for proposals is issued by the board.

6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.

This ACR is not predominately allocative. Currently all users are penalized when projections fall below the top end of the range.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.

Not applicable

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)

I participate in the commercial fishery in the Nushagak District and direct market Coho.

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.

I am not aware of any prior proposals or ACRs on this subject.

Submitted by:

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Individual or Group

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SIGNATURE:

Tom O'Connor

DATE:

8/8/18

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AGENDA CHANGE REQUEST FORM ALASKA BOARD OF FISHERIES

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Please answer all questions to the best of your ability.

1) CITE THE REGULATION THAT WILL BE CHANGED IF THIS ACR IS HEARD. If possible, enter the series of letters and numbers that identify the regulation to be changed. If it will be a new section, enter "5 AAC NEW".

Alaska Administrative Code Number 5 AAC: **27.810. Fishing seasons and periods for Bristol Bay Area.**

2) WHAT IS THE PROBLEM YOU WOULD LIKE THE BOARD TO ADDRESS? STATE IN DETAIL THE NATURE OF THE CURRENT PROBLEM. Address only one issue. State the problem clearly and concisely. The board will reject multiple or confusing issues.

The current season does not allow for herring to adequately spawn prior to the season opener.

3) WHAT SOLUTION DO YOU PREFER? Or, if the board adopted your solution, what would the new or amended regulation say?

5 AAC 27.810. Fishing seasons and periods for Bristol Bay Area.

- (a) In the Togiak and Bay Districts, herring may be taken by purse seines and hand purse seines from **April 25** [April 15] through June 1.
- (b) In the Togiak and Bay Districts, herring may be taken by gillnets from **April 25** [April 15] through June 1.

4) STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED BELOW. If one or more of the three criteria set forth below is not applicable, state that it is not.

- a) for a fishery conservation purpose or reason:
Later openers will allow for the herring to spawn and produce more for generations to come.

- b) to correct an error in regulation:
[Click here to enter text.](#)

- c) to correct an effect on a fishery that was unforeseen when a regulation was adopted:
[Click here to enter text.](#)

5) WHAT WILL HAPPEN IF THIS PROBLEM IS NOT SOLVED PRIOR TO THE REGULAR CYCLE? There has been a gradual decrease of roe on kelp in the area. Traditionally a subsistence source for the region. Traditional uses have always put a balance on harvesting and preservation for generations to come.

With this decrease, there were little or none harvested in the last few years. Allowing the herring to spawn on kelp with a later opener, will serve a purpose to preserve the herring for future of both commercial and subsistence activities.



6) STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE.

This ACR does not state how much is to be harvested nor does it state which area to be harvested.

7) IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE.

N/A

8) STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR (e.g., commercial fisherman, subsistence user, sport angler, etc.)

Tribal Administrator, and subsistence harvester.

9) STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.

N/A

Submitted by:

NAME Traditional Council of Togiak

Individual or Group

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Address

Togiak, Alaska

City, State

99678

Zip

907-493-5003

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Email

SIGNATURE: 

DATE: 08-15-2018

Note: Addresses and telephone numbers will not be published.

Mail, fax, or e-mail this completed form to:

Alaska Board of Fisheries

P.O. Box 115526

Juneau, AK 99811-5526

Fax: 907-465-6094

E-mail: dfg.bof.comments@alaska.gov



Grayling Anvik Shageluk Holy Cross Fish and Game Advisory Committee

Interior Region Fish and Game Advisory Committees

Ken Chase
Chairman
PO Box 41
Anvik, AK 99558

| | |
|----------------|------------------------|
| Central | Middle Nenana River |
| Delta Junction | Middle Yukon River |
| Eagle | Minto-Nenana |
| Fairbanks | Ruby |
| GASH | Tanana-Rampart-Manley |
| Koyukuk River | Upper Tanana/Fortymile |
| McGrath | Yukon Flats |

September 24, 2018

At the July 17th teleconference, the Board of Fisheries approved an emergency petition from the Tribal Chiefs of the Native Villages of Grayling, Anvik, Shageluk, and Holy Cross that asked regulations to be amended to allow for drift fishing after August 2nd in Subdistrict 4A. Your board approved this change, but the change was only for this season.

Since the Arctic Yukon Kuskokwim meeting is January of 2019, I am aware that an Agenda Change Request submitted to your board on this subject will be rejected. I would then like to ask that your board consider creating a board generated proposal about this so that comments can be gathered from the public and the local advisory committees to allow drifting after August 2nd in Subdistrict 4A.

Please note I am writing this letter as the chairman of the Grayling Anvik Shageluk and Holy Cross Fish and Game Advisory Committee but the committee did not endorse this letter since the emergency petition came out in the summer and our committee does not typically meet in the summer.

Thank you for your time,

Ken Chase



Matanuska-Susitna Borough



October 3, 2018

AK Department of Fish & Game
Boards Support Section-BOF
PO Box 115526
Juneau, AK 99811-5526
(Submitted via email)

RE: August Central District Gillnet Opening

| | | | |
|-------------------|---------------|--------------------|---------------|
| Chair John Jensen | Reed Morisky | Orville Huntington | Fritz Johnson |
| Alan Cain | Israel Payton | Robert Ruffner | |

Under provisions of the Central District Drift Gillnet Fishery Management Plan (5 AAC 21.353), the Commercial Fisheries Division announced an opening for the drift fleet on August 23, 2018. The management plan specifically states that for any commercial drift fleet opening from August 16 until closed by emergency order, only Drift Gillnet Areas 3 and 4 are open for fishing [5 AAC 21.353 (f)]. A description of these areas is contained in regulation [5 AAC 21.353 (g) (3 and 4)], but essentially moves the fleet over to the west side of Cook Inlet.

The announced August 23 opener contained an added provision stating that the fleet could also fish in Drift Area 1 [5 AAC 21.353 (g) (1)], which includes all waters of the Central District south of Kalgin Island. This is a major expansion of the Board of Fisheries (BOF) specified allowable fishing area for this period.

According to ADF&G records, there were 29 deliveries with over 70% of the fish being silver salmon. The original announcement suggested that the purpose of the opener was to "mop up" sockeye salmon, since escapement goals for both the Kenai and Kasilof Rivers had been met.

The management plan contains a clause, [5 AAC 21.353 (h)], which states, "The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC 21.363 (e)," which is the Upper Cook Inlet Salmon Management Plan.

That subsection (e) states, in part, "...no provision within a specific management plan is intended to limit the commissioner's use of emergency order authority under AS 16.05.060 to achieve established escapement goals for the management plans as the primary management objective. For the purpose of this subsection, "escapement goals" include in-river goal, biological escapement goal, sustainable escapement goal, and optimal escapement goal as defined in 5 AAC 39.222."



Since there were no significant escapement goal concerns regarding either the Kenai or Kasilof Rivers, the Matanuska-Susitna Borough Fish and Wildlife Commission (MSBFWC) questions why the ADF&G, Commercial Fisheries Division decided to assume allocative authority by allowing one gear type to fish in an area the BOF clearly had designated as an area off-limits during the time period of the opener.

The BOF exerts their allocative authority in the management plans by designating areas and times when different gear groups can harvest fish. The department clearly used that same mechanism in expanding the August 23 opener where fishing could occur when ADF&G had no allocative authority to do so.

While the real-world results of this opener probably did little or no harm to the fisheries resource, the precedent of the department assuming authority to allocate fisheries resources by over-riding BOF-established management plans, when the intent of the board in granting ADF&G this ability is not met, is troubling.

The MSBFWC would appreciate a clear and detailed explanation from the department as to why they chose to assume allocative authority during this opener without, at least, consulting with the BOF prior to making the announcement.

Further, the MSBFWC is considering advocating an amendment to 5 AAC 21.363 (e) to insert the words "the lower levels" so that the regulation would then read "to achieve the lower levels of established escapement goals for the management plans as the primary management objective." The result obviously would maintain the commissioner's emergency order authority but restrict it to protecting the lower returns but not to be used in an allocative manner at the higher escapement levels. We would welcome the department's feedback on what impact such an amendment would have.

Sincerely,

John M. Moosey
Borough Manager





Submitted By
Stafford Glashan
Submitted On
8/16/2018 10:01:45 AM
Affiliation

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Email
sgj@shanwil.com

Address
7609 N. Grouse Loop
Wasilla, Alaska 99654

I have been fishing the Mat-Su valley for 24 years. Mostly the Parks streams but also the Little Su. I have noticed a decline in the numbers of returning salmon, especially in the Parks Highway streams. I believe that part of this decline is due to a lack of ADF&G presence at these rivers. In all my years of fishing I have only had my license checked twice, both on the Little Su. Enforcement of fishing rules (primarily snagging) is largely done by citizens shaming the offender. For all but the most egregious rule breaking, the response time from ADF&G/Troopers is seen as too long (and with only 2-3 troopers on duty in the area there is usually something more pressing for them).

In addition to more ADF&G presence I would like to see a rule change to require treating all salmon the same as Coho. Only fish that are going to be retained should be removed from the water. I have to believe that the mortality rate on the other salmon removed from the water is similar to what has been observed in Coho studies. I regularly see pinks and chums brought up on the bank and unceremoniously kicked back into the water. I believe this is unethical and harmful to the fishery.

Submitted By
Robert Jahnke
Submitted On
10/1/2018 12:46:56 PM
Affiliation

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PO Box 991
Ward Cove, Alaska 99928

I would like to see the next BOF meeting [2021] held here in Ketchikan. We need the original 1E boundary line, survey pt. to Camano pt. put back to use regarding guided sport retention and hook and release during May & June to protect the Unuk river kings. With over a million cruise visitors stopping here in the late spring and summer the mortality rate on our king salmon is thru the roof. It may be too late by 2021 but at least residents in Ketchikan may have a better say in these matters.

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PC017
1 of 1

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Our Culture Unites us; Our Land Sustains us; Our People are Prosperous

October 1, 2018

Alaska Boards of Fisheries
PO Box 115526
Juneau, Alaska 99811-5526

To Alaska Boards of Fisheries:

Attached is Ahtna Tene Nene' comments on JB ACR 1.

Comments:

Ahtna Tene Nene' oppose JB ACR 1. In 1992, the Joint Boards made a determination about nonsubsistence areas. The Board of Fisheries has the authority to make CT determinations for fish stocks outside the nonsubsistence areas. The Board made a positive CT finding in 1999 for the Chitina Subdistrict salmon fishery. Board reversed its decision in 2003 to negative CT determination for the Chitina Subdistrict fishery.

Members of the Alaska Board of Fisheries did not determine Chitina Subdistrict to be a non-subsistence area. Chitina is a subsistence use area, it has positive findings for moose, bears, and other wild game. Portions of GMU 13 were reviewed by Joint Boards in 2007 and the Joint Board decided to keep it a Rural Determination. No new information was provided in 2007 to change the Rural Determination decision made by Joint Board of Fish and Game in 1992.

Submitted by Ahtna Tene Nene'

Shona Stickwan
for
Linda Pete
Linda Pete

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ACR 1: Oppose

The Native Village of Eyak strongly opposes the Agenda Change Request (ACR) submitted by the Kenai River Sportfishing Association (KRSA). The ACR contradicts itself, and is supported by vaguely referenced data:

“As evidence, we cite the very high rates of inter-regional straying of hatchery pink salmon into Lower Cook Inlet, and scientific research studies and agency reports that document the adverse impacts on wild salmon and other wildlife from increased food competition in the North Pacific Ocean, where there are record high salmon abundance levels and an increasingly variable ocean environment.”

This language is often persuasive in garnering public outrage and support, but without any specific citations of empirical, peer reviewed studies the argument is not supported.

The actual data that is shared, a summary of hatchery strays in lower Cook Inlet streams, is also substantially misleading. Observations of Hatchery stray rates of “up to 70%” are detected in streams that are not listed in Alaska’s Anadromous Waterways Catalog as Pink Salmon Streams, thus posing absolutely no threat to wild stocks. KRSA presents data that is, at most, superficially indicting, but opted not to share that the only listed pink salmon stream, Humpy Creek, had a stray rate below 3%, well within acceptable levels. Pink salmon are, by nature, inclined to explore, not displaying the same level of fidelity to their natal streams, rather happy to explore new areas. The observations in lower Cook Inlet are nothing more than this well-known behavior and no cause for the level of alarm being sounded by KRSA as absolutely no negative impacts have been verified.

Moreover, the vague references to “scientific research studies” contradict the data that the multi-year, multi-million dollar Alaska Hatchery Research Project has provided, showing natural genetic diversity across Prince William Sound indicating no evidence of hatchery fish interbreeding with wild fish. Moreover wild pink salmon stocks have seen record returns, even this past season when the fishery was overall very poor, locations such as Beartrap Bay in Port Gravina Tribal Elders observed an abundant return. This evidence suggests that Alaska’s hatcheries are providing harvestable stock enhancement and preserving wild stocks.

KRSA has been conducting extensive social networking outreach with equally poor evidence, misleading supporters with conjecture. For example, some of their material correlates Chinook declines and hatchery production increases, asking its supporters if they believe this is a coincidence, thereby suggesting that hatchery production caused Chinook declines. There is no evidence to support this. Pink salmon live offshore and primarily consume plankton and invertebrates, whereas Chinook live nearshore and primarily consume fish. It is far more likely that young pink salmon provide a supplemental feeding opportunity as they move offshore, rather than compete with pink salmon for resources.

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With so much of KRSA's own argument relying upon "scientific research studies" it is telling that KRSA seems entirely uninterested in the multi-year, multi-million dollar Alaska Hatchery Research Program, which the state has created to examine these exact issues so that hatcheries can continue to provide sustainable salmon enhancement using best management practices. The Native Village of Eyak is substantially involved in the rigorous and thorough processes that determines egg take goals as a member of Prince William Sound Aquaculture Corporation's Board of Directors, with a seat on its Production Planning Committee, and an ex officio seat on Prince William Sound's Regional Planning Team which reviews, modifies, and approves or denies each hatcheries egg take requests. The process is inclusive, and reliably produces strong returns sustainably for the benefit of Alaskans, our state's economy, the Prince William Sound region, and the world. This ACR would harm our state by undermining this process, which is a gold-standard for fisheries management. KRSA never sought to participate in this hatchery planning process and makes only vague references to "scientific research studies" without citing said studies.

Our growing world requires increasing amounts of high-quality protein, and hatchery enhancement is among the most responsible, sustainable ways of meeting that need, to the great benefit of our region and our state's wild salmon resources and sustainable economy. We do not wish to see this need met by fish farms, which many nations across the world are set to expand, nor do we wish to see high density feed lots increase to meet these needs. Such practices are harmful and degrade the common habitat needed for wild salmon stocks to thrive. Salmon enhancement using the existing processes to determine hatchery production delivers on the State's constitutional mandate to provide the maximum sustainable economic benefit from its resources.

The Native Village of Eyak urges the Board of Fish to reject this ACR and support the rigorous and responsible processes in place to determine hatchery production, and the ongoing scientific research being conducted via the AHRP in order to ensure that the state's enormous investment in hatchery infrastructure is used in the most responsible ways, to the benefit of our wild salmon resources.

ACR 2: Oppose

The Native Village of Eyak opposes Agenda Change Request (ACR) 2, submitted by Virgil Umphenour because it is incomplete, unnecessary, is not supported by any specific citation or reference, and piggybacks on ACR 1 submitted by the Kenai River Sportfish Association, but would render that ACR moot. ACR 2 should not be considered or discussed by the Board of Fish.

Mr. Umphenour did not complete the form, and so this ACR should be discarded on procedural grounds. This ACR simply does not address the following:

STATE WHY YOUR ACR IS NOT PREDOMINANTLY ALLOCATIVE; and

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IF THIS REQUEST IS ALLOCATIVE, STATE THE NEW INFORMATION THAT COMPELS THE BOARD TO CONSIDER AN ALLOCATIVE PROPOSAL OUTSIDE OF THE REGULAR CYCLE; and

STATE WHETHER THIS ACR HAS BEEN CONSIDERED BEFORE, EITHER AS A PROPOSAL OR AS AN ACR, AND IF SO, DURING WHICH BOARD OF FISHERIES MEETING.

We cannot understand why ACR 2 was published, let alone considered, simply because no information was provided for the above, as required. We expect that this information is not being provided because the ACR *is* allocative.

Furthermore, the following question is inadequately responded to, and demonstrates the very poor justification for this ACR:

STATE YOUR INVOLVEMENT IN THE FISHERY THAT IS THE SUBJECT OF THIS ACR. I was one of two BOF members that negotiated the hatchery protocol with ADF&G.

Mr. Umphenour was seated on the Board of Fish in a position of authority, and yet expressed no issue with the protocols for nearly two decades. We could find no record of the Board of Fish authorizing such a negotiation, or taking any action such as that claimed by the proposer, and acting upon an unauthorized negotiation is procedurally incorrect.

The ACR is itself undermines Mr. Umphenour's claim this was a settled negotiation between the Board of Fish and ADF&G "done at the BOF meeting in January-February of 2001," but does not state this in the question that addresses exactly this, rather this question is also left blank. Was this an informal meeting that did not carry weight with the final decision? There are too many questions regarding this proposal to allow it to be considered.

Finally, ACR 2 simply cites another ACR in detailing how it meets the required criteria:

STATE IN DETAIL HOW THIS ACR MEETS THE CRITERIA STATED ABOVE.

1. a) **for a fishery conservation purpose or reason:** Yes. See KRSA ACR
2. b) **to correct an error in regulation:** No.
3. c) **to correct an effect on a fishery that was unforeseen when a regulation was adopted:** No.

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Thus, it seems to avoid having to take the time to author a complete ACR, we must refer to “KRSA ACR” which is woefully inadequate, and once one is able to locate this “KRSA ACR” (not referenced by any standard means) the justification there is weak, however we do not feel it necessary to comment on the justification for meeting the criteria for an ACR when the proposer could not be bothered to include it in the ACR itself.

A proposal that would so greatly disrupt an important commercial fishery should be complete, well referenced, and stand on its own. If the author cannot conjure enough interest to complete a simple ACR form, the ACR they submit should be discarded without consideration, even if they are former members of the Board of Fish.

ACR 6: Support

The Native Village of Eyak supports ACR 6 submitted by Paul Shadura which would improve the ability of fisheries managers to meet escapement goals, and conserve sockeye runs on the Kenai River when returns are poor without removing the opportunity altogether.

We believe that, statewide, of Personal Use fisheries have somehow elevated in priority, having allocations to these fisheries become more established and guaranteed to participants regardless of run strength, and flaunting the very idea of a Personal Use fishery, which is established by 5 AAC 77.001 to provide Alaskans the means to harvest fish when there are surplus fish to harvest. The statute is clear, that Personal Use fisheries exist in areas where there are an “excess of both spawning escapement needs and present levels of subsistence, commercial and sport uses.” However, we need not interpret the intention of this statute as it is explicitly stated:

(b) It is the intent of the board that the taking of fish under 5 AAC 77 will be allowed when that taking does not jeopardize the sustained yield of a resource and either does not negatively impact an existing resource use or is in the broad public interest.

Thus, we fully support Personal Use fisheries shouldering the entire conservations burden by seeing that the personal use fishery only opens when surpluses exist after subsistence, commercial and sport needs are met as per statute 5 AAC 77.001.

Moreover, we fully support the immediate reporting of all salmon harvested in Alaska. The Native Village of Eyak would like all salmon harvest to have universal reporting requirements, regardless of user group. Currently commercial salmon fisheries are required to report their harvest within 24 hours, and this standard should be applied to all user groups, with severe penalties for failing to report.

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ACR 8: Support

The Native Village of Eyak strongly supports ACR 8 submitted by Ahtna Tene Nene'. The proposal is simple and straightforward: salmon on the Copper River were never traditionally harvested from boats. Because they were not used traditionally and customarily, they should not be used in subsistence harvests.

We believe, further, that this should apply to all dipnet harvests on the Copper River, in both state (including personal use) and federal fisheries. Traditionally, dipnetting occurred from riverbanks, and that customary and traditional harvest should be sustained today and reflected in Alaska's subsistence harvest regulations.

In practical terms, we feel that boats afford anglers the opportunity to harvest a greater proportion of Chinook, and in seasons where sockeye are scarce and Chinook are abundant, such as 2018, boat-based dipnet fisheries, using gillnet webbing, cause unknown mortality from anglers having kept their limit of Chinook salmon and returning Chinook to the river while continuing to fish for sockeye. This mortality could have substantial impacts on actual spawning escapement that are not accounted for. Other alternatives exist for this issue, though, including requiring anglers to stop fishing once they have retained their limit of Chinook while simultaneously prohibiting the discard of any Chinook caught via dipnet. Another alternative would be to require the use on knotless 1" seine webbing.

JB ACR 1: Oppose

Joint Board Agenda Change Request (JBACR) 1, submitted by the Fairbanks Fish and Game Advisory Council is quite simply the first step in re-establishing Wood Canyon as a subsistence fishery. This is absolutely unnecessary and should not be considered, is not necessary per statute, and would reduce the flexibility fisheries managers have to conserve fish when necessary because Wood Canyon is so productive a fishery, and subsistence so difficult to limit compared to Personal Use.

Moreover, we believe it would be best to avoid the kind of user group conflict found on the Naknek River after receiving input from Tribal Members who participate Naknek River fisheries, amidst Personal Use, Subsistence and Commercial setnet and commercial drift gillnet fisheries. Naknek is a remote river, off the road system, and this is simply an apples-to-oranges comparison.

The Native Village of Eyak operates fisheries research programs on the Copper River between the flats and the Gulkana River, and everywhere in between. Quite simply, the area being discussed, Wood Canyon, where the Chitina Dipnet fishery takes place, is the most efficient, productive location to harvest salmon

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via dipnet. This was once a subsistence fishery area, but transitioned to Personal Use, and this transition is necessary for the resource. Harvest in Wood Canyon must be able to be curtailed when it is required for conservation, and a subsistence fishery in Wood Canyon would make that exceedingly difficult to limit when dictated by conservation per 5 AAC 99.010:

If all available restrictions for nonsubsistence harvests have been implemented and further restrictions are needed, the board will eliminate nonsubsistence consumptive uses, and reduce the take for subsistence uses in a series of graduated steps under AS 16.05.258(b)(4)(B)

The rationale for this request is absolutely absurd, based upon the Board of Game not creating a nonsubsistence area. It is perfectly allowable for a Personal Use fishery to take place in an area that has not been designated as nonsubsistence; 5 AAC 99.016 simply allows for a Personal Use fishery in a nonsubsistence area, it in no ways requires that areas containing Personal Use fisheries be declared nonsubsistence by the Joint Board, and allows individual boards to make that determination:

(a) A nonsubsistence area is an area or community where dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life of the area or community. In a nonsubsistence area, the following activities will be permitted if so provided by the appropriate board by regulation:

(1) general hunting, including drawing and registration permit hunts;

(2) personal use, sport, guided sport, commercial fishing, and other fishing authorized by permit.

(b) Subsistence hunting and subsistence fishing regulations will not be adopted by a board for a nonsubsistence area and the subsistence priority does not apply in a nonsubsistence area.

Moreover, the claim that “CPF area **may be** the only place in the state that lies outside a recognized non-subsistence [SIC] area and does not allow subsistence opportunity,” (emphasis added) is tellingly vague and uncertain, if it is an unprecedented situation, the proposer should indicate it is, because this seems to be a major part of the argument even though this unique status would be perfectly allowable if it were actually unique. But it is not: 5 AAC 77 describes Personal Use areas in Arctic-Kotzebue Area, Norton Sound-Port Clarence Area, Yukon Area, Kuskokwim Area, Bristol Bay Area, Aleutian Islands Area, Alaska Peninsula Area, Chignik Area, Kodiak Area, Cook Inlet Area, Prince William Sound Area, Yakutat Area, and the Southeastern Alaska Area. Per 5 AAC 99.015, Joint Board nonsubsistence areas are limited to Ketchikan, Juneau, Anchorage-Matsu-Kenai, Fairbanks, and Valdez. These are the state’s population centers, and are

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clearly the areas intended to be nonsubsistence. Characterizing Wood Canyon as similar should not be considered.

There is abundant subsistence hunting opportunity near Chitina, and that use can and should be maintained by the Board of Game, but that use should in no way be used to justify reverting Wood Canyon to a subsistence dipnet fishery. There is absolutely no basis for this request.



Submitted By
Alan Kapp
Submitted On
9/28/2018 1:18:13 PM
Affiliation

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I address my comments to ACR1 and ACR2.

I have been an Alaskan Commercial Salmon Fisherman for 47 years. I was a salmon purse seine fisherman in Prince William Sound prior to the advent of the hatcheries when we depended on wild stream returns only. I have also been a beneficiary of hatchery production since 1980 when the first PWSAC hatchery brought us substantial salmon returns.

Prior to hatcheries, salmon runs depended on mother nature's whims of weather and conditions. Did the returning salmon have enough water to lay their eggs in a salmon stream? If yes, then were the salmon eggs then washed away by heavy rain in October and November? Did the first snow come prior to the harsh winter temperatures to cover and protect the eggs in the salmon stream during the harsh cold? Did the timing of the fingerlings entering the inter-tidal areas coincide with the spring plankton bloom to help feed the fingerlings? All of these salmon survival issues were mitigated by the salmon hatcheries.

When the PWS hatcheries were established, the hatchery stream water sources chosen were the streams that didn't support salmon propagation due to waterfalls or other natural propagation obstructions. Hatchery construction made these non productive salmon streams into productive streams. This happened by intent, because the hatcheries were never meant to replace natural spawning, only to supplant natural spawning.

I wish to address the straying salmon issue cited in ACR1. Straying salmon is a natural behavior and should be looked upon as a good thing. I personally have witnessed returning pink salmon in Vladivostok Russia as well as returning pink salmon in Puget Sound Washington. Returning pink salmon are quite a widespread phenomenon of which I believe to be by mother nature's intent. How else can pink salmon be spread from 45 degree latitude in the Eastern Pacific to 47 degrees latitude in the Western Pacific. I believe salmon straying to the different streams is why pink salmon are so wide spread and prolific throughout the North Pacific Ocean. Montague Island rose 33' in some locations because of the 1964 Alaskan earthquake, and yet today Montague Island has pink salmon returning to these areas after the salmon streams eroded to allow the pink salmon access to the spawning areas. Pink salmon stray and spread like the seeds of weeds blowing in the wind. Are they genetically different from one salmon stream to the next, I very much doubt the genetic differences are meaningful. I believe Kenai River Sportfishing Association doesn't like straying pink salmon just because they don't like the specific pink salmon specie.

Salmon hatcheries in Prince William Sound add to the salmon production of pink, sockeye, silver, and chum salmon. The hatcheries generate benefits to both commercial and sport usage of the salmon. They shouldn't be restricted in their salmon production, rather they should be encouraged and supported.

Submitted By
amber d lukin
Submitted On
10/3/2018 3:33:43 PM
Affiliation

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR1 and ACR2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

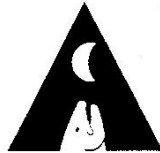
The hatchery programs are heavily science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Amber Lukin



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PC021
1 of 4

October 3, 2018

State of Alaska Board of Fisheries
October 15-16 Work Session
Comment re. ACR 1

To the members of the Board of Fisheries,

Proposal ACR 1 would set a dangerous precedent for the Board of Fish. The dramatic success of Alaska's fisheries management and the reason it is viewed with admiration all over the world is its scientific management. Other fisheries around the globe have been subject to political pressures that have invariably resulted in management decisions destructive to the wild stocks. One of the real geniuses of the Alaska constitution was its recognition how critical it is to protect our fisheries resources from these political pressures. Therefore the Board of Fish was established as an independent body, not under the direct control of either the legislature or the governor. The Board of Fish is comprised of volunteers from the public to ensure a diversity of points of view and a broad perspective on benefits to the state. The Board is also expected to rely heavily on the scientific expertise of the Alaska Department of Fish and Game, whose professionals are many of the best fisheries scientists in the world.

ACR 1 is asking the Board of Fish to override the research, judgment and recommendations of ADF&G regarding the proper permit level for the Valdez Fisheries Development Association's production. VFDA's request for a permit increase of 20 million pink salmon was duly vetted by ADF&G scientists and fisheries managers and subjected to the public hearing process four years ago. Its retroactive challenge by the Kenai River Sportsfishing Association is not based on sound scientific evidence, but rather on their allocative effort to decrease the commercial fisheries share of the resource and increase that of the sport fishing fleet.

The science of ocean carrying capacity and the interactions of various salmon species and other components of the marine ecosystems is extremely complex. It is far too easy for a person of limited scientific background to cherry pick studies or elements of studies that appear to support their own contentions. A thorough review of the available scientific literature by truly expert scientists simply does not support the arguments of KRSA and its supporters that there is any negative correlation between pink salmon production by Prince William Sound hatcheries and the marine survivals or the sizes of the other salmon species.

It is incumbent on the members of the Board of Fish to recognize their own limitations in their ability to serve as expert evaluators of the confusing array of scientific studies that have appeared over the years. Some of these studies have been carried out with much better designs than others, and some of the studies have apparently been tainted by authors who were attempting to validate their personal biases, which good scientific method goes to great lengths to avoid. I would like to request in the strongest possible terms that the Board of Fish rely on its natural source of scientific expertise, the Alaska Department of Fish and Game, to make sense of the scientific literature. Relying on the misguided contentions of KRSA or other parties who apparently possess a dangerous amount of limited knowledge or prejudices that



result in cherry-picking a limited portion of the studies will only lead to poor management decisions.

I fully support ongoing support for further scientific studies regarding the carrying capacity of the oceans and the interactions between the marine species, but there is clearly no emergency here. The Alaska PNP hatchery program is an amazing success story, and as non-profit organizations, the hatchery operators are as interested as anyone else in ensuring the health of the wild runs. The cost of enacting controls on the Alaskan hatcheries would be enormous, and any actions to do so should only be undertaken only in light of reliable scientific evidence.

Even though this particular ACR is addressing only one hatchery in Prince William Sound, I am above all alarmed at the prospect of the Board of Fish reacting to politically motivated and poorly informed initiatives to ask the Board to micro-manage Alaskan hatcheries, when there is such a thorough and successful system already established to play that role. Setting a precedent of revoking this approved permit increase would send the Board of Fish down a rabbit hole of reacting to political pressures and second-guessing the expertise of the scientists with the best interests of Alaska at heart, ADF&G.

With these comments, I am representing Armstrong-Keta, Inc. (AKI), an independent private non-profit corporation, built and operates the Port Armstrong Hatchery, which has been producing salmon on southern Baranof Island since 1983. We are a long way geographical from Valdez, but this issue is of utmost importance to every hatchery in Alaska.

Please adhere to the procedures that have served Alaskan fisheries for so many decades to date. Please reject ACR 1

Thank you for your consideration,

Bart Watson
General Manager
Armstrong-Keta, Inc.

Bart Watson
President



ARMSTRONG-KETA INC.

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PC021
3 of 4

October 3, 2018

State of Alaska Board of Fisheries
October 15-16 Work Session
Comment re. ACR 2

To the members of the Board of Fisheries,

Proposal ACR 2 is draconian and would be destructive. If this proposal is adopted, the Port Armstrong Hatchery will with certainty be forced to cease all production and declare bankruptcy. I can envision no plausible scenario in which this catastrophic outcome could be avoided.

Armstrong-Keta, Inc. (AKI), an independent private non-profit corporation, built and operates the Port Armstrong Hatchery, which has been producing salmon on southern Baranof Island since 1983. With an original permit of 11 million combined pink and chum salmon, it was initially a true "Mom and Pop" hatchery, intended to supplement the state and regional aquaculture hatcheries. The mission of the hatchery was to benefit the seine and troll fisheries of the southern Chatham Strait area, providing economic support to the depressed rural areas of Southeast Alaska. The chum broodstock was a late fall run, but it turned out the quality and marine survivals of that Security Bay stock were very poor upon returning to Port Armstrong, while in contrast the pinks thrived and were of exceptionally high quality. The Port Armstrong hatchery subsequently dropped its fall chum run in 1991, while expanding its pink run to become the mainstay of the hatchery. This hatchery has produced the only hatchery pink run of significant size in Southeast Alaska ever since.

The rapid expansion of salmon farming in Norway, Scotland, Chile and Canada began to flood world seafood markets in the 1990s. By 2002 and 2003, pink prices dropped dramatically, and AKI faced the prospect of no processor bids at all on its anticipated 2003 return due to farmed salmon competition. It was only a strike by the seiners that summer that suddenly altered the market dynamics and saved the season for AKI. But it had become obvious that the business plan of the hatchery, based on a modest number of pink salmon, was not going to generate sufficient income in the long term to cover the operating costs as well as provide significant common property contributions to the fishing fleets.

Therefore, AKI applied for and was granted a permit in 2002 for a summer chum run of 30 million eggs, with the goal of providing cost recovery income at Port Armstrong and eventually a terminal common property fishery at the adjacent Port Lucy. It proved extremely difficult to procure the eggs, due to shortfalls at the donor Hidden Falls Hatchery. It was only in 2009 that the Port Armstrong Hatchery finally was able to receive the full permitted quota of 30 million green eggs. Because the Department of Fish and Game is on principle conservative about establishing new runs, in order to be able to evaluate any impacts on the wild runs, the Department wanted to observe several years of returns at the 30 million level before considering AKI's long-term goal of increasing production to 60 million eggs, at which the economies of scale make both the cost recovery and the common property contribution components of the run work sustainably into the foreseeable future. Finally, in 2015, ADF&G



concluded that they had observed enough years of chum returns at Port Armstrong to consider boosting the AKI permit to the full 60 million level, and AKI was granted the permit on the recommendation of the Regional Planning Team and the ADF&G scientists.

Because of the relative size and price of chums salmon in comparison to pink salmon, the chums are fundamental to the financial survival of AKI. Using our pro forma assumptions regarding marine survivals and prices per pound, each chum is worth approximately 6.25 times as much as each pink. The cost recovery income from the chums Port Armstrong Hatchery support the other production, particularly the 5 million coho eggs now permitted. The cohos have been a particularly strong contributor to the troll fleets in Southeast Alaska, with the common property contribution comprising 70% of the return in 2017. Additionally, the Port Lucy chum terminal fishery is intended to target the troll fleet. In light of the drastic cutbacks in troll opportunities due to several US/Canada treaty reductions in Chinook quotas, these common property contributions are particularly important to help the troll fleet increase its share of the Southeast salmon allocation goals.

This year, the Port Armstrong hatchery had sufficient broodstock available to take the full 60 million green eggs for the first time. This chum run is keystone to AKI's continued viability and its ability to continue producing cohos and pinks for the common property fisheries. With another new permit to produce up to 600,000 Chinooks at the nearby Little Port Walter Research station, this is an additional potential contribution to the troll and sports fishing fleets in Southeast Alaska. After many years of slow growth, AKI has finally achieved a production level that appears both sustainable and capable of making the desired contributions to the common property fisheries.

If, on the other hand, there is any retraction of the current permit levels, the survival of AKI will be thrown into doubt. A significant reduction of pink and/or chum levels would surely be the death knell for this facility and this non-profit corporation.

Please reject ACR 2.

Thank you for your consideration,

Bart Watson
General Manager
Armstrong-Keta, Inc.

Bart Watson
President



October 3, 2018

To: Alaska Board of Fisheries

RE: Opposition to ACR 1, ACR 2 on October 15-16 BOF Work Session Agenda

Dear Chairman Jensen and Board of Fisheries Members:

My wife Patty and I have lived in Seward year around for almost 40 years. Our three kids were born in Seward, and attended Seward schools through graduation. We love this place and it is by making a living commercial fishing that we have managed to stay and raise our families here. My first year as a seine deckhand in PWS was in 1985 on Arne Hatch's boat, the Phoenix. In the years since, we as a family have gillnetted from our own boat in PWS and on the Copper River for 14 years and also setnetted in Main Bay for 15 years. Both our sons, Gus and Bobby, have owned and operated PWS seine operations for the last ten years. Gus and I formed a partnership together in 2012 to build and operate the 58 ft seiner, the Frisian Lady. We built that boat from start to finish in Homer, Alaska utilizing a 100% local workforce while spending more than a million dollars with Homer vendors and marine contractors. Ann, our daughter, works as fleet manager for Camtu's Alaska Wild Seafoods, a hometown Cordova processor. Seward's local processing plant, Icicle Seafoods, employs many residents and absolutely depends upon pink salmon produced in PWS for its survival. Hundreds of coastal Alaskan families make a living from the PWS fisheries between tendering, gillnetting, seining, and processing. Also, guided charter fishing, a large fleet of private sport fishing boats, and heavily utilized shore based personal use fisheries are major economic drivers for our town as well as providing the most important locally sourced food available here. Hatchery releases support all of the above and have a decade's long history in Resurrection Bay. The raw fish tax is a very important component of Seward's annual city budget paying for infrastructure and services for which it would be very difficult to find other funding. Individually, and collectively, we are major local stakeholders that will be directly and negatively impacted by the ACR's referenced above.

Both of these ACR's so directly threaten our industry that I ask each Board of Fish member to demand a non-political process backed up by rigorous science. ADF&G initiated ongoing research into hatchery straying impacts on wild stocks in 2011 with extensive stream sampling, otolith analysis and genetic studies. Some results have been published and more are to come. ACR 1, submitted by KSRA, makes reference to straying of PWS pink salmon into Cook Inlet during the 2017 season. How does



this anecdotal sampling report fit into the larger research picture for prior years, or for the years to come? Was the sampling part of a broader research project? Performed by whom? Directed by whom? Any published results? I spent considerable time looking through the KSRA, ADF&G and CIAA websites and could find no answers to any these questions.

Further, KSRA makes the statement in their list of information supporting the need for ACR 1 that *"In 2017, 45 million salmon returned to the five hatcheries in PWS, accounting for 87 percent of the total salmon harvest."* What? The 2017 PWS Salmon Season Summary, easily located on the ADF&G website, states the 2017 CCPF pink salmon catch was 43.5 million, with 20.27 million wild stock fish vs 23.23 million hatchery origin fish; a 47%/53% wild stock/hatchery split. I don't understand KSRA's statement and find its implications to be erroneous. The ADF&G's numbers are correct. Please ask KSRA to explain why they include misleading supporting statements such as these in their ACR. Meanwhile, Virgil Umphenour attaches the conservation purpose behind his authorship of ACR 2 to KSRA's statements in ACR 1. He thereby lays waste to a huge portion of Alaska's population and economy while doing the absolute least homework he could possibly do to back it up.

Concerns about hatchery impact on wild fish stocks are not new. KSRA has not participated that I know of in this discussion prior to arriving on the scene with guns blazing here in 2018. Would the dismantling of PWS's hatchery system as they propose bring even one more king salmon back to the Kenai River, ever? I see that premise as extremely premature. Granting approval at this time to either of these ACR's will cause harm to me, my family, my community, and many others statewide. Scientific studies currently underway would be short changed by jumping to conclusions at this time. Please do not approve either ACR 1 or ACR 2.

Sincerely,

Robert Linville
Seward, Alaska

Submitted By
Bradley G Tuttle
Submitted On
10/3/2018 3:18:04 PM
Affiliation
Alaska Resident

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North Pole, Alaska 99705

I am strongly opposed to limiting the hatchery production of salmon in Alaska. The ripple effect of this limitation would resonate throughout all of the coastal communities that rely on this valuable resource, and would be felt even beyond that. As Alaska grows and changes, we need to change with it or be left behind. The new technology that hatcheries can offer to expand this resource should be encouraged. Our efforts need to be directed toward working together to supporting this resource, which is valued to Alaskans and beyond.

Submitted By
Carly Nelson
Submitted On
9/26/2018 7:58:34 AM
Affiliation

Member of the Board of Fisheries,

I OPPOSE ACR1 and ACR2 that intend to limit hatchery production. It is important to the state economy. I work on my dads boat in the summer and hatcheries are important to our fishery. Proponents have not submitted any proven scientific data to support thier request, its all theory. Thank You Carly Nelson



Board of Fisheries

October 15-16, 2018

Work Session

Anchorage, Alaska

Re: Oppose ACR 1 & ACR 2 Reductions to Salmon Enhancement Programs

Dear Chairman Jensen and Board of Fisheries Members:

The Cook Inlet Aquaculture Association (CIAA) opposes ACR 1 submitted by the Kenai River Sportfish Association (KRSA) and ACR 2 submitted by Mr. Umphenour.

ACR 1 – this proposal was submitted in a similar form twice in the form of emergency petitions prior to the collection of eggs in 2018 and voted down each time. It is premature to reconsider this action. The Board of Fisheries (BOF) has asked for information about the hatchery program at the Work Session and at future BOF meetings. There will be numerous documents and several hours of Alaska Department of Fish and Game (ADF&G) presentations, as well as a forum to discuss and exchange information that the BOF has not had an opportunity to assess.

The ACR proposal claims there is a fishery conservation concern due to an unacceptable level of straying outside of Prince William Sound (PWS) streams. All salmon species stray. It is a natural mechanism which allows salmon to colonize new or previously inaccessible areas. The Alaska salmon hatchery program is guided by hatchery practices designed to maintain the characteristics of natural salmon populations. There is no evidence presented to demonstrate hatchery pink salmon stray rates vary from naturally produced pink salmon and are unacceptable.

If ACR 1 is accepted, the BOF will be asking the Solomon Gulch Hatchery to kill live animals. These animals (i.e., eggs) were collected on good faith after the two similar emergency petitions were voted down. No new information is presented to justify this action.

ACR 2 – CIAA concurs with the reasoning set forth in the ADF&G Staff Comments (RC2). This ACR does not meet the criteria to be adopted. It appears little effort or thought was put into the proposal or in understanding Alaska's salmon enhancement program. The proposal should be rejected and the BOF should be commended for scheduling a hatchery committee meeting at the October work session to become better informed about the salmon enhancement program.

Salmon enhancement today means better salmon fishing tomorrow.



CIAA is dedicated to protecting and providing salmon for all user groups. We recognize the value of both hatchery and naturally produced salmon fisheries. We have reviewed ACR 1 and ACR 2, concur with the comments provided by the Northern Southeast Aquaculture Association and the Valdez Fisheries Development Association regarding these ACRs and request the BOF reject both ACRs.

Respectfully,

Gary Fandrei,
Executive Director

Salmon enhancement today means better salmon fishing tomorrow.



October 3, 2018

Alaska Board of Fisheries
Boards Support Section
PO Box 115526
Juneau, AK 99811-5526

I am writing on behalf of the Copper River/Prince William Sound Marketing Association (CR/PWSMA). The Marketing Association is the Regional Seafood Development Association, that collects the 1% Salmon Marketing Tax, and whose mission it is, to increase the value of Area E salmon for it's members and the region.

There are 6 private non-profit hatcheries in our region producing salmon for the commercial, recreational and subsistence fisheries. Depending on the year, upwards of 80% of the salmon harvested in Prince William Sound, are enhanced salmon from the Prince William Sound Aquaculture Association and the Valdez Fisheries Development Association.

CR/PWSMA does not believe that ACR 1 & 2 meet the criteria to consider an Agenda Change Request; there is not a conservation concern, there is not an error in regulation and there has not been an unforeseen effect of a regulation.

We question why the Board of Fisheries would consider reducing hatchery production to 75% of the year 2000 levels. We question why the Board of Fisheries would consider not allowing salmon eggs that have been harvested, to be incubated and released.

- ☐ Is it because the board thinks wild stocks are being harmed? *Statewide, salmon harvests in Alaska in 2013, 2015 and 2017 were three of the four largest wild stock returns in history, going back to the late 1800s.*
- ☐ Is it because the board wants to reduce the economic value of commercial fisheries? *In 2017, the statewide commercial fleet caught 47 million hatchery-produced salmon, a harvest worth an estimated \$331 million in first wholesale value and \$162 million in ex-vessel value. Reducing hatchery production would result in the loss of processing, harvesting, transportation and marketing jobs, and a reduction in fisheries business taxes and tourism opportunities. It is difficult to imagine the far-reaching consequences of a 25% reduction in salmon resources.*



- ☐ Is it because you want to reduce recreational and subsistence harvest opportunities? *Hatchery production salmon are a vital source of sport, personal use, and subsistence salmon.*

Please vote no on ACR 1 and ACR 2.

Thank you,

Thea Thomas, Secretary
CR/PWSMA Board of Directors



Submitted By
Cathy Renfeldt
Submitted On
10/3/2018 4:58:13 PM
Affiliation
Cordova Chamber of Commerce Executive Director

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executivedirector@cordovachamber.com
Address
PO Box 99
Cordova, Alaska 99574

September 3, 2018

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Alaska Board of Fisheries Members:

The Cordova Chamber of Commerce has recently been made aware of two Agenda Change Requests for your upcoming meeting. As the voice of the Cordova business community with members comprising a variety of industries including lodging, transportation, outfitting, retail, shipping, seafood harvesting, processing and many others areas; **we do not support the acceptance of ACR1 or ACR2 because they do not meet the criteria for the BOF to accept and because we feel that Alaska's salmon hatchery program is integral to the economic sustenance of rural communities like Cordova.**

Alaska's salmon hatchery program has proven to be significant and vital to the state's seafood and sportfish industries and the State of Alaska by creating employment and economic opportunity throughout the state and in particular in rural coastal communities like Cordova. We know that the City of Cordova and all local businesses benefit greatly from Prince William Sound salmon fisheries enhancement programs through hatchery propagation; both sport and commercial fisheries enhancement efforts of the Valdez Fisheries Development Association and Prince William Sound Aquaculture.

We also feel these programs provide sustainable direct economic and social benefit to the community of Cordova. This benefit is realized through the creation of local seafood processing jobs, fisheries business tax, increased commerce and seafood industry investment in our community. In addition, the enhancement of the sport fishery by hatcheries provides significant fishing opportunity for coho salmon throughout eastern Prince William Sound, and this sport fishing activity significantly increases summer tourism by attracting visitors to Cordova to sport fish in eastern Prince William Sound. This further benefits local commerce through the sale of sporting goods, custom processing, lodging, fuel, harbor moorage, float plane charters, fishing charters and other purchases. We feel strongly that hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists. This team knows and understands the history of salmon enhancement in Alaska and employ strong scientific methodology built upon precautionary principles and sustainable fisheries policies intended to protect wild salmon populations.

Sincerely,

Cathy Renfeldt

Executive Director, Cordova Chamber of Commerce



Cordova District Fishermen United
PO Box 939 | 509 First Street
Cordova, AK 99574 | www.cdfu.org

September 24, 2018

John Jensen, Chairman
Glenn Haight, Executive Director
Alaska Board of Fisheries
Alaska Department of Fish and Game, Boards Support Section
P.O. Box 115526
Juneau, AK 99811

RE: Comments on October 15-16 Work Session Agenda Change Requests

Dear Chairman Jensen and members of the Board of Fisheries,

Cordova District Fishermen United opposes ACR 1 and ACR 2. Hatchery production is set through a thoroughly vetted process involving the Alaska Department of Fish and Game and the Regional Planning Team. The Board of Fisheries does not historically have any involvement in the decision-making process regarding hatchery production.

CDFU believes our statewide hatcheries are well managed, and rely on Alaska Department Fish and Game research for management decisions for the future of all stocks. It is imperative that hatchery production be science-based and driven by the Alaska Department of Fish and Game's continued research. Circumventing the permitting process for hatchery production by utilizing a political process, rather than a scientific one, is a breakdown of public trust and jeopardizes the future of Prince William Sound fisheries.

The Regional Planning Team's extensive knowledge of hatchery operations uses sound science to guide permit approval. All decisions regarding hatchery production cannot be finalized without review by the Commissioner of Fish and Game.

Hatcheries contribute to economic stability in the Prince William Sound region and Prince William Sound hatchery stocks are utilized by sportfish, subsistence, and commercial users. The hatchery program in Prince William Sound was created with the intent to protect fisheries during weaker wild salmon runs. Without hatchery operations this year, with the Copper River District



closed for much of the season, the gillnet and seine fleets in Area E would have had very little opportunity to fish, and the impacts to our community would have been profound and devastating.

Due to the nature of the Board of Fisheries seats, which are political appointments, hatchery production limits should continue to be set collaboratively by the Alaska Department of Fish and Game and the Regional Planning Team, after thorough review of the scientific data. ACR1 and ACR2 are submitted by authors who have no involvement in any fishery in Prince William Sound (as stated in each ACR by their respective authors), and therefore we believe the requests are political in nature and not an issue of conservation.

We recommend that the Board of Fisheries receive an annual report from the statewide hatcheries and Alaska Department of Fish and Game staff, but that decision making regarding hatchery production remain the duty of the Regional Planning Team and the Commissioner of the Alaska Department of Fish and Game.

Thank you for your consideration.

Gerald McCune
President
Cordova District Fishermen United



Submitted By

Dan Moody

Submitted On

10/3/2018 2:11:46 PM

Affiliation

Phone

9074576335

Email

Dan.akgundogs@gmail.com

Address

575 Deepfreeze ct

Fairbanks, Alaska 99710

I oppose cutting fish hatchery production.

Submitted By
Darrel Olsen
Submitted On
10/3/2018 2:32:19 PM
Affiliation

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Address
PO Box 66t
Cordova, Alaska 99574

Our community and neighbors Valdez, Tatitlek, and Chenega rely and are affected by the fisheries and the production. Please do not cut our hatchery production.



Submitted By
Dave Beam
Submitted On
10/3/2018 9:42:16 PM
Affiliation

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PO Box 297
Girdwood, Alaska 99587

Dear Chairman Jensen and Board of Fish Members,

I am writing to you in opposition to the ACR #1 submitted by KRSA and the ACR #2 submitted by Virgil Umphenour.

My name is Dave Beam. I have lived in Alaska and worked as a commercial fisherman since 1979. Most of my years fishing have been in Prince William Sound. I owned and operated a gillnet boat for twenty two years and for the last ten years have owned and operated a seine boat. I currently live in Girdwood and have resided here since 1990, where I have raised and supported my family with income from commercial fishing.

When the seine season is over, my boat the R/V Montague is used as a research platform for scientific studies. Since 2009, I have worked in PWS with NOAA, USGS, US Forest Service, ADF&G, and the Prince William Sound Science Center. I am well aware of the Hatchery/Wild study in PWS, ongoing for the last 6 years. The data generated from this six year study does not support the idea that hatchery production in PWS is harming wild stock pinks and chum salmon in any way. In fact, it almost looks like the opposite is happening. In the last ten years, we have had four years of record pink and chum wild stock returns. Passing ACR #1 and ACR #2 is not supported by sound science and would be devastating to the commercial fleet across the state that relies on hatchery production. It has been calculated if hatchery production is reduced to the levels proposed, PWS fishermen would lose \$50 million annually. This is totally unacceptable.

In even years, as in the 2018 season, we face making a modest profit, breaking even, or ending the season losing money as we did in 2016. Cutting hatchery production to 75% of permitted levels from the year 2000 could mean future even years would not be profitable enough to put our nets in the water. The list of people, businesses, fishing towns, etc. that would be financially impacted by these two ACRs is very long. All the commercial salmon fishermen that rely on hatchery production in Alaska would be affected. In PWS alone, that would include 550 gillnet boats and 250 seine boats- approximately 2000 people. We are talking about the financial impact to crew members, processors and the people they employ, and the towns where they live and spend money. Also affected would be the price of boats and permits.

I strongly urge the Board of Fish to not support ACR #1 and ACR #2.

Dave Beam



David Hilty

1834 Mission rd
Kodiak AK, 99615
dhilty@gci.net

September 28, 2018

Alaska Board of Fisheries

Chairman Jensen and members of the board of fish

My name is David Hilty, I am a commercial fisherman, Kodiak Aquaculture Association board member, a fish spotter and sport and subsistence user. I am writing you today in support of Alaskas' hatchery programs and would like to encourage you to reject ACRs 1 and 2 and take no action that would reduce or limit hatchery production.

I have lived in Kodiak for over 40 years and have been dependent on commercial salmon fishing for my entire career and subsistence for as long as I can remember.

The hatcheries around Kodiak have played a very important roll in providing a consistent source of salmon for commercial, subsistence and sport fishers especially during down cycles and other natural events such as drought and extreme cold winter conditions.

KRAA has provided subsistence opportunities near the villages of Ouzinkie and Port Lions for the harvest of red salmon by releasing smolt near the villages. These returns provide for the villagers and take fishing pressure off of other small returns that can be over harvested during years of weak returns.

Kitoi hatchery near the town of Kodiak has been very beneficial to the "small boat" portion of our seiner fleet. Many of these boats are unable to venture far abroad in bad weather conditions common to Kodiak. They will spend a large portion of their season at the hatchery, which in turn takes additional pressure off of more vulnerable small wild stock river systems. This past year, based on the preseason forecast, the hatchery managers and board members chose to forgo having a cost recovery fishery in order to give as much of the resource and fishing opportunity as possible to the fishermen. This resulted in more than half of the fleet staying at or near the hatchery which provided 53% of the pink salmon caught in Kodiak. This in turn allowed for less fishing pressure and better escapements on wild stock rivers during a rebuilding year.

Any restriction to hatchery production will create less fishing opportunity, a loss of fishing and processing jobs and will definitely have a negative impact on our community.

Sincerely yours,

David Hilty



Submitted By
David Fleming
Submitted On
10/3/2018 11:28:32 PM
Affiliation
Alaskan

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Address
4115 wright St #3
Anchorage, Alaska 99508

My name is David Fleming and I am an Alaska resident (born and raised) who actively participates in the sport, subsistence/personal use, and commercial fisheries. I have had countless family (father, mother, brothers, sister, cousins, uncles, etc.), friends and other fellow Alaskans who I have fished alongside with at various times throughout my life.

I am proud to say I have close friends who are sport-tour guide operators, avid sports fishers, commercial and subsistence/personal use families.

I am writing in regards to ACR 1 & 2 and about the effects it could potentially have on not just myself, but all Alaskans. From an economic standpoint-devastating, from an environmental standpoint-obscure, from a social/fishing standpoint-damaging (to livelihoods, culture, and setting an extremely obfuscating precedent.)

-Economic standpoint-

We all know the importance of wild and hatchery salmon to our Alaskan communities. I do not have all of the figures in front of me, but it surely is the backbone of many small Alaska communities and if passed, would have impactful consequences from the bottom up.

-Environmental Standpoint-

Passing ACR 1 & 2 on the basis of science that has been studied "one way" and jump to a conclusion on that theory is extremely worrying. It seems way to theoretical at this moment to agree that one study is correct while there are plenty of others stating the opposite.

And isn't this ADFG's job anyway? Call me no expert, but I thought there is a process for ADFG to use the latest science and meet with regional planning teams from PNP's to set these levels. It makes more sense to let the scientists handle the science.

-Social/Fishing Standpoint-

To corner hatchery salmon sets a bad precedent for all fish. Are we really going to change regulation every time one species of fish stocks go up or down for a few years and then reverse course after that.

By allowing ACR 1 & 2 to go forth would demonstrate the invalidity of our system, and also have damaging effects on our industries and ways of Alaskan life no matter the user group.

Submitted By
Deborah Eckley
Submitted On
10/3/2018 12:23:42 PM
Affiliation
fisherman

Date: 10/3/2018
Fisherman: Deborah Eckley
Vessel: F/V Ariel and F/V Dreadnought
Homeport: Cordova, Alaska

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR1 and ACR2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are heavily science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed, Deborah Eckley and Family



Submitted By
Deborah A Lyons
Submitted On
10/2/2018 6:19:32 PM
Affiliation
NSRAA Secretary Treasurer

Phone
9077383362
Email
dlyons@gci.net

Address
PO Box 379
Sitka, Alaska 99835

Re: Oppose ACR 1 & ACR 2 Reductions to Salmon Enhancement Programs

The NSRAA General Manager Steve Reifensstuhl submitted a very thoughtful, reasoned and well documented letter concerning ACR 1 & ACR 2 on October 3, 2018. I agree with his conclusions, that the two proposals should not be supported and implemented. Our 25-member Board of Directors is composed of 15 commercial salmon permit holders and 10 members of the public. They firmly believe in and uphold the NSRAA mission statement;

" The Northern Southeast Regional Aquaculture Association (NSRAA) is a private non profit corporation created to assist in the restoration and rehabilitation of Alaska's salmon stocks, and to supplement the fisheries of Alaska by utilizing artificial propagation to enhance the availability of salmon to all common property users, without adversely affecting wild stocks. NSRAA is committed to promoting the wise use of Alaska's salmon resources through education, sustainable harvest management, the maintenance, protection and promotion of high quality fish habitat, and the utilization of the highest scientific standards, in carrying out its mission."

Yours Truly,

Deborah Lyons

Submitted By
Dennis M. Zadra
Submitted On
10/3/2018 4:26:20 PM
Affiliation
Commercial Fisherman

Dear Chairman Jensen and Members of the Board of Fish,

I would like to express my opposition to ACR 1 and ACR 2. On ACR 1, The board and ADF&G staff have already determined that this issue does not meet the criteria to be heard both last spring and again in mid summer. ACR 2 is an extreme attempt to change the hatchery program and would cost a great deal to many coastal communities. The hatchery program has been going on for over 40 years during which we have seen record returns of both wild stocks and hatchery fish. There is no evidence to support the claims of the proponents. Again, neither of these ACR's meet the criteria.

Thank you for the opportunity to express my point of view.



Submitted By
jeff
Submitted On
10/2/2018 9:28:29 AM
Affiliation
Pacific Star Seafoods/E&E FOODS

Phone
9072527485
Email
jeffb@eefoods.com
Address
box 39229
ninilchik, Alaska 99639

9/30/2018

Dear Board of Fish Directors,

We are a Primary buyer, Processor and distributor of Alaskan Seafoods with Plants in Yakutat, Kenai and Bristol Bay. E&E Foods is the Parent Company of Yakutat Seafoods, Pacific Star Seafoods And Coffee Point Seafoods. While we are not the largest processor we contribute significantly to the local economy especially in Southcentral Alaska where we operate Pacific Star Seafoods which is a very high capacity production facility that primarily produces frozen salmon.

We buy Salmon and other specie in Whittier, Seward, Homer, Kasilof, Kenai and have buying stations all along the peninsula, as well as a fleet of Tender vessels that buy in Lower Cook Inlet. Our production facility in Kenai was first in operations since the late 1800's and is a way of life in our area that has existed for many generations and we hope, for many to come. We operate buying stations in Kotzebue which contributed over 1 million pounds to our Kenai production during poor returns in this area.

We are members of almost all fishermen's organizations including UCIDA, ASA, UFA, CIFF, and others.

E&E Foods are engaged with Hatchery production in cost recovery operations and common property fisheries in Southcentral Alaska and will be severely impacted by a 25% reduction in Hatchery production. These proposals and Agenda Change Requests have been put forward with out any scientific basis and are just based on a few individual's personal beliefs. There is a study under way that will address these concerns with sound and verifiable science. These results will be out in the next 24 months or so. We ask that you do not take these ACR's up at this time and wait for the science.

These actions are not warranted at this time and do not meet the criteria required for an Agenda Change and will adversely effect our entire state and our local communities, not only in lost revenue from the fish but wages from processing, spin off revenue from processing and distribution and taxes, as well as, all the downstream impacts.

Should the Board of Fish take this up at this time it could jeopardize our sustainability and the future of our industry. This is not the time or the place to do this. Please wait for the science to guide us in this most important process. As with all our decisions regarding management of our most precious resources it should be about the resource and sound scientific management not Politics.

Aquaculture has been pursued on the West coast and in Alaska for a long long time and this issue has only been brought up in the last year or so by a very few vocal and high profile individuals. We should not let the Media manage our Salmon with publicity. Our Aquaculture programs have been permitted and vetted rigorously for many years and have given us tremendous benefits saving the lively hoods of thousands of people. We should not act hastily on this. We need careful study, analysis and science to guide our decision making process.

Thank you all for your consideration.

Jeff F. Berger

Regional Director of Fishers and Products



Submitted By
Eric W. Jordan
Submitted On
10/2/2018 5:31:30 PM
Affiliation

Phone
907-738-2486
Email
ericsarahjordan@gmail.com
Address
103 Gibson Place
Sitka, Alaska 99835

BOF members, staff, and interested public, My name is Eric Jordan. I am commenting on ACR 12. Cap statewide p[ri]vate non-profit salmon hatchery egg take capacity at 75% of the level permitted in 2000. I am opposed to ACR 1 and ACR 2.

I am a lifelong Alaskan fisherman since my parents took me fishing when I was 5 months old on their 32 foot salmon troller "Salty" in 1950. I have been involved in Hatchery programs since I completed a hatchery technician program in 1977 at Sheldon Jackson College. I am one of the founders of the Northern Southeast Regional Aquaculture Association and its second employee in 1977. I am currently on their board of directors representing power trollers. I have read the ACR's and the response by Steve Reifensuhl. I concur completely with his comment which reflects some of my reading and understanding over the years. My comment is that the SE Alaska salmon hatchery programs are absolutely essential to my fishing business. Our spring troll fishery for high value kings in May and June is 100% dependent on hatchery kings giving us fishing opportunity. During the summer season my primary source of income, over 90% this year, is troll caught hatchery chum. From my perspective the PNP hatchery legislation and development in Alaska is one of the great salmon success stories of all time. I pioneered the chum troll fishery by trying to catch chums as early as 1979 in Excursion Inlet. My first little bit of success came in the mid 80's in Excursion Inlet. In 1988 we had our first success and started to successfully target hatchery chums in Sitka Sound in 1990. Since then targeting hatchery chums has become an important component of the troll fishery from Ketchikan to Icy Straits. This year trollers caught over 200,000 chums from our recently permitted release site in Crawfish Inlet. I fished chums from July 1 until September 18 except for 1.5 days during the August King salmon troll opening. Chum trolling is almost always in relatively protected waters near the release sites chosen to minimize impacts to wild salmon stocks. This makes it attractive to the smaller boats and many family fishing operations in our fleet. Chum trolling gear and techniques have evolved to be highly selective for chums. Similar to my, and my crew testimony at previous BOF meetings, my by-catch of king salmon and sockeye salmon over this year has been practically none. We do catch some pink salmon and coho when they are abundant where we are fishing chums. But in most areas they are not present when we are fishing chums. In the new Crawfish area south of Sitka there was almost zero by-catch of other salmon during the troll fishery for chums. In our region many of the guides and I communicate regularly and they are happy to see trollers targeting hatchery chums instead of competing with them for kings and coho. In conclusion, I believe this ACR does not meet the criteria for an AC, and when brought up during the regular cycle for this kind of proposal will surely fail on its lack of merit, scientific scrutiny, and devastating impacts to salmon harvest values around the Gulf of Alaska. Thank you! Eric Jordan



Submitted By
Eric Lian
Submitted On
10/3/2018 3:06:51 PM
Affiliation

Dear Board members, My name is Eric Lian, a PWS SO3E salmon drift gillnetter and resident from Cordova. My family has made its livelihood from healthy sustainable PWS fisheries since 1896, and myself have been skippering my own commercial fishing vessel since 2005. My parents helped PWSAC hatcheries get its start through chartering their own fishing vessel for hatchery research back in 1976. The opportunity gave them the chance to work closely with ADF&G biologists that saw the value and importance of a hatchery program. The hatchery program needs to be ran with unbiased science and not political motives; I ask that the BOF special meeting not reduce hatchery production in Prince William Sound. Thank you for your time and consideration! Warm regards, Eric Lian d.b.a. Best Salmon LLC
F/V Fine Line



Submitted By
Ezekiel Brown
Submitted On
9/26/2018 11:07:37 AM
Affiliation

Dear Chairman Jensen and members of the Board of Fisheries,

My name is Ezekiel Brown and I oppose ACR 1 and ACR 2. I strongly oppose the board of fish becoming involved in hatchery permitting and production.

I am a 28 year old first generation commercial fisherman from Cordova, Alaska and currently own and operate a seine boat/permit and gillnet boat/permit for Prince William Sound and the Copper River. I have been working in Prince William Sound catching hatchery and wild salmon for 16 years and plan to continue for the rest of my life. I have been able to purchase my own boats because of the stability created by the pink, chum, sockeye and coho hatchery programs in Prince William Sound.

Just in the relatively short time I have been involved in these fisheries I have seen multiple record breaking returns of salmon both wild and hatchery. The salmon returns do not lie. Prince William Sound is a healthy and productive fishery and changing the process that has created this would be a foolish thing to do with such a strong track record.

The hatcheries statewide are well managed using the best available science through the ADFG and the Regional planning commissions. There is no reason to take action on our current hatchery system in Prince William Sound as none of the wild stocks in the area have been deemed stocks of concern. The Board of Fish is a very valuable tool in managing Alaska's fisheries but it is far too political in nature. Alaska's fisheries need to continue with strong science based management and not fall into political infighting between user groups that public processes like the Board of Fish can create.

Thank you for your time,

Ezekiel Brown

Submitted By
Galen Meyer
Submitted On
10/3/2018 4:07:58 PM
Affiliation

Dear Chairman Jensen and Board of Fisheries Members,

I am a Prince William Sound purse seine fisherman and co-chair of the Cordova District Fishermen United Seine Division. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR 1 and ACR 2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where Prince William Sound hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Galen Meyer



Mr. Jensen and Members of the Board,

I'm a lifelong commercial fisherman from Cordova. I have fished salmon and herring throughout the state and currently seine Sitka herring and Prince William Sound (PWS) salmon. Hatcheries are vitally important to the community of Cordova, as well as the state of Alaska. Continued science based management is what we count on for ensuring long-term sustainable fisheries that support thousands of Alaskan families every year. Making reactive decisions without the proper scientific data and using only one anomalous event (e.g., PWS hatchery pinks spawning in lower Cook Inlet) is likely to lead to bad management practices, given that fisheries naturally change from year to year due to many different factors.

At a time when foreign hatcheries are increasing releases, limiting hatchery fry releases in Alaska (which would only constitute a small portion of the total salmon fry released into the North Pacific) without international cooperation would only serve to limit Alaska's stake in North Pacific salmon. Some years PWS hatchery salmon are a large portion of the total catch for the fishermen of Cordova. Reducing the hatchery output would place a noticeable hardship on Cordova families as well as fishing families throughout the state.

The Sitka Sound herring fishery was addressed at last spring's Board of Fish meetings in Sitka. There is no need to address herring again until it is up for its usual review cycle. To change management practices because of market conditions and where the herring decided to spawn for this one year, with no solid scientific rationale, is again being reactive and goes against Alaska's long-standing successful practices in fisheries management.

For these reasons, I'm opposed to ACR1, ACR2, and ACR10.

Sincerely,

Hughie R. Blake
Commercial Fisherman



October 3, 2018

Chairman John Jensen
Alaska Board of Fisheries
dfg.bof.comments@alaska.gov
Agenda Change Requests (ACRs)
October Worksession

RE: OPPOSE ACR's 1, 2, 10 SALMON HATCHERY PRODUCTION AND SITKA HERRING HARVEST

Chairman Jensen and members of the Alaska Board of Fisheries,

Icicle Seafoods is one of the largest and most diversified seafood companies in North America, with facilities throughout Alaska. We process a variety of species and our operations are located throughout the State including Southeast, Prince William Sound, Cook Inlet, Kodiak, Dutch Harbor, and Bristol Bay. Our processing facilities and our fishermen depend on regulatory stability and sustainable management of fisheries resources. We appreciate the opportunity to comment on the Agenda Change Requests (ACRs) submitted to the Alaska Board of Fisheries (BOF) for the October Worksession.

We based our comments on the criteria for ACR's. In order for the board to approve and schedule an ACR for later in the meeting cycle, the ACR must meet one of the following criteria as established in 5 AAC 39.999.

- For a fishery conservation purpose or reason.
- To correct an error in a regulation.
- To correct an effect on a fishery that was unforeseen when a regulation was adopted.

We are opposed to the following ACR's due to lack of meeting ACR criteria:

ACR 1, OPPOSE. Prohibit VFDA from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity.

ACR 2, OPPOSE. Cap statewide private non-profit salmon hatchery egg take capacity.

ACR 10, OPPOSE. Close Sitka Sound commercial sac roe herring fishery until regional herring stock status improves, additional research on herring is conducted, and the amount necessary for subsistence is met in at least three consecutive years.

ACR 1 and 2, OPPOSE. As a processing company that is dependent on salmon, we oppose the petitions submitted by the Kenai River Sportfishing Association (KRSA) and Virgil Umphenour. Hatchery organizations and ADF&G have already provided you with significant scientific information and a comprehensive explanation of the hatchery egg take permitting process, so our comments will focus on ACR criteria. In addition, Icicle Seafoods submitted comments at the emergency meeting held in July. Both ACR 1 and 2 are attempts to circumvent the BOF process, regular meeting cycle, and the appropriate hatchery egg take permitting process that is driven by science and rigorous analysis.

There has been plenty of opportunity to comment and participate in the permitting process. This issue does not constitute an emergency or conservation concern. This is the third attempt since May by KRSA to use the BOF process to curtail permitted hatchery production. Publications repeatedly cited by KRSA are irrelevant to the current discussion and seek to "cherry pick" scientific information. Some of the publications have very little to no credibility within the greater scientific community.



We encourage the BOF to continue to support the ongoing Alaska Hatchery Research Project (AHRP) which was designed to analyze potential interactions between hatchery and wild salmon in Alaska. This research project will provide crucial data and help provide clarity on the multitude of unverified scientific “facts” that are being distributed to confuse the general public.

In addition to these ACRs not meeting the criteria, by attempting to restrict commercial ability to harvest salmon through hatchery production, the proposers are actually limiting the personal use, sport, and subsistence harvest. All user groups are dependent on hatchery production as an important salmon resource.

There is no fishery conservation purpose or reason for these ACR's. These ACR's do not correct an error in a regulation. These ACR's do not correct an effect on a fishery that was unforeseen when a regulation was adopted.

ACR 10, OPPOSE. Once again, the ARC process is being used to try and circumvent the regular BOF cycle in regard to herring. The BOF January 2018 Southeast and Yakutat Finfish and Shellfish meetings in Sitka already extensively dealt with herring issues. Regardless of a regularly scheduled BOF cycle, herring harvest opponents consistently attempt to use the ACR process to manage the herring fishery.

As is the same for every ACR herring proposal (both now and in the past), no new information has been presented. Our business and the success of our fishermen and tenders is dependent on sustainable fisheries management. ADF&G continues to use effective and critical in-season management to determine if, when, and how a commercial herring harvest will occur. They do this in consultation with members of the Sitka Tribe. The extreme pulse nature of herring fisheries requires constant monitoring and adjustments to the fishery, all with subsistence harvest opportunities in mind. Over the years, significant changes have been made to the fishery at the BOF. Most notably is the continued expansion of the closed “core area”.

The herring fishery is sustainably managed and is very well understood. There is more data on Sitka herring than any other State managed fishery. The data for the Southeast herring resource spans at least 40 years, including age composition data, size at age, fish condition, biomass data, spawning biomass, annual miles of spawn, spawn deposition and density data and more. Sitka herring is acknowledged amongst the scientific community as one of the best available data sets for all herring resources in the Pacific. The Department of Fish and Game uses this data to manage the fishery conservatively and has done so since the fishery's inception in the 1970's.

Icicle has processed herring since the Sitka fishery began. We are committed to sustainable harvest as are our workers, fishermen and tender operators who live throughout the State of Alaska. Herring harvest is important to coastal Alaska communities like Petersburg where Icicle processes herring. Our engineers get in four weeks of work putting the processing line in, processing the herring, and then taking the processing line out. This work occurs when there is not much fishing activity in Southeast and gives critical employment to local residents. The truck drivers who work for AML get 2-3 weeks of work as well, and there is money in town that would otherwise not be there that goes to grocery stores, coffee shops, restaurants, laundromats, etc. Herring is important to our processing workers and key staff as well, and to the 50 or so people who work on tenders for a few extra weeks in the winter. This fishery impacts communities like Petersburg in the slow winter months.

There is no fishery conservation purpose or reason for this ACR. This ACR does not correct an error in a regulation. This ACR does not correct an effect on a fishery that was unforeseen when a regulation was adopted.



Once again, we extend an invitation to any member of the board to observe either the Sitka herring fishery or any of our statewide salmon fisheries. Thank you for the opportunity to comment. Please reach out if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Julianne Curry".

Julianne Curry
Public Affairs Manager
Icicle Seafoods
Julianne.Curry@icicleseafoods.com
Cell 907.518.1822



PO Box 21203 - Juneau, AK 99802

Ph 907-780-4449 Fx 907-780-4326

Ph 360.734.8175 Fx 360.734.2203

hank@icystraitseafoods.com

October 2, 2018

Re: ACR-1, ACR-2

Alaska Board of Fisheries

Dear Chairman Jensen and Board of Fish Members:

Icy Strait Seafoods, Inc. is a processor in Juneau, Alaska with plants in Juneau and Hoonah. Both of our facilities are heavily dependent on the volume of hatchery summer chum salmon returning to Northern Southeast Alaska. We employ 80-100 workers at our Taku Fisheries plant in Juneau and another 40 workers at our Hoonah Cold Storage facility. We also employ 8 tenders and their crews for the season. Our plant workers, tender crews and fishermen buy fuel, groceries and other goods and services in both communities. Additionally, we pay raw fish taxes to the state of Alaska and 50% of the revenue is shared with the communities the fish are processed in.

We do not support ACR-1 and ACR-2. There isn't any real scientific basis to support either of these ACR's.

We have witnessed the continued responsible management by ADF&G's to ensure wild stock returns are not impacted by the harvest of hatchery chum salmon. Fishing areas are restricted and fishing time is reduced to ensure escapement goals are met for non-hatchery wild stocks.

We urge you to take no action on ACR-1 and ACR-2.

Regards,

Hank Baumgart, Pres.
Icy Strait Seafoods, Inc./Taku Fisheries



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hank@icystraitseafoods.com

October 2, 2018

Re: ACR 10

Alaska Board of Fisheries

Dear Chairman Jensen and Board of Fish Members:

I have been involved in the Sitka herring fishery for almost all of my adult life both as a fisherman and as a buyer/processor.

Under the sound management of the Alaska Department of Fish and Game I have witnessed the Sitka herring fishery quota rise in years of increased biomass and reduced in years that have had less linear miles of spawn and a lower biomass. The fishery is managed using sound science. The fishery has a biomass threshold of 25,000 tons. If the biomass is less than 25,000 tons the fishery does not open. As the biomass rises above 25,000 tons the conservation based model used by ADF&G provides for a harvest rate that begins at 12% and rises to a maximum harvest rate of 20%.

The success of ADF&G's science based management is proven in the data. In 1980 there were 63 nautical miles of spawn. In 2017 there were 62 nautical miles of spawn. And the average nautical miles of spawn over 38 years? 60, that's right 60 nautical miles! I don't know how anyone could do a better job of sustainably managing a fishery over 38 years than the Alaska Department of Fish and Game has done.

I therefore oppose ACR 10. I think we embark on a slippery slope when we start ignoring science to manage our fisheries. Where does it end and ultimately what happens to our renewable resources when science is thrown out the window?

I urge you to vote no on ACR 10.

Regards,

Hank Baumgart, Pres. Icy Strait Seafoods, Inc./Taku Fisheries

Submitted By
Jakob Nelson
Submitted On
9/25/2018 9:10:53 AM
Affiliation

Members of the Board of Fisheries,

I am writing in OPPOSITION to ACR1 and ACR2 pertaining to hatchery production. I am a Lower Cook Inlet salmon seine permit holder and these proposals are in no way emergencies and should not be taken up out of cycle. Hatcheries are important to Alaskas fisheries and there is no scientific data to support thier claims. Its all propoganda and suppositional data. Thank You Jakob Nelson



Cordova District Fishermen United
PO Box 939 | 509 First Street
Cordova, AK 99574 | www.cdfu.org

October 3, 2018

John Jensen, Chairman
Glenn Haight, Executive Director
Alaska Board of Fisheries
Alaska Department of Fish and Game, Boards Support Section
P.O. Box 115526
Juneau, AK 99811

RE: Comments on October 15-16 Work Session Agenda Change Requests

Dear Chairman Jensen and members of the Board of Fisheries,

Hatcheries have been a part of commercial fishing in Alaska for 45 years. During this time they have proven to be instrumental in keeping the commercial fishing industry sustainable, while at the same time coexisting with wild runs.

I am a third generation commercial fisherman. I was raised both gillnetting and seining out of Cordova, on the Copper River and in Prince William Sound. This means I have fished for both wild and hatchery salmon in both areas. I can say, from personal experience and ADF&G historical commercial harvest data that there have been large wild salmon returns during many of the years hatcheries have been operated. Clearly these numbers, provided by ADF&G, show a different reality than what is being portrayed by this emergency petition.

The Copper River, located just outside the entrance to PWS, has seen robust wild king salmon and silver salmon returns in the last 3 years, as well as record wild red salmon returns in the last 8 years. This year, the wild red salmon return was lower than forecasted on the Copper River which resulted in a closed commercial fishery and restrictions on personal use and sport fisheries upriver. At the same time, the system experienced a high king salmon return. Fortunately, the Gulkana red salmon hatchery stocks returned to the Copper River, allowing the mixed stock fishery to be executed in a conservative manner. This hatchery-produced harvest not only provided a limited opportunity for commercial fishing, but also made it possible for multiple user groups to utilize the resource. Without this vital Gulkana Hatchery run,



subsistence, personal use, and sport users would not have had the same opportunity and bounty that they enjoyed this season.

In years with lower wild returns and limited commercial fishing opportunity, hatchery salmon in Prince William Sound provide much needed resource for fishermen. With the Copper River district closed to commercial fishing for the majority of the 2018 red salmon season, the commercial fleet was able to concentrate fishing efforts on the hatchery runs in PWS. Each of these Alaskan small business owners depends on having the opportunity to fish for these crucial hatchery supported salmon runs.

Proper scientific method and evaluation is needed to fully explore the complex relationship that hatchery salmon have with their environment. The current RPT process for determining hatchery production is rooted in science, working data, and experience, and therefore is a more effective system to determine hatchery policy. The multi-agency scientific study currently underway is a step in the right direction for answering more questions and furthering our understanding of how hatcheries effect and interact with wild salmon populations.

Additionally, the requirements for an agenda change request have not been met. The staff comments from ADF&G cover these aspects. I urge the board to consider this letter and reject the ACR as it does not meet the required criteria and is not an effective way to manage our hatcheries.

James Honkola
Gillnet Division Chair
Cordova District Fishermen United



Submitted By
James moore
Submitted On
10/3/2018 1:21:51 PM
Affiliation
ATA, NSRAA, AKI

Phone
9077239060
Email
aljac47@yahoo.com
Address
P.O. Box 770
Haines, Alaska 99827

Re: oppose ACR 1 and ACR 2 I am a commercial troller having fished SEAlaskan waters since 1970 I currently serve on NSRAA and AKI boards of directors and as Vice President of Alaska Trollers's Association. I have served on JRPT and can personally attest to the rigorous precautionary principles and sustainable fisheries policies guiding the permitting process for our aquaculture projects! I cannot stress enough how important our hatchery program is to our Troll industry and I feel I should point out that much of the infrastructure and funding of our aquaculture programs has been mitigation for the extreme reductions in our Troll harvest share of Chinook under the Pacific Salmon Treaty. This mitigation is an important component in the recent agreement which about to be ratified by the U.S. and Canada. The livelihoods of many fishing families in SE are heavily dependent on this wonderfully successful program.

Submitted By
Janet Sacora
Submitted On
10/3/2018 2:20:47 PM
Affiliation
None

Phone
907-347-8817

Email
jansacora@gmail.com

Address
9641 Grover Drive
Anchorage , Alaska 99507

I am strongly opposed to limiting the hatchery production of salmon in Alaska. The ripple effect of this limitation would resonate throughout all of the coastal communities that rely on this valuable resource, and would be felt even beyond that. As Alaska grows and changes, we need to change with it or be left behind. The new technology that hatcheries can offer to expand this resource should be encouraged. Our efforts need to be directed toward working together to supporting this resource, which is valued to Alaskans and beyond.

Submitted By
Jason Lee
Submitted On
10/3/2018 3:00:30 PM
Affiliation

Phone
907-424-3401
Email
Jason.gracelee@gmail.com
Address
P.O. box 1441
Cordova, Alaska 99574

As a commercial and subsistence user, my family and I rely heavily upon both wild and hatchery stocks. Healthy 'mixed' stocks are absolutely in our families interest. Considering a reduction in hatchery production without a thorough scientific reviewing process, is a rash and reckless move. I would ask you to step back and take a wider perspective, and consult the scientific community. This is a relatively new area of research and we need full review. The ADF&G has also stated their position.

It is common local knowledge that all stocks of salmon stray into other river systems. We really don't know to what degree this happens. However I do know, an 'emergency petition' or abruptly changing the agenda to rule on a hatchery reduction, would cheat a fair evaluation on the matter. We need to follow the Scientific community and be patient as research progresses. I believe we will see that hatcheries benefit all user groups and look forward to discussing this more in the future.

Thank you for your service.

Thank you for your time, service and consideration,

Jason Lee

Submitted By
John Love
Submitted On
10/3/2018 8:56:11 PM
Affiliation
Commercial Fisherman area E permit holder

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John Love
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October 3, 2018

Dear Chairman Jensen and Board of Fisheries members,

I am in opposition of ACR 1 and ACR 2. The hatcheries are well managed. There is no reason to threaten the local economy and livelihoods of so many on an assumption. A decision like this should come from sound scientific research. Please vote no on ACR 1 and ACR 2

Sincerely,

John Love

Submitted By
Justin Peeler
Submitted On
10/3/2018 9:43:58 PM
Affiliation
Commercial Fishermen

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Justin Peeler

F/V Defiant
4120 Halibut Point Road
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justinpeeler79@gmail.com

October 03, 2018

Alaska Board of Fisheries

October 15-16, 2018

Work Session

RE: Comments on ACR 1, ACR 2 and ACR 10

Dear Chairman Jensen and Board of Fish Members,

As a second-generation Fishermen from Petersburg Alaska I have been involved in the salmon, herring, and crab fisheries in Southeast Alaska all my life. As well as many other net, pot, and hook fisheries on the West Coast and Gulf of Alaska. I currently own and operate the F/V Defiant out of Petersburg, Alaska and reside in Sitka, Alaska.

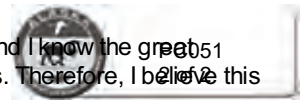
I currently serve my communities and fellow salmon seiners as the President of the Board of Directors of Northern Southeast Regional Aquaculture Association, I also hold the northern seine seat on the Joint Regional Planning Team. I am involved with Southeast Alaska Seinners Association as an officer on the board and a United Fisherman of Alaska Alternate.

I am writing to express my opinion only on:

Opposition to ACR 1-

I believe this is an attempt to circumnavigate the system in place by the State of Alaska as this group has done twice already with very

similar proposals. Those were voted down as it should this time. As I stated above I am involved in the process and I know the great lengths the State of Alaska and our regional aquaculture associations go to, to insure the safety of our wild stocks. Therefore, I believe this ACR does not meet criteria for an out of cycle proposal.



Opposition to ACR 2-

As I stated above, I am involved in the process and in my years of being involved sitting through many meetings and talking to the men and women that came before me; I have never heard of any agreement, cap or reduction of fry production by our PNP Hatcheries. Not one fishermen, ADF&G Biologist, or a Board of Fish member has ever said one thing, about said, "protocol". This ACR should be thrown out on the fact said, "protocol" does not exist.

Please listen to ADF&G, as they help to educate you on the process in which are PNP's operate in, the studies and the scientific information, they are using to manage and protect Alaska Wild stocks.

Finally, by taking any action besides rejection, you are disrupting coastal Alaska as we know it. The fishermen invested in something to create more than a living for them but a stable financial environment for all in the coastal communities around Alaska. An environment that other supportive industries to fishing have been built on and that financial institutions can operate in with stability. This is bigger than one man's increase in catch. This is something that has been built to stabilize coastal communities. Fishermen took the risk to invest in that stability by taxing themselves to create more fish for them and the communities around them. More fish for all users while protecting our wild stocks!

Opposition to ACR 10-

This ACR is not one you need an introduction to or education on. It should simply be dismissed as it does not meet criteria. The information ADF&G will present to you will prove this. There is not a biological reason for it. Please continue to manage our fisheries on sound science and let the Alaska department of Fish and Game do so and not an outside interest! The outcome of our fishery is being bent to imply a biological problem; it was industry and the department that ended the fishery and not lack of fish or spawn.

In closing I would like to thank you for your service to the State of Alaska.

Sincerely,

Justin Peeler



From: Kas Huffman
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Comments
Date: Wednesday, October 3, 2018 3:35:17 PM

I really hope this reduction gets stopped in its tracks. Alaska can have enough resources to provide satisfactory amounts of fish for all areas that need them—commercial, sport, and subsistence. I do not think a reduction in hatchery production and demanding the destruction of eggs already harvested is going to have any benefit. Commercial fishing is not going anywhere in Alaska, and to try to get rid of it is asinine. Especially through trying to starve the fishermen by cutting hatchery production. My entire family relies on our commercial fishing income, which is modest at best. A 25% reduction would greatly hurt us.

I truly hope this issue is resolved in a way that does not cut any hatchery production in any way—like I said, commercial fishing is not going anywhere in Alaska and it's counterproductive to try to fight it.

Thank you for your consideration,

Kasandra Huffman
Prince William Sound Purse Seiner And Drift Gillnetter

Submitted By
Kenneth Carlson
Submitted On
10/2/2018 9:16:45 PM
Affiliation

I am a commercial fisherman. I fish the Copper River and Prince William sound. Most of the fish I catch are Hatchery fish. I see no reason to limit Hatchery production. Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC)



Alaska Department of Fish & Game
Alaska Board of Fisheries
P.O. Box 115526
1255 W. 8th Street
Juneau, AK 99811-5526

October 3, 2018

TO: Members of the Alaska Board of Fisheries

RE: ACR 1, ACR2, Alaska Salmon Hatcheries Forum

Thank you for the opportunity to provide comment related to Alaska Salmon Hatchery production and the ACRs submitted for consideration at this October, 2018 work session. Kodiak Regional Aquaculture Association is opposed to ACR 1 submitted by Kenai River Sportfishing Association (KRSA) and ACR 2 submitted by Virgil Umphenour. In the simplest context, both requests fail to meet criteria established for ACR consideration and should not be entertained by the Board for discussion or action in future meetings. More specifically, contentions made by the proposers are weak against the broad body of evidence that can be brought to bear in support of established programs, permitting, and production levels.

As an association actively engaged in the practice of salmon enhancement and research, KRAA would also like to thank the Board for its renewed interest in the *Alaska Board of Fisheries and Alaska Department of Fish & Game Joint Protocol on Salmon Enhancement #2002-FB-215*. We feel that the years in which this protocol was not observed have led to a lack of knowledge and uncertainty in the science and principles that support Alaska Salmon Hatchery production. Renewed adherence to this protocol provides opportunity to become familiar with the science, research, and regulatory structure that governs the Alaska Salmon Hatchery Programs. Furthermore, through this format, there is opportunity to share with the Board, as well as the public, the details of our programs, research, and the ways in which they benefit all user groups.

The Board of Fish has scheduled an Alaska Salmon Hatchery Forum (item 16, Alaska Board of Fisheries Work Session agenda, rev. 09-28-2018) for discussion as part of the regularly scheduled October work session. As such, KRAA believes the language of the *Joint Protocol on Salmon Enhancement* does not provide for consideration of hatchery-related petitions or ACRs as action items during those meetings. The protocol states:

"The joint department-board meeting on hatchery [sic] described here will take place at a mutually agreeable time and place during regularly scheduled meetings of the board. The meetings will provide a forum for open discussion on a mutually agreeable agenda of hatchery topics. The agenda may include site-specific as well as regional or statewide hatchery issues. These salmon enhancement meetings will not be open for regulatory actions and no hatchery-related petitions or agenda change requests (ACRs) will be considered as action items."

Given this language and the scheduling of Alaska Salmon Hatchery Reports (item 15) as well as the Alaska Salmon Hatcheries Forum the day following ACR discussion, it would be premature to consider any action related to hatcheries prior to thorough engagement in the *Joint Protocol on Salmon Enhancement*.



Alaska's private, non-profit hatchery (PNP) associations are designed to serve the various regions of the state with programs uniquely tailored to complement and enhance existing production and benefit all user groups. The Alaska Hatchery Program was founded by visionary scientists at ADF&G and in the private sector who saw an opportunity to bolster the fishery with long-term salmon enhancement contributions. Those individuals applied their knowledge of hatchery programs in other areas of the country to create a program based on the precautionary approach and best available science. In the years since the creation of the PNP program by the Alaska Legislature, Hatchery Operators have continued to conduct those programs in cooperation with ADF&G, in good faith, and based on the tenets of the Department's guidance and policies—including the genetics policy and the policy for sustainable salmon fisheries. We see our role as stewards of the resource and contributors to our communities for the benefit of all users. As such, we do not often find ourselves pulled into the public center of battles over fish. The events of the last several months, the repeated demands by a small number of very vocal critics to the Board of Fish to take unfounded action to limit hatchery production, have forced PNP operators as well as the Board of Fisheries and countless stakeholders, to invest inordinate time and resources in what should be a non-issue.

Rather than create uncertainty in the defensibility of the Alaska Hatchery Program, the efforts of detractors have galvanized hatchery operators to take action, to make sure that the Board and the public understand the science of the programs and the benefits that accrue to all users as a result of hatchery production in Alaska. It has given us the opportunity to work together and with others to marshal the scientific information available, and work together to demonstrate both how critically important hatchery production can be to the fishery as well as how sustainable those contributions remain in a changing climate. In addition to the individual comments of myself and other PNP hatchery operators, I hope you will take note of the supplemental information provided by our groups.

The current ACRs generally imply that Alaska Hatchery Programs operate in an unregulated vacuum with irresponsible levels of production that have seen no checks or balances along the way. In fact, the established permitting process and authority delegated to ADF&G provides for rigorous scientific review and recommendations by professional biologists familiar with the programs, regulations, guiding policies and science on both a local and statewide scale. Though it has been implied by critics in recent months, the existing permitting process *does not* equate to a "rubber stamp" for permit requests. In each region there are examples of permit requests or projects that have failed to receive the recommendation of the Regional Planning Teams or that have been modified in response to application of the genetics policy and the policy for sustainable salmon fisheries. When the process is working properly, PNP hatchery operators work with their local ADF&G staff in order to assure requests for permit alteration are vetted in a manner that answers many of the basic concerns before the request is submitted. Added concerns can be voiced and taken into account through the public process, but it's often the case that many potential requests are discarded before they ever see the light of day because ADF&G staff can point to concerns related to genetics, protection of wild stocks, and provisions of the sustainable salmon policy. The process is comprehensive, transparent, efficient, and thorough.

The department's function as an objective scientific and regulatory body also provides opportunity to identify questions and information gaps related to hatchery production on a regional and statewide scale. The Hatchery-Wild Interaction study is a prime example of both the department's and the Alaska hatchery operators' commitment to inquiry and investigation of the questions surrounding possible impacts of straying. As with any long-term program or policy, what appear to be anomalous incidents and one-off sampling events should not be allowed to drive program management. Careful, unbiased inquiry, application of sound science in the consideration and development of programs, and adherence to established best practices represents both the current approach of ADF&G in regulating the Alaska Hatchery Program and the commitments of the hatchery operators.



Along with the commitment to sound science and research on hatchery topics, Alaska's PNP programs are dedicated to the communities and user groups they serve. Enhancement programs provide a measure of stability to the fisheries in each region, offsetting years of poor production and giving permit holders added opportunity in more abundant years. Opportunity on enhanced fish spreads out fishing effort and serves the purpose of reduced pressure on naturally spawning runs. In a given year, hatchery terminal areas and associated districts ideally give managers a place to direct permit holders and other users during closures, and hatchery operators often put the needs of those users first. For example, KRAA pink salmon production typically represents between 10% and 25% of the pink salmon harvest in the Kodiak Management Area. Following the disastrous impacts of the warm water "blob" in the Gulf of Alaska and the 2016 pink salmon failure, KRAA's Board of Directors made the decision to forego a pink salmon cost recovery fishery at Kitoi Bay Hatchery in 2018. With a higher than expected return to the facility and in the absence of a cost recovery fishery, KRAA put more than 3.2 million additional fish into the common property fishery. That figure, though not "massive" by any measure of the average pink salmon fishery, represents over 50% of the pink salmon harvest in the KMA in 2018. It could be the difference between breaking even and a disastrous year for many permit holders. This is the function for which the enhancement programs were designed. In 2018, Kodiak enhancement programs put over \$6.5 million in estimated ex-vessel value into the hands of permit holders in the KMA alone. Hatchery programs statewide made similar and even greater differences for the permit holders in other regions.

However, benefit to commercial permit holders, processors and crews are not the only purposes of the hatchery programs. In 2018 the local subsistence sockeye and sport coho system in Kodiak, the Buskin Lake and river system, has all but failed. At the same time, KRAA's sockeye stocking projects in Port Lions, and Ouzinkie, and the coho stocking project on the Kodiak Road System have provided numerous opportunities for sport and subsistence that directly benefit these local communities. Thousands of coho salmon in Mill Bay and Monashka Bay have been caught by everyone from anglers standing on the beach to stand-up paddle boarders, locals interested in filling their freezers, and professional sport fishing charter operators. These are the programs most likely to suffer the greatest impacts in the face of any restrictions, caps, or moratoriums on hatchery production, and I would again encourage you to refrain from entertaining any such restrictions when engagement in the *Joint Protocol on Salmon Enhancement* will do much to answer both the generalities and specifics of questions related to hatchery interactions and production levels.

Restrictions to hatchery production, caps or moratoriums on future production would not take into account the interests or needs of a region. Taking steps to implement such restrictions would be both needlessly punitive in the face of no demonstrated harm and no empirical evidence to suggest long term impacts. Further, restrictions now would likely have unintended negative consequences for the Associations and for all user groups. In closing, KRAA would repeat our opposition to ACR 1 and ACR 2 and provide specific points to address those proposals in the pages following. Finally, once again, we encourage interest and engagement in the *Joint Protocol on Salmon Enhancement* and look forward to sharing the success story of the state's salmon enhancement programs through that process.

Sincerely,

Tina Fairbanks

Executive Director

Kodiak Regional Aquaculture Association

Submitted via email: dfg.bof.comments@alaska.gov



ACR 1: Prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017 (5 AAC 24.366). Submitted by Kenai River Sportfishing Association

PERMITTING:

- The permit increase in question was covered in-depth in comments submitted for the July Meeting related to the identical emergency petition submitted by the same proposer.
- The permit increase in question was approved as an incremental increase in 2014—more than 4 years ago. It underwent thorough review and consideration by ADF&G.
- The permit increase in question was not approved as originally submitted but was revised to the satisfaction of the Department and the Commissioner for implementation in 2018.
- Authority over hatchery permitting has been delegated to ADF&G since inception of the programs. The regulatory process for permitting is transparent, rigorous, and should stand.
- ADF&G maintains the staff and expertise to evaluate and permit hatchery operations, and added steps to permitting and regulatory oversight would be unnecessarily burdensome and inefficient.
- The ACR does not meet criteria for consideration. This is verified by ADF&G staff comments (RC2) in which they submit 1) there is no fishery conservation purpose; 2) no error in regulation is addressed; and 3) the ACR does not address an effect of a regulation that was unforeseen at the time the regulation was adopted.

STRAYING CONCERNS

- Concerns over straying are both integral to the assumptions and knowledge on which the programs were built (not unforeseen) and also in the process of intensive study through the Hatchery-Wild Interaction study (HWI). This effort addresses (c) (1) (D) of the Sustainable Salmon Policy to address interactions between wild and enhanced salmon.
- Protection of wild stocks: preliminary findings of the HWI indicate that harvest rate of hatchery returns of pink salmon to PWS from 2013-2015 ranged from 95-99% (including broodstock) while harvest of naturally spawning stocks ranged from 26-53% during those years (State of Alaska Hatchery Research Project, Progress Synopsis, June 2018). Given this information, management appears to have the ability to assure near-to-full capture of hatchery production (an intended benefit of the programs) and provide for the protection and robust escapement of local wild stocks.
- Region-wide pink salmon hatchery fractions in PWS from 2013-2015 were calculated as 4%, 15% and 10% respectively. The stray rate during those years was 1-5% (hatchery pink salmon that spawned naturally).
- Studies on natural stray rates for pink and chum salmon have generated estimates of 4-7% (Mortensen, et al, 2004) while others have provided estimates of 10% or greater (Small, et al, 2009; Wetheimer, et al, 2000 as well as other, earlier studies). These studies demonstrate natural stray rates equal to or in excess of those observed in PWS from 2013-2015.
- The locus of the straying concern cited by the proposer, Lower Cook Inlet, is centered on data that was opportunistically collected in 2017 and do not represent sampling distribution throughout the run. Baseline sampling has not been conducted in many of the 2017 sampling locations because it is rare for pink salmon to be present in those



locations. 2017 provided anomalous conditions that likely led to the high incidence of PWS fish.

FOOD COMPETITION/OCEAN CARRYING CAPACITY

- With regard to food competition concerns cited by the proposers, the large body of work collected and reviewed by the North Pacific Anadromous Fish Commission provides extensive information related to biomass of pink salmon in the North Pacific Ocean. Ruggerone, 2018, indicates that hatchery-produced pink salmon represent only 15% of the total pink salmon biomass in the North Pacific. Alaska's Hatchery programs produce only a portion of that percentage.
- To suggest that "massive releases" of Alaska Hatchery pink salmon, in competition with sockeye and King salmon for food resources, are suppressing returns of those other species is not a claim supported by empirical evidence. Sockeye and king salmon returns have varied in productivity independent of relatively consistent hatchery production from the early 1990s through the present.
- For a summary analysis of information, see "High Ocean Biomass of Salmon and Trends in Alaska Salmon in a Changing Climate" by Alex Wertheimer and William Heard as submitted with comments from NSRAA.

ACR 2: Cap statewide private non-profit salmon hatchery eggtake capacity at 75% of the level permitted in 2000 (5 AAC 40.XXX). Submitted by Virgil Umphenour

HISTORY/MERITS

- The ACR does not meet the criteria and makes no effort to do so in writing. There is no conservation issue conveyed or supported in this ACR. No regulatory issue or unforeseen regulatory effect on a fishery is identified.
- The ACR claims there was agreement to reduce hatchery production by 25% in February of 2001; however there appears to be no official record of a decision or direction to reduce or cap production.
- This ACR if accepted for consideration or if implemented is likely to have unintended negative consequences. As written, this ACR applies to all species and would likely have the greatest impacts on projects designed to have direct benefits to sport and subsistence users.

SPORT AND SUBSISTENCE IMPACTS

- KRAA's Subsistence and Sportfish production is provided at no cost to users. All costs are subsidized through Salmon Enhancement Tax collected from commercial salmon permit holders and through cost recover activities.
- Programs impacted:
 - Crescent Lake sockeye and coho stocking projects (subsistence and sport) with direct benefit to the village of Port Lions would likely cease—unsupportable with reduced production
 - Ouzinkie Sockeye saltwater net pen sockeye release and Katmai Lake coho stocking projects (subsistence and sport) would likely cease—not permitted in 2001
 - Telrod Cove sockeye saltwater net pens with benefit to the village of Larsen Bay (subsistence and commercial) would cease—not permitted in 2001



- King salmon product (sportfish, cooperative project with ADF&G)—loss of production, likely unsupportable
- Coho Salmon Production, Kodiak Road system (sportfish)—loss of production, not permitted in 2001
- Rainbow Trout (sportfish, cooperative project with ADF&G)—loss of production, likely unsupportable
- Kitoi Bay hatchery coho (sport and commercial benefit)—likely 45% reduction in returns
- Kitoi Bay Hatchery Sockeye production (subsistence and commercial)—reduction in production, potential loss of program

COMMERCIAL IMPACTS

- Impacts to production of pink, chum, and sockeye salmon: Overall potential loss of over \$5 million annually in ex-vessel value
 - Pink salmon releases would decrease by over 35%, and, on average, the fishery would lose nearly 3 million fish on an annual basis.
 - At 2018 prices, that would constitute a potential **loss of \$3.5 million in ex-vessel value** to the common property fishery annually
 - Chum salmon releases would decrease by over 30%, and, on average, the fishery would lose as many as 200,000 fish on an annual basis
 - At 2018 prices, that would constitute a potential **loss of \$714,000 in ex-vessel value** to the common property fishery annually
 - Reductions in sockeye salmon production at Kitoi Bay and Pillar Creek Hatcheries would result in potential loss of over 150,000 adult sockeye salmon per year
 - At 2018 prices, that would constitute a potential **loss of over \$1 million in ex-vessel value** to the common property fishery annually

ECONOMIC/ORGANIZATONAL IMPACTS

- Enhancement provides stability and opportunity to the fishery; Supports reliable processing capacity and processing sector jobs as well as other support industries
- Generate added income for municipalities and local governments through landing tax on enhanced harvest
- Direct and indirect employment: KRAA employs 40-45 individuals per year with total payroll in excess of \$1.8 million annually. This likely equates to effects on over 400 local jobs.
- Reductions in production would likely mean loss of 8-12 positions (5 year-round, 3-7 seasonal positions) for KRAA
- Reduced production would decrease cost-benefit of programs. Many may become unsupportable.
- KRAA spends over \$1 million annually with local vendors and Alaskan companies
- Even with organizational cuts and efficiencies, cost recovery activities would consume a greater proportion of the returns and benefit to users.



Submitted By
Nathaniel Rose
Submitted On
10/3/2018 4:20:36 PM
Affiliation
Kodiak Seiners Association

Kodiak Seiners Association

PO Box 8835

Kodiak AK, 99615

October 1, 2018

Chairman John Jensen

Alaska Board of Fisheries

Boards Support Section

P.O. Box 115526

Juneau, AK 99811-5526

RE: KRSA Agenda change request #1, and Virgil Umphenour's agenda change request #2 concerning Alaska Hatchery Programs

Dear Chairman Jensen and Board of Fish members:

The Kodiak Seiners Association is adamantly opposed to the agenda change requests put forth by Kenai River Sportfishing Association and Mr. Virgil Umphenour concerning production and release of pink salmon eggs resulting from additional egg take capacities. KSA supports the Alaska Hatchery Program and the sound science that governs the hatchery permitting process, and we feel the claims made in the ACR's aforementioned are based on opinion rather than sound scientific reasoning.

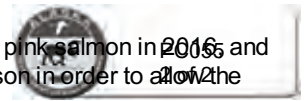
Foremost, it should be noted that ACR #1 has been visited by the Board of Fish twice as an emergency petition and in both cases was voted down. The audacity of the proposer is an abuse of the BOF process and a waste of the Board's time.

ACR #2 does not meet the criteria of an agenda change request as it lacks any supporting data to support the claim of a conservation concern. Secondly, ACR #2 does not attempt to correct an error in a regulation, or correct an effect on a fishery that was unforeseen when a regulation was adopted. As the ACR does not meet the guidelines, we respectfully ask that you reject it.

We, the Kodiak Seiners Association are an advocacy group representing 83 active Kodiak Salmon Seine fisherman. Our membership has built business plans and family fishing operations around the historical fishing patterns in the Kodiak management area, and see the local hatcheries here in Kodiak, Kitoi Bay Hatchery, and Pillar Creek Hatchery as vital components and contributors of our complex salmon management plan. The governing body for these hatcheries, Kodiak Regional Aquaculture Association (KRAA) has done a tremendous job taking all stakeholders into account when conducting hatchery operations, and hatchery expansion through increased egg takes and request for additional permitting is done with all user groups in mind.

The ACR's put forth and under question, show a lack of understanding of the economic value of the Alaska Hatchery Program. As it relates to Kodiak, and to the members of KSA, hatchery produced pink salmon contributed to over 53% of the total pink salmon harvest in the Kodiak management area in 2018. This correlates to an ex-vessel value in 2018 of roughly \$6.5 million dollars. On a year where many of the smaller, wild-stock systems struggled to meet escapement this return of hatchery produced salmon allowed a vast number of

individuals in the Kodiak fleet to offset a poor start to the season. In addition, as a result of the disaster harvest of pink salmon in 2016, and the prediction of a mediocre to poor return in 2018, KRAA elected not to take cost recovery during the 2018 season in order to allow the fleet to harvest more fish and allow access to areas often closed during peak pink salmon fishing time.



It is our opinion that these ACR's hold no merit in claims of scientific reasoning. The VFDA egg take increase was allowed through a permit that was approved in 2014 through an established and transparent permitting process, in direct discussion and review by ADFG, and providing opportunity for public comment and stakeholder input. To revoke this permit, or require VFDA to terminate operations of the additional eggs is a knee-jerk reaction to unsubstantiated and irrational claims.

In closing we ask once again that the Board reject both ACR #1 and ACR#2. Thank you for your consideration in this matter.

Sincerely,

Nate Rose

KSA President

October 3, 2018

John Jensen, Chairman
Alaska Board of Fisheries
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526

RE: Agenda Change Requests 1 and 2

Dear Chairman Jensen,

Koniag is a regional Alaska Native Corporation formed under the terms of the Alaska Native Claims Settlement Act of 1971. Koniag has approximately 4,000 Alutiiq Shareholders. Our region encompasses the Kodiak Archipelago in the Gulf of Alaska and a portion of the Alaska Peninsula. The communities in our region have traditionally been dependent on fisheries resources for subsistence and commercial purposes for centuries. Koniag has been working diligently on issues affecting the viability and sustainability of the village communities of the Kodiak Archipelago and access to fisheries is a critical component of this effort.

It has come to our attention that the Board of Fisheries (BoF) has received Agenda Change Requests (ACRs) to (1) prohibit Valdez Fisheries Development Association from taking additional eggs from pink salmon and (2) capping statewide private non-profit salmon hatchery egg take capacity. Koniag is opposed to these propositions in particular and, in general, is opposed to the Board of Fisheries taking up matters out of cycle unless the ACR meets the criteria mandated for ACRs. With eleven ACR's on the BoF's upcoming agenda, Koniag is concerned that managing fisheries through ACR not become standard practice. The process of considering each fishery management area in three-year cycles has worked for years and there is no reason to change that process.

The salmon fishermen, processors and communities of Kodiak Island benefit greatly from the State of Alaska salmon hatchery program. Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state. Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments, which receive fishery business fish tax revenue.

Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations. The Alaska Department of Fish and Game regulates hatchery operations, production, and permitting

koniag.com

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through a transparent public process and multi-stakeholder development of annual management plans. Returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980. There are no stocks of concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time.

Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade and account for 22% of the total common property commercial catch. In 2018, approximately 3.2 million or 53% of the 6 million pink salmon harvested in the Kodiak management area were produced by the Kodiak Regional Aquaculture Association (KRAA). The preliminary ex-vessel value of the Kodiak hatchery pink salmon in 2018 is estimated to be approximately \$4.7 million. KRAA production results in over 3 million dollars annually in ex-vessel value on average, contributing significant economic benefits to local user groups, municipalities, and businesses. The economic contributions of KRAA to the Kodiak management area resulted in 43 jobs, \$1.8 million in labor income, and almost \$1 million in total economic output in 2017.

Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries by creating employment and economic opportunities throughout the state and in particular in rural coastal communities. Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities. The State of Alaska has significant investment in Alaska's salmon hatchery program and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority. Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC).

Koniag affirms its support for Alaska's salmon hatchery programs and also supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks. Koniag requests the Alaska Board of Fisheries work with the hatchery community, the Alaska Department of Fish and Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

Sincerely,



Shauna Hegna
President



Submitted By
Leroy Cabana
Submitted On
9/26/2018 12:09:30 PM
Affiliation
Commercial Fisherman

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9072021029
Email
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Address
Box 49
3698 Sitka Rose Circle
Homer, Alaska 97701

Alaska Board of Fisheries Members

Here are my comments on ACR 1 and ACR 2

ACR 1 starts out with "the magnitude of releases of hatchery pink salmon in PWS poses a threat to wild stocks of salmon in the gulf of Alaska". The ACR declares this like it is a proven fact. It is not a fact, it is a suspicion, a theory or better yet a question. There have been references from a couple of research papers that support this theory. In today's world there are mountains of research papers, many of them by highly recognized educated people, and many of those research papers directly contradict research papers from equally highly recognized educated people. Facts sometimes get mixed up with the desire to prove personal theories as a fact. Here is a fact, pink salmon are known to have an approximately two year life cycle or this fact, pink salmon can not survive out of water for more than a few minutes without dying, these are facts. You can conduct an experiment and conclude this is a fact.

The assertion that hatchery pinks from PWS are negatively affecting salmon from the gulf of Alaska is a suspicion from some folks whom would like a simple answer as to why some king salmon stocks are returning in low numbers to spawn. There is likely no simple answer, halibut for example have experienced a dramatic decline from the peak biomass observed in the 1990s. Halibut have also decreased in size by about 40% from historic weight when compared to similar year classes. They have been monitored by the IPHC since 1923 and there is still no clear answer as to why their historic weight has dropped and the biomass declined from 1997 to 2013. The halibut population has been increasing since 2013.

Another example of dire predictions that seemed to make sense at the time is the population history of the Porcupine caribou herd being affected by the Alyeska pipeline construction and operations. In the late 1960s and early 1970s the non stop predictions were almost unanimous from the environmental and northern Alaska native groups the Porcupine herd would suffer large declines from the pipeline activity. They had numerous written research papers from leading biologist and advocates declaring they knew for a fact the pipeline would be detrimental and cause the herd to decline or even collapse. The herd was estimated in population at 102,000 animals in 1972, by 1979 the herd was estimated at 105,000 animals. Many were still declaring the pipeline was going to cause large declines in the herds population. It turns out the population has been rising since 1972, it was estimated at 178,000 in 1989 which was a peak. It fell to 160,000 animals in 1992 and has been increasing since then and is currently estimated at 218,000 animals.

The point of using the halibut and caribou histories is to point out people whom have strong opinions and really believe they are in possession of facts are many times wrong.

There is an ongoing multi million dollar hatchery study being currently conducted that started in 2011 and is expected to continue through 2023, this study is focused on three issues.

1. To document the degree to which hatchery pink and chum salmon stray.
2. Assess the range of intraannual variability in the straying rates.
3. Determine the effects of hatchery fish spawning with wild populations.

This study is the most far reaching, in depth and expensive ever in the world. It has some of the most accredited scientific and biological minds at work, the study is being overseen by the ADF&G and should shed some insight on the effects of hatchery raised salmon in Alaska. This is science at work, will the study prove absolute effects of hatchery salmon on wild populations? Yes and no is the answer, it will be the best effort ever conducted to better understand hatchery and wild salmon population interactions. It would at least give us the best information at the time to help guide future increases or decreases in hatchery production permitting in Alaska.

There is an entire industry in Alaska that has grown with the enhanced salmon programs that started in the mid 1970s. As hatcheries were built by the state of Alaska and production started to increase, the fishermen in those areas began to gear up for this opportunity, as did the processors, tenders and transportation companies. By the 1990s the state had given up almost all the salmon hatcheries to the non profit hatchery entities. Millions were spent upgrading and building new hatcheries. Literally thousands of Alaska families depend on the hatchery raised salmon for a living. If you add up the investment of new processing plants, fishermen upgrading their vessels or buying new ones there is hundreds of millions of dollars invested not to mention the dependency these folks have on a stable salmon fishery that

produces hatchery salmon.



PC057
2 of 2

If it turns out the ongoing salmon study and other future scientific research projects conclude the hatchery salmon are detrimental to the wild salmon runs in Alaska there will be action taken by the governors office, the legislature or ADF&G to correct this. It will require much study and mountains of documentation. It would seem a hasty decision by 7 members of the BOF to make this kind of decision with a few research papers and a couple of groups of people whom seemed to figured this complicated question out absent any legitimate independent study or process.

In conclusion I would like to share an old joke that is common in scientific circles, it goes like this.

A scientist (not the brightest) decided to test the difference it made for a frog to jump when you remove his legs. The scientist first documents the frogs jumping ability with all limbs, he sits the frog on the floor and says jump. The frog jumps 4 feet, next the scientist removes a front limb, he repeats the test by sitting the frog on the floor and saying jump, the frog jumps 3 feet. The scientist continues to repete this everytime he removes a limb and the frog is documented to jump a shorter distance after each limb removal. At last all limbs are removed, the scientist sits the frog on the floor and says jump, the frog dosen't move at all. Huhhh says the scientist, who would thought a frog would go deaf by removing his limbs. He shared his finding with his scientific friends and they conducted the same experiment and all concluded a frog goes deaf when all his limbs are removed. Then a new scientist comes along and declares the true reason the frog dosen't jump is because he has no legs to propel him, the first scientist thinks about this for a minute and answers, just because the frog has no limbs to jump with dosen't prove they don't go deaf when you remove their limbs.

I ask all Board of Fisheries members to please try to sort out what is actually a fact and what is a suspicion or question when considering any changes to hatchery production in Alaka.

Submitted By
Leroy Cabana
Submitted On
9/28/2018 9:59:09 AM
Affiliation
Commercial Fisherman

Phone
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llcabana@yahoo.com
Address
Box 49
3698 Sitka Rose Circle
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In ACR 1 there is a request to hear a proposal to reduce pink salmon egg take at the Valdez hatchery. This hatchery and all the returning salmon it produces are harvested in PWS. Any request to change an egg take by a PWS located hatchery should be by the regular process of submitting a proposal during the PWS BOF cycle. The last PWS BOF cycle was in April of 2018 and all proposals that affected PWS salmon fisheries were heard. PWS stakeholders are completely unaware of this out of cycle request, they have written off any proposals for PWS until the next PWS cycle. To move this proposal to Anchorage where few will know or comment or show up is an attempt to pull a fast one.

KRSA was at the 2018 BOF meeting in Valdez, they had several representatives there dealing with issues they care about. KRSA is no newbie in the BOF process, they fully understand the proposal deadlines and requirements. If this issue was so important they could have submitted a proposal for the 2018 PWS cycle. As far as I can tell, all the 2019 BOF meetings will be held in Anchorage, this would mean the ACR would be approved in Anchorage and the proposal would be voted on in Anchorage. There is a reason the BOF meetings in each area are held as close to the stakeholders local communities as practible. So the affected parties in that area can have a presence, a voice and have personal contact with BOF members. Anchorage is not PWS.

KRSA claims they have to submit an ARC bcause "reviews of hatchery management plans for non profit hatcheries is not included in the regular cycle calls for proposals". This is hogwash, the BOF hears everything folks want to submitt a proposal on in the area that is up for a meeting cycle. A proposal that deals with hatchery egg takes in the area where the BOF cycle is being conducted is the correct place to allow all stakeholders to be represented. The BOF has considered proposals in PWS on everything from regulation changes, gear changes, deciding if airplanes can assist salmon fishermen, areas you can or can not fish, who gets to catch the fish, in short the BOF hears everything that affects salmon harvesting, production, allocation and so on. Any changes to PWS management area hatchery egg takes would also fall into regular BOF cycle PWS meetings.

This does not even come close to an emergency, the 20 million eggs that is being proposed to be denied is a fraction of the current PWS pink egg take. It represents about 4% of the pink eggs taken each year in PWS. A 4% increase is hardly a crisis situation, it is not going to have a meaningful impact on the number of fry released each spring into PWS. Nothing about this ACR passes the test to be considered out of the regular PWS cycle.

Submitted By

Luke Nelson

Submitted On

9/26/2018 7:49:48 AM

Affiliation

Member of the board of fisheries,

I am writing to express my OPPOSITION to ACR1 and ACR2 regarding hatchery production. I work on my dads boat in PWS and hatchery production is important to our fisheries and the state economy. Thank You Luke Nelson



Submitted By
Margaret H Moore
Submitted On
10/3/2018 12:32:53 PM
Affiliation

Phone
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Address
PO Box 1646
825 Tasmania W Ct
HOMER, Alaska 99603

I would like to strongly encourage the Alaska Board of Fisheries (BOF) to reject both ACR1 and ACR2 (hatchery production) based on the following three considerations:

1. Both ACR's are based on political self interests without adequate scientific data and do NOT meet the BOF criteria for an ACR:
 1. Scientific data does not exist to prove a conservation concern.
 2. There is no error in regulation.
 3. There is no unforeseen effect on a given fishery. To the contrary – to accept either ACR1 or ACR2 would have definite negative effects on multiple subsistence, personal use, sport and commercial fisheries as well as associated processing and support industries!

The salmon resources provided by Prince William Sound hatcheries benefit subsistence, personal use, sport and commercial users throughout Alaska. The ultimate goal for all Alaskan fisheries is to manage them for sustainability based on proven scientific data rather than politics and emotion. If fisheries management is based on self interest rather than science all users will lose the very resource they depend on! The chum and pink salmon data being gathered through the ongoing 10+year Alaska Hatchery Research Group (AHRG) study should be carefully examined before considering any changes to existing hatchery production. NOTE: Final AHRG conclusions and findings are due in 2020 for pink salmon and 2023 for chum salmon. I urge you to reject ACR1 and ACR2 as they do not fit the ACR criteria and are not based on proven science.

2. When the Board of Fisheries asked for an emergency petition to reduce Valdez hatchery egg take by 20 million, the meetings were held during the summer. The timing absolutely precluded fishing industry input as it was during the middle of the commercial fishing season. It was not reasonable for fishermen and hatchery personnel to forego fishing activities when their families, crew, processors and hatcheries depend on timely harvest of salmon. If the BOF accepts ACR1 and/or ACR2 in October it appears the hearings would be held out of the area that will be affected by these ACR's. The travel, lodging, and meal expenses associated with out of area travel to participate in BOF hearings would place an unfair burden on interested parties who were already disenfranchised by the summer emergency petition meetings. Again, I urge the Board of Fisheries to reject ACR1 and ACR2 based on economic hardship.

1. As I understand it, the Board of Fisheries role is to ensure sustainability of fish returns, establish management regulations of in-season harvest and allocate fishery resources. It is not to establish or manage hatchery production levels. Hatchery production levels are set through a rigorous process with a 40 year history of success. This process ensures that wild stocks and enhanced salmon are managed and protected based on scientific data rather than politics and emotional appeal. The process which starts with the Alaska Dept. of Fish and Game, includes private, public, industry, and community input, goes back to ADF&G for review and then hatchery production levels are ultimately approved or rejected by the Alaska Commissioner of Fish & Game. If there were possibly a proven need to adjust hatchery production it should be addressed through the existing ADF&G process. I do not believe that ACR1 nor ACR2 fall within the scope of the Alaska Board of Fisheries mandates and therefore urge you to reject both ACR's.

I respectfully request the Alaska Board of Fisheries reject ACR1 and ACR2.

Thank you for your careful consideration.

Sincerely,

Margaret H Moore

PO Box 1646

Homer, AK 99603

bottomline.ak@gmail.com

October 2, 2018

Alaska Board of Fisheries

Alaska Department of Fish and Game, Boards Support Section

P.O. Box 115526

Juneau, Alaska 99811-5526

Re: Oppose ACR1, ACR2 and ACR10

Dear Chairmen Jensen and Alaska Board of Fisheries members,

I am a commercial Kodiak salmon seine fisherman and have been running my own boat for 14 years. I have raised my family on the back deck and my youngest son is putting himself through collage from salmon deckhand earnings. I am opposed to ACR's 1, 2, and 10.

ACR1 – Oppose

ACR1 does not meet the requirements for an ACR. This is the third time this issue has been in front of the board since May, not the first as the submitter states. There was two emergency petitions asking to prevent the expanded egg take that were rightfully rejected by the board as recently as July 17th and to ask the board to take up the same issue for the third time in one year is an abuse of the process.

The permit in question was issued four years ago and went through a rigorous scientific review with plenty of opportunity for public engagement through the regional plan team process and there was no public objection through that process.

The reason cited as meeting the criteria for a fishery conservation purpose is the presence of PWS hatchery pink salmon in Lower Cook Inlet in 2017. I assume they are referring to an ADF&G memorandum released on December 1, 2017 that is a summary of otolith sampling taken one time late in the season and is not at all designed to be a straying study. The ACR also claims that 15 percent of LCI pink salmon escapement in 2017 was of PWS hatchery origin. There is absolutely no evidence or documentation that corroborates that statement. To do a study to get that kind of data would take sampling in the rivers over the entire run not just one day towards the end of the run.

Given the lack of data that supports a fishery conservation need I don't think ACR1 meets the criteria and I respectfully ask the board to reject it.

ACR2 - Oppose

ACR2 is asking the board to reduce the total egg take from Alaska PNP's by twenty five percent from the 2000 permitted number. The submitter is claiming that there is a need for a fishery conservation



purpose and sights ACR1 as the evidence. The claim in ACR1 is about PWS pink salmon and this ACR takes action against all salmon species in all areas of the state. I will reference my comments to ACR1 and add that no data has been provided about a conservation concern from hatchery salmon species other than pinks or areas other than PSW.

Due to the lack of any scientific data that supports claims of a conservation concern in ACR2 I respectfully ask the board to reject it.

ACR10 - Oppose

ACR10 which is asking to close the Sitka Sound commercial herring fishery was just taken up at the January 11-23 Southeast and Yakutat Finfish & Shellfish meeting and the board spent lots of time going over the management of this fishery. Just because a fishery does not harvest the allowable quota or the subsistence needs were not met does not quorate to a crash of the stocks. It could be as simply as the biomass was not in the areas open to commercial or subsistence harvest and is in no way scientific evidence of a conservation concern. As to the criteria to correct an effect on a fishery that was unforeseen when a regulation was adopted the board has spent hours listening to public testimony both written and oral about the indigenous/traditional ecological knowledge about herring. I would like to believe that members of the Alaska Board of Fisheries listen to and acknowledge the public in their deliberative process. Given that there is no new scientific data proving there is a conservation concern or a valid reason to correct an unforeseen effect of an adopted regulation I respectfully ask the board to reject ACR10.

In conclusion I want to thank you for the opportunity to provide comments on the above ACR's. I also want to thank the board for having an agenda item to take a deep look at the hatchery programs around the state and the science behind them. I feel that the presentations and public engagement will help bring to light the rigorous process and protocols that the ADF&G goes through and adheres to in the states hatchery programs.

Sincerely,

Matthew Alward

Owner-Alward Fisheries LLC

Submitted By
MATT GIAMBRONE
Submitted On
10/3/2018 4:08:34 PM
Affiliation

I am an owner/operator in the SE AK purse seine fishery, hatchery production was responsible for over half of my gross stock this season and was crucial for the fleet as a whole. Many of us would not have been able to make our payments without the contribution of hatchery fish.

I urge the board to reject ACR 1 and ACR 2. Alaska fisheries management is a success story the the rest of the world can look to because it is based on science. Science tells us that there is no emergency, the "problems" that these ACRs propose to solve may not even exist. While straying of hatchery salmon may occur there is little evidence that it occurs at a higher rate in hatchery fish than it does in wild stock salmon. This very issue is the subject of a long term multi generational study being conducted by ADF&G (2012-2023). It would be premature for the board to address this issue.

Submitted By
Matt Lukin
Submitted On
10/3/2018 3:38:51 PM
Affiliation

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR1 and ACR2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are heavily science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Matt Lukin

Submitted By
Melina Meyer
Submitted On
10/3/2018 9:21:53 PM
Affiliation

Alaska Salmon Hatcheries ACR1 & ACR2

I was born and raised here in Cordova where the whole community depends one way or another on the salmon fishery. Commercial salmon fishery as the economic driver and sport/subsistence to fill our freezers for the winter months. The dependency of salmon in this area goes back thousands of years, it's our way of life.

Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are heavily science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

From my understanding the hatcheries are overseen by regional planning teams and ADFG biologists. Oversight for hatchery and wild salmon is key to keep our salmon fishery sustainable for the future.

The ADFG staff comments regarding these ACRs found NO purpose or reason for; fishery conservation, correcting and error in regulation, or correcting an effect on a fishery that was unforeseen when a regulation was adopted.

I would urge you to continue to allow the hatcheries to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Melina Meyer



Submitted By
Michael Bowen
Submitted On
10/1/2018 5:07:23 PM
Affiliation

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9073543312
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copperdogfish@gmail.com
Address
2150 Innes Cir
Anchorage, Alaska 99515

Subject: BOF 2018 October Work Session ACR 1 – do not support

I support enhanced salmon. My livelihood heavily depends on a well-managed and fair enhanced salmon program in PWS.

This increase in production at VFDA was approved by the State of Alaska several years ago which allowed VFDA to obtain the needed loans from the State to accommodate the increase in production. To pull the permit now considering the fact of the States approval of the increase and loans would be a disaster.

Not that there is room for improvement. All VFDA's enhanced salmon production has been allocated by the BOF to the PWS seine fleet. The PWS drift and setnet fisherman receive no benefit from VFDA or the planned increase in production.

The Regional Planning Team process could be improved. BOF regulations are willingly ignored and violated by the RPT in approving PARs. Repeated requests for the RPT to address issues created by their lack of leadership is ignored. Better access to the public notice of the meetings along with the draft agenda, PARs and meeting materials should be readily available on ADF&Gs website and the hatchery operator's website. Requests for added agenda items should not be ignored. The RPT can vote the added agenda item up or down, at least there will be a record of it. Approved minutes from all RPT meetings should be readily available to the public on ADF&Gs website and the hatchery operator's website.

The requirements from the 2002 BOF and ADF&G Joint Protocol on Salmon Enhancement should be observed. A more informed and open/accessible public process could help with the confusion and some public distrust of the enhanced salmon program.

Subject: BOF 2018 Work Session ACR 2 – do not support

More valid information is needed before the BOF starts to consider dismantling or reducing Alaska's enhanced salmon programs.

Of all the economic projects the State has funded, enhanced salmon has been and continues to be one of the most successful investments it has ever made. Most of the projects the state has funded have failed.

The 1990s was a tough time for the whole Alaska salmon industry. And there was plenty of issues to blame it on. From the Exxon Valdez oil spill to the entrance of large-scale farmed salmon on the market place and the issues associated with successful enhanced salmon returns. At times the processors were over whelmed with large returns, the fish turn black and was not fully utilized. Fish prices for all salmon was down to the point that it was very hard to make a living commercial salmon fishing. Some PWS seiners could not find markets and permits were not fished.

But the fishery and industry has come a long way since then. ADF&G and PNP Hatchery's keep improving their management of issues as they develop. Most of the seine permits are now fishing and even drift gillnet fisherman have pink markets. Processors have invested heavily in their plants and markets to effectively handle the returns. All the fish are fully utilized now, even the broodstock carcasses are purchased and used in fish meal. Products other than canned have been developed to broaden the markets for salmon. Fisherman have invested in new vessels and gear. All of this has had a multiplier effect in producing a healthier economy for the State of Alaska.

In 2001 I was the Chairman of the PWS/CR Advisory Committee and a PWSAC board member. I was at the BOF meeting in Anchorage where BOF members Virgil Umphenour and Dr White tried to blame all the ills of the salmon industry on the enhanced salmon program. The half-truths and blatantly false accusations were appalling. Mr. Umphenour's disdain for the PWS/CR commercial fishery is well known and documented in BOF testimony. I don't know of any agreement to reduce hatchery production by 25% in 2001. What was agreed upon was that the PNP hatcheries would voluntarily reduce the excess permitted capacity on their permits with the caveat that when the fishery was ready they would get the full permitted capacity back. That is exactly what has occurred.

Thank you for this opportunity to testify on these very important issues.



Submitted By
Michael F Durtschi
Submitted On
9/29/2018 10:48:27 AM
Affiliation

Phone
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Address
Box 1012
652 Davos Rd.
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BOF,

I am submitting comments directed toward ACR#1 and ACR#2.

First and foremost, Hatcheries have operated in the State for decades, been productive economic engines and been guided by ADF&G the experts in the field. Any proposals regarding PWS hatcheries should be presented during the normal BOF meeting cycle every three years with all the other proposals, not as an agenda change request mid-cycle.

I and my family commercial fish for Salmon in the PWS area. We are successful, create wealth for the State, and provide employment in our community. Common sense plays a big part in our operation. I emphasize this with my sons as they learn to fish. Looking out the window at what is happening around you is usually the best way to assess what is going on. Here are some common sense, looking out the window observations about PWS Hatcheries.

It is widely accepted that there are three main contributors to the demise of salmon stocks. #1 Polluted water. #2 Over harvesting of a salmon stock. #3 Habitat degradation. In all areas where salmon have diminished or disappeared completely salmon have died a death of a thousand cuts due to one, two or all three of these reasons.

PWS has an abundance of clean cold water.

PWS commercial harvests are monitored on a sustained yield basis meticulously by ADF&G

PWS, fortunately has a large absence of human habitation in or near salmon rearing habitat keeping it pristine, short of extreme weather or geologic occurrences.

PWS wild and hatchery returns have never been more healthy and productive than in the past ten years.

In closing, we do not have a problem with hatcheries diminishing wild salmon runs in PWS. It is my hope that the BOF would advise those people and entities wishing to lay the blame for their reduced salmon abundance on PWS, that they look at and clean up their own area first, leaving no stone unturned to maintain a healthy environment for their salmon runs.

Thank you, Mike Durtschi



From: Mike Mickelson
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: ACR 1 &2
Date: Wednesday, October 3, 2018 5:00:26 PM

October 3, 2018
Mike Mickelson
410 Railroad Row Cordova, AK 99574
F/V Mariah, F/V Amy

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairmen Jensen and Board of Fisheries Members,

I am a second generation Cordova Commercial Fisherman and I oppose ACR 1 and 2. Both of these proposals are based on conjecture and not science. Currently, the Prince William Sound Science Center is conducting multi year straying study which will help our managers decide how to proceed in future production of hatchery fish. It is premature to make any changes until the results of that study are in.

ADF&G has found no conservation concern that would warrant the language of ACR 1 and ACR 2 being acted upon by the Board of Fisheries. The proper place for discussion of hatchery production is during the regional planning team discussions with ADF&G biologists.

All user groups benefit from hatchery salmon. The sport sector in Valdez provides almost a \$7,000,000 impact to local businesses that support the hook and line harvest of hatchery pink and silver salmon. The commercial fishing economic impact is much greater; fish taxes paid by the commercial fleet support hatchery production for all user groups.

Commercial fisherman in Prince William Sound started these hatcheries 45 years ago to alleviate pressures on wild runs. All of the fish in the hatchery systems are native to the Prince William sound region. We have seen strong returns of wild king salmon and silver salmon the last several years and very strong red runs in 2011, 2012, 2013. Also, our wild pink and chum returns in 2017 were some of the biggest on record.

We should continue to use a science based approach to hatchery management. Both ACR 1 and ACR 2 do not meet the criteria for the Board of Fisheries agenda change requests. Both documents cover information that has already been discussed and voted on by the Board of Fisheries recently. There is no new information to warrant reconsideration.

Sincerely,

Mike Mickelson

Sent from my iPad

Submitted By
Nathan widmann
Submitted On
10/3/2018 11:19:05 AM
Affiliation

Date: 10-3-18

Fisherman: Nathan Widmann

Vessel: Orion

Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR1 and ACR2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are heavily science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Nathan Widmann



North Pacific Fisheries Association
P.O. Box 796 · Homer, AK · 99603

To: State of Alaska Board of Fisheries
Re: Opposition to ACR 1, 2, 10
From: Malcolm Milne, President NPFA

October 2, 2018

Dear Chairman Jensen and Members of the Board of Fisheries,

The North Pacific Fisheries Association (NPFA) was founded in 1955 and represents over sixty Alaskan fishing operations. Almost all of our members participate in Salmon fisheries throughout the state, many in areas that enjoy the benefits of enhanced salmon runs. Additionally many of our members participate in the Southeast herring fishery and depend on it as part of their fishing season. NPFA members include Southeast Herring permit holders, salmon permit holders, vessel owners, tender vessel owners, harvester and tender deckhands. Some of our members have participated for decades and we all support a sustainable fishery for the future. NPFA has a long history of supporting conservative, science based fisheries management and has demonstrated this philosophy by engaging with the regulatory bodies from local to federal and international. We appreciate your consideration of the following comments on selected ACR's before you.

ACR1 - Oppose

NPFA strongly opposes the adoption of this ACR. We concur with the reasoning set forth in the ADF&G Staff Comments (RC2). This issue was addressed at the July 17 BOF Emergency Petition meeting and in our opinion the attempt to revisit this in an ACR is an abuse of the BOF system and procedures. The BOF made a decision and revisiting it in this forum takes a lot of time and energy.

Additionally the ACR sites data claiming to support the statement. *"There is an unacceptable level of straying of pink salmon produced by Prince William Sound hatcheries to areas outside of PWS, in particular Lower Cook Inlet*

Pink salmon that showed up in streams across Lower Cook Inlet in 2017 weren't all local stocks — in some streams, up to 70 percent were releases from PWS hatcheries. PWS hatchery marked fish were present in every Lower Cook Inlet stream sampled. In Fritz Creek, 70 percent of the 96-fish sampled were from PWS hatcheries. In Beluga Slough, 56 percent of the 288-fish sampled were from PWS. In Dogfish Lagoon Creeks, Barabara Creek and Sadie Cove, hatchery pink salmon from the Solomon Gulch Hatchery in PWS composed 34.4, 14.2 and 12.5 percent respectively, of fish sampled. Overall, PWS hatchery pink salmon comprised 15 percent of the pink salmon escapement in LCI in 2017.

I assume the ACR refers to a Memorandum released on December 1, 2017 by ADF&G Lower Cook Inlet Finfish Biologists. The memorandum is a summary of otolith sampling and far from a designed study that would substantiate the claim of the ACR. Two of the creeks cited, Beluga Slough and Fritz Creek do not have SEG's or any documented escapement index prior to 2017 that I'm aware of after questioning ADF&G staff. The memorandum cites a "Preliminary 2017 escapement index" of 2000 and 2500 fish respectively for the streams named. This is an insignificant amount of fish and could possibly be one school of Valdez fish straying into Kachemak Bay.

The final statement that 15 percent of the pink salmon escapement in LCI in 2017 has no source cited and I could find absolutely no evidence to support this statement. I'm confident that the BOF will come to a similar conclusion.

The unsubstantiated claims in this ACR undermine its validity and NPFA hopes the BOF does not adopt it.



ACR 2 – Oppose

NPFA strongly opposes the adoption of this ACR. We concur with the reasoning set forth in the ADF&G Staff Comments (RC2). The ADF&G Staff Assessment is that this ACR does not meet the criteria to be adopted and NPFA hopes the BOF agrees. The criteria cited in the ACR “**a)for a fishery conservation purpose or reason:** Yes. See KRSA ACR” I assume this refers to ACR1 which we would reference our comments above.

ACR10 – Oppose

NPFA strongly opposes the adoption of this ACR. We concur with the reasoning set forth in the ADF&G Staff Comments (RC2). The ADF&G Staff Assessment is that this ACR does not meet the criteria to be adopted and NPFA hopes the BOF agrees. The BOF thoroughly examined this issue at the January 11 – 23, 2017 Southeast and Yakutat Finfish & Shellfish Meeting and NPFA’s opinion is that revisiting it would be poor use of resources.

In conclusion, NPFA has a long history of supporting sustainable, science based fisheries management. Our members participate in many fisheries throughout the state and depend on salmon hatchery production in varying degrees. What does not vary is our commitment to responsible management and we appreciate that the Board of Fisheries has an agenda item to receive Alaska Hatchery Reports. We are confident that the BOF will make sound, scientific, evidence based decisions going forward.

Respectfully,

G Malcolm Milne

President, North Pacific Fisheries Association



(907) 747-6850
FAX (907) 747-1470
EMAIL steve_reifenstuhl@nsraa.org

1308 Sawmill Creek Road Sitka, Alaska 99835

October 3, 2018

Board of Fisheries

October 15-16, 2018

Work Session Anchorage, Alaska

Re: Oppose ACR 1 & ACR 2 Reductions to Salmon Enhancement Programs

Dear Chairman Jensen and Board of Fish Members:

I respectfully submit comments opposing ACR 1 submitted by KRSA and ACR 2 submitted by Mr. Umphenour.

ACR 1 – this proposal was submitted in a similar form twice in the form of emergency petitions and voted down each time, as it should be this time. As an ACR it fails to meet the necessary criteria for an out of cycle proposal.

The problem statement poses evidence of pink salmon straying. Wild pink salmon are known to stray and likely have the lowest fidelity to natal origin of all salmon; hatchery pinks originate from these same stocks and therefore their genetic makeup is similar, a meta-population if you will, and therefore stray. There is a long-term multi-generation study being conducted by ADF&G 2012-2023 that will inform the very question posed in this ACR. There have been similar studies by Hess et.al. on reproductive fitness of chinook salmon on the Salmon River, a tributary of the Columbia River. These multi-generation pedigree studies showed little difference in reproductive success of wild and hatchery crosses.

The second problem statement of this ACR is 'increased food competition'. This is in the realm of ocean carrying capacity (OCC) and is a relevant scientific question that has been studied for decades by the international organization North Pacific Anadromous Fish Commission (NPAFC) consisting top scientists from the countries – Canada, Japan, Russia, Korea, and the U.S. There is no justification for an emergency, considering that every year from 1988-2018 five billion pink and chum fry have been released by aforementioned countries to the North Pacific Ocean. Twenty million eggs or 18 million fry represent a 0.36% increase in biomass. Furthermore, based on Pauley et.al. (1996) Pacific salmon make up only 7% of the epipelagic fish biomass or 3% when squid are included. A review of the literature attached demonstrates ocean carrying capacity is complex and salmon are a minority in the nektonic competition for zooplankton.

The ACR proposer claims that there is a fishery conservation reason: unacceptable level of straying in Lower Cook Inlet streams.



Many studies demonstrate that pink salmon stray more than any other salmon (Quinn, 1993 and many others). Russian pink salmon have now strayed into Scotland most likely due to Arctic ice melt during the summer months. All of Alaska was recolonized by Pacific salmon after the last ice age due to straying or re-colonization. The extent of straying that occurred in 2017 was anomalous and unfortunate. It appears these late returning pink salmon were pushed into Cook Inlet by strong winds and currents, and they became energy depleted and unable to continue on their journey.

The ADF&G report referenced by the petitioner represents a small sample size and does not truly represent the proportion of stray pink vs natural spawners. The proper sampling protocol requires sampling spawners through the entire spawning run, usually 3 to 4 weeks, rather than a onetime grab sample. Straying salmon generally arrive later to the spawning grounds than returning progeny, as that is the nature of colonizing or straying from home territory. Therefore, a onetime sample late in the run would certainly over-represent the straying proportion. The Hatchery-Wild Investigation for example has a sample protocol that samples the target stream every few days for the entire run, a month-long timing window.

The proposer postulates that PWS pink releases are jeopardizing marine survival of sockeye and Chinook. This is an unproven supposition, more shotgun correlation rather than a necessary cause and effect. There is no evidence that Chinook salmon stocks are negatively influenced by pink salmon abundance. The North Pacific pink and chum, both hatchery and wild have been at a near constant level for two decades, a period with both very high Chinook survival and low Chinook survival. Nearby sockeye in the Copper River do not show a negative correlation or cause and effect with PWS pinks. Bristol Bay, the largest sockeye systems in the world have set record returns in the past five year, just as PWS pink salmon have also set odd-year records.

It is premature to consider this action. The BOF has asked for information at the Work Session and there will be numerous documents and several hours of ADF&G presentations, as well as a forum to discuss and exchange information.

Finally, if ACR 1 is accepted, you will be asking to kill live animals, as these eggs have been taken and are on life support at the Solomon Gulch hatchery.

ACR 2 – This is a draconian measure without merit. There was little effort or thought put into this proposal and it should be rejected.

The problem statement by the proposer gets many things wrong. There was no such agreement with Governor Knowles to cut fry production by 25%, nor is there any document that backs up the erroneous statement. Additionally, there was no moratorium on new production. If there had been such a document or official moratorium there would be a record, and there would not have been increases in salmon fry production. The only document generated from that era is Joint Protocol BOF #2002-FB-215 which the proposer acknowledges in his ACR as –“there is *only* (emphasis mine) the protocol FB-215-2002.....” Therefore, it is up to the BOF to consider that protocol which I believe they are now considering by having presentations by ADF&G followed



by an informative forum.

Factors refuting necessity of ACR request:

1. Petitioners state the permitting requirements for a hatchery correctly but omit that these conditions are under the regulatory authority of ADF&G.
2. **AS Sec. 16.10 440(b)** (circa 1979) specifies source and numbers of eggs. This statute refers to the original wild salmon stock and number of eggs that may be taken from a wild donor source. This authority has been delegated to ADF&G, evaluated by local AMB's and granted or denied by ADF&G since 1979. The department develops a 'sliding eggtake' scale based on biological criteria, with the first and most important being adequate wildstock escapement. Second, providing for hatchery development of a brood source. In 1979, there were no large-scale hatchery programs, but rather development of brood sources from local wildstocks. Generally, it took two generations of hatchery releases to obtain large-scale egg takes. Section 16.10.440(b) was thoroughly discussed during the BOF 1999 to 2002 sessions resulting in the Joint Protocol BOF #2002-FB-215.

Therefore, the number of source eggs is within BOF authority but not number of eggs that are taken from hatchery returns. Established hatchery programs are prevented from going back to the original wild source as delineated in the **Genetics Policy (pg. 4)**.

http://www.adfg.alaska.gov/fedaidpdfs/fred.geneticpolicy.1985.pdf?_ga=2.149217652.352854699.1530561433-1681060088.1530561433

3. **Joint Protocol #2002-FB-215** – it is true the BOF in 2002 recommended a public forum on hatcheries, but each board makes choices on how to utilize their time and apparently annual public forums did not reach that threshold. To have or not have a public forum on enhancement is a BOF decision, and not within the PNP's authority and therefore had no input into whether such forums were scheduled. The BOF did have annual presentations and reports from ADF&G at BOF meetings both at statewide and area finfish venues. However, lack of a forum in no way makes for an emergency as all subsequent production was permitted through publically noticed regional planning meetings, and fully vetted by numerous ADF&G biologists, managers, and scientists. These meetings are open and attended by members of the public, and often by federal land managers. Public records of RPT meetings are maintained and available.

The current BOF has decided they want to have a review of the state's enhancement program at the October 2018 work session. The intention of that review is for the board to educate themselves about the program and review the science upon which the enhancement programs are predicated. In addition, the board will see the most recent data on the hatchery/wild research program and NPAFC ocean carrying capacity science. Further, the board has outlined a path for better understanding local enhancement programs by focusing on specific areas during the regularly scheduled regional finfish meetings. The petitioners seem to be attempting to short circuit that public process.



4. **5 AAC 39.222 Natural stock protection** – There is no emergency defined here by the ACRs. Protection of natural stocks is being done via significant policy and regulatory elements of the enhancement program. In addition, the department launched into a massively ambitious research program in 2012 costing \$16 million, over two salmon life cycles spanning eleven years.

Policies and regulations for protection of wild stocks – genetics policy, fish pathology, transport of fish policy, use of local stocks, restrictions on cross-geographic regions, regional salmon enhancement plans, limnology protocols, 100% marking of salmon, management feasibility analyses, and more insure those protections.

Hatchery Wild Interaction Research – this study will answer the hypothesis: do hatchery strays breeding (introgression) with natural spawners reduce the reproductive success and productivity of the wild spawners? This innovative research employs recent genetic techniques that will be able to establish pedigrees of parents and their offspring for two generations of wild/wild, wild/hatchery, and hatchery/hatchery crosses in four discrete streams in PWS.

http://www.adfg.alaska.gov/index.cfm?adfg=fishingHatcheriesResearch.findings_updates

Straying Assessment – some 34 randomly selected ADF&G index streams have been assessed for extent of hatchery straying in PWS. Research results have been presented at American Society of Fisheries in Anchorage, May 2018. Preliminary results were reported in 2016 and 2017

http://www.adfg.alaska.gov/static/fishing/PDFs/hatcheries/research/2017_annual_report_pwssc_hw.pdf

Peer reviewed journal articles are expected in press later this year or in early 2019.

Relevant journal quotes regarding straying:

Straying is typically defined as adult migration to—and attempted reproduction at—non-natal sites (Quinn 1993). In the context of hatcheries and other human interventions, straying is often negatively framed as a “failure to home”. However, straying in wild populations is a critical evolutionary feature of salmonid biology that compliments homing.

There have been few studies of chum or pink salmon straying (Fig. 4), but the available data suggest that these species stray at relatively higher rates than other Pacific salmonids or Atlantic salmon (Quinn 1993; Hendry et al. 2004; Pess 2009). Field studies by Sharp et al. (1994), Tallman and Healey (1994), Wertheimer et al. (2000), and Small et al. (2009) all reported straying estimates of 10 % for chum or pink salmon. Reported straying was somewhat lower (4–7 %) for Alaskan pink salmon in Mortensen et al. (2002), but a relatively small number of nearby sites were sampled for strays in this study. A consistent theme was that relatively unstable habitats across years, in combination with abundant suitable spawning habitat in close proximity to natal sites, allows many chum and pink salmon strays to successfully reproduce (i.e., there is little fitness cost for low philopatry).

5. **Pink salmon eggs and fry released to PWS in 2016** – reporting the numbers of release and returns does not present an emergency, nor is there any rationale presented as to what the stand-alone numbers are supposed to mean. Context would be helpful. Since 1990 about five billion hatchery fry from Japan, Russian, Canada, and the U.S. have been released into the ocean annually. In addition, there are billions of **wild pink fry** from Alaska, Canada, and Russia entering the North Pacific each year. The petitioner's cited number of pink fry (643 million) is 12.9% of five billion. If you included fry from wild systems in Russia, Canada, and U.S. (~20 billion, Heard 1998) the percentage would be much lower.

<https://npafc.org/new/publications/Annual%20Report/PDFs/Annual%20Report%202016.pdf>

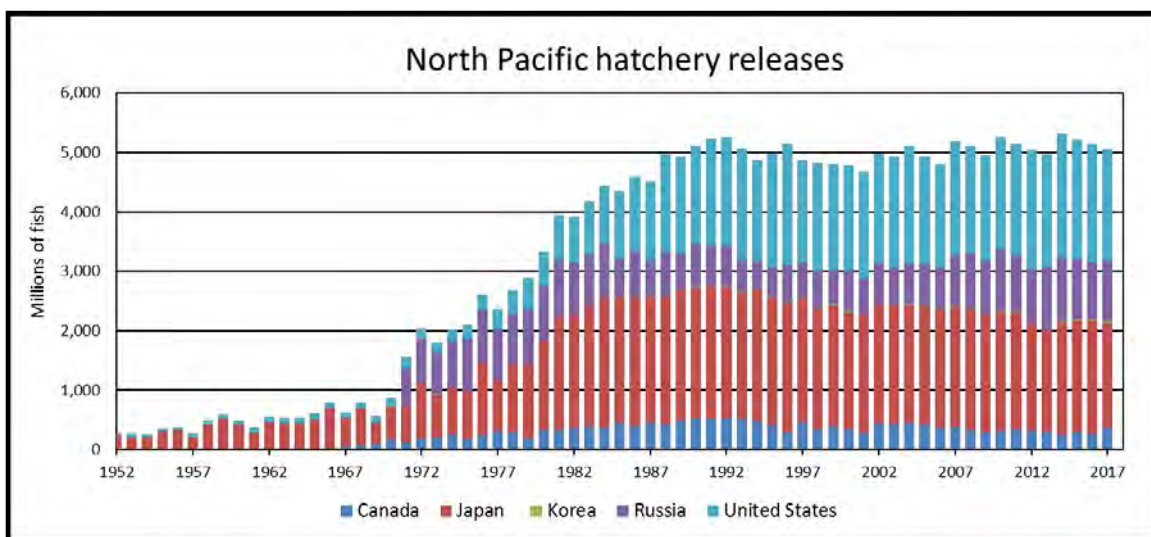


Figure 1. Source: North Pacific Anadromous Fish Commission

Again, in the interest of context for understanding, the permit is for 20 million eggs or 18 million resultant fry, which is 0.36% of the five billion fry from North Pacific Ocean enhancement.

6. **High pink salmon catches in PWS** - The ACR, I suppose inadvertently, points out the specific purpose of the enhancement program – harvest high percentage (up to 92%) of hatchery salmon except for a small proportion that are necessary to perpetuate the program as broodstock. Furthermore, the department manages wildstock harvest of salmon only when the return is in excess to ADF&G escapement requirements. Maximizing enhanced fisheries' harvest and protecting wildstocks from over-exploitation is a State of Alaska mandate. The pink and chum harvest numbers that the petitioner cites are a small proportion of harvests in Russia, Japan, and Canada (see Figure 2).

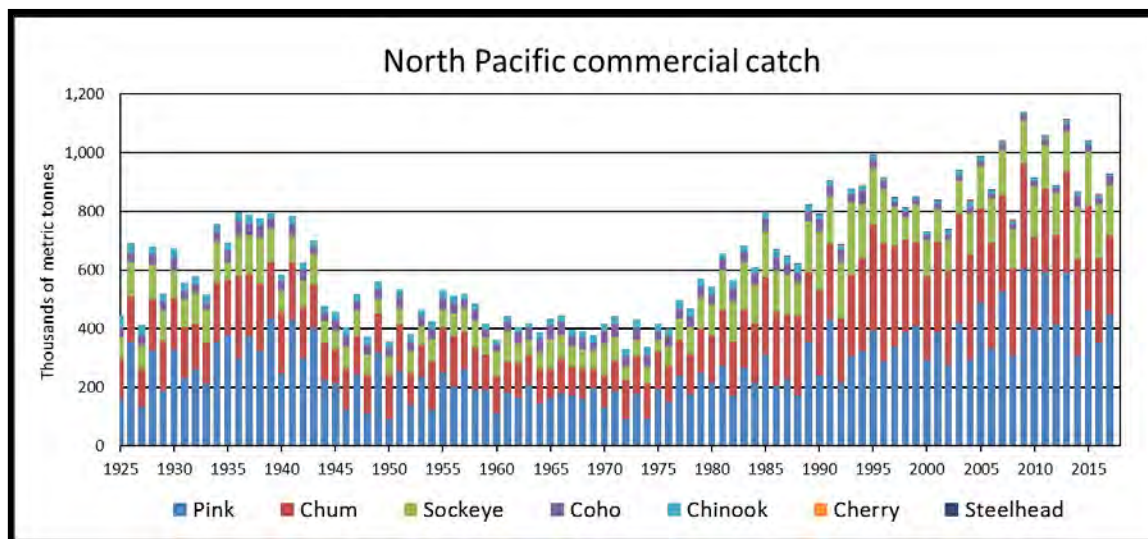


Figure 2. Source: North Pacific Anadromous Fish Commission

Many sport fisheries benefit from the same PNP hatchery programs across the state, including chinook, coho, and chum salmon in S.E. Alaska and pink, sockeye, chinook, and coho in PWS and Cook Inlet. ADF&G has a state of the art \$100,000,000.00+ hatchery near downtown Anchorage that produces coho & chinook for the public.

7. **Journal article submissions** – There are nine journal articles presented and each can be debated for scientific rigor and significance. The petitioner does not attempt to explain the significance of each paper but rather throws down a sheaf of documents as if to say it proves something. Some of these journal articles represent good work and even support some of my contentions. For example, Ruggerone and Irvine (2008) document the high-sustained abundance of pink and chum salmon. They show the harvest data for the low harvest era in 1974, 22 million salmon to an average of 177 million from 1990-2015 (Stopha 2018). Based on the discussion, recent changes in abundance, survival, and size of coho and Chinook salmon have NOT been a response to recent changes in aggregate salmon numbers or biomass. These analyses will be submitted in a separate document and are the work of a retired career scientist with National Marine Fisheries Service, PNP biologists, and science panel members. These analyses are critical to understanding the petitioners' cited journal articles.



Please reject ACRs #1 & #2 that would rescind ADF&G's NPA for 20 million VFDA pink eggs. The proposers' fall far short of the BOF criteria. Rather, the board is to be commended for scheduling a hatchery committee meeting at the October work session in order to become more educated on the Alaska's enhancement program. Making an affirmative decision on the petition prior a full vetting of the HWI research and other relevant information would be premature. Respectfully,

Steve Reifentuhl
General Manager, Northern Southeast Regional Aquaculture Assoc.



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1308 Sawmill Creek Road Sitka, Alaska 99835

October 3, 2018

Board of Fisheries

October 15-16, 2018
Work Session Anchorage, Alaska

Re: Joint Protocol on Salmon Enhancement #2002-FB-215 – Prohibitions

Dear Chairman Jensen and Board of Fish Members:

I respectfully submit additional comments opposing ACR 1 and ACR 2 based on the board's Joint Protocol on Salmon Enhancement #2002-FB-215. It states as follows in the Protocol subheading of the document, first paragraph, and fourth sentence:

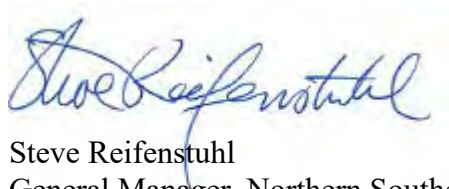
“....These salmon enhancement meetings will not be open for regulatory actions and no hatchery-related petitions or agenda change requests (ACRs) will be considered as action items.”

In the last paragraph, the document further provides:

“As appropriate, the board and department may agree to invite other state and federal agencies, professional societies, scientists, or industry spokespersons.....”

Based on this passage I would like to highlight that two scientists (retired) with life-long Alaskan careers in National Marine Fisheries Service, who have conducted specific research on ocean carrying capacity and associated elements that inform the topic, and have written a paper “*High Ocean Biomass of Salmon and Trends in Alaska Salmon in a Changing Climate*”, which you will find in your public comments. These scientists also fit the profile in the quoted passage above as having lifelong membership in North Pacific Anadromous Fish Commission, American Fisheries Society and collaboration with international scientists from Russia, Japan, Korea, and Canada.

Respectfully,



Steve Reifensstuhl
General Manager, Northern Southeast Regional Aquaculture Assoc.



**Alaska Board of Fisheries
and
Alaska Department of Fish and Game**

Joint Protocol on Salmon Enhancement
#2002-FB-215

Background: In actions taken in January 2001 and June 2002 the Alaska Board of Fisheries stated its intent to institutionalize a public forum to bring a statewide perspective to issues associated with hatchery production of salmon. Accordingly, the department and board agreed to enter into this joint protocol to coordinate department and board interaction on certain aspects of salmon hatchery policy and regulation.

Authorities: The commissioner of the Department of Fish and Game has exclusive authority to issue permits for the construction and operation of salmon hatcheries. The Board of Fisheries has clear authority to regulate access to returning hatchery salmon and to amend, by regulation, the terms of the hatchery permit relating to the source and number of salmon eggs. The Board of Fisheries' authorities also include the harvest of fish by hatchery operators and the specific locations designated by the department for harvest (see AS 16.10.440(b) and Department of Law memorandum to the board dated November 6, 1997).

Statement of Intent: It is the intention of the commissioner of the Department of Fish and Game and the chairman of the Board of Fisheries that meetings be held on a regular basis wherein the department will update the board and the public on management, production, and research relating to Alaska's salmon enhancement program

Protocol: The joint department-board meeting on hatchery described here will take place at a mutually agreeable time and place during regularly scheduled meetings of the board. The meetings will provide a forum for open discussion on a mutually agreed upon agenda of hatchery topics. The agenda may include site-specific as well as regional or statewide hatchery issues. These salmon enhancement meetings will not be open for regulatory actions and no hatchery-related petitions or agenda change requests (ACRs) will be considered as action items. These meetings are open to the public. At its discretion and upon appropriate notice, the board may open the meeting to public comment.

The hatchery meetings will provide an opportunity for the board and the public to receive reports from the department on hatchery issues including: production trends, management issues, updates on hatchery planning efforts, wild and hatchery stock interactions, biological considerations, and research. Requests for report from the department may be made during the board's work session during meeting years when there is a hatchery forum scheduled.

As appropriate, the board and department may agree to invite other state and federal agencies, professional societies, scientists, or industry spokespersons to attend and to contribute information on particular topics, or sponsor other discussions, such as marketing or intrastate effects.

Dated: June 28, 2002

Ed Dersham, Chairman
Alaska Board of Fisheries

Frank Rue, Commissioner
Alaska Department of Fish and Game

Board of Fisheries
October 15-16, 2018
Work Session Anchorage, Alaska

Dear Chairman Jensen and Board of Fish Members:

In the interest of understanding the complex topic of Ocean Carrying Capacity (OCC) this document written by two career fisheries research scientists is presented.

High Ocean Biomass of Salmon and Trends in Alaska Salmon in a Changing Climate

Alex Wertheimer, NOAA Fisheries Research Biologist (retired)¹
Fishheads Technical Services

William Heard, NOAA Fisheries Research Biologist (retired)²

EXECUTIVE SUMMARY

The abundance and biomass of wild and hatchery pink, sockeye, and chum salmon in the North Pacific Ocean has been higher in the past 2.5 decades (1990-2015) than at any time in the 90-year time series. The high biomass has been remarkably consistent from 1990-2015. There has been higher variability in numbers of salmon than in biomass due to the variability in pink salmon abundance. The high sustained abundance and biomass is driven in no small part by historically high abundance of Alaska salmon, and corresponds with the renaissance of Alaska salmon fisheries from their nadir in the 1970s. Statewide commercial catches of salmon were just 22 million fish in 1973; for 1990-2015, statewide catches have averaged 177 million salmon, an eight-fold increase.

This remarkable recovery and historically high abundance of Alaska salmon can be attributed to five major factors: (1) large expanses of relatively pristine and undeveloped habitats; (2) salmon management policies that have evolved since statehood; (3) the elimination of high seas drift-net fisheries; (4) production from large-scale hatchery programs designed and managed to supplement natural production; and (5) favorable environmental conditions associated with the 1977 “regime shift” affecting the ecosystem dynamics of the North Pacific Ocean. Habitat, management, and enhancement set and maintain the productive capacity that responds to marine environmental conditions: ocean “carrying capacity”.

Carrying capacity has been defined as the ability of an ecosystem to sustain reproduction and normal functioning of a set of organisms. Ocean carrying capacity for Pacific salmon is not a fixed productivity limit, and the considerable regional and temporal variability in salmon stocks is a response to non-homogeneous ocean conditions. Over the past few decades, conditions in the North Pacific Ocean have



been generally favorable to Pacific salmon as reflected by the sustained high abundances and catches. However, extremes in survival and production have occurred both temporally and geographically. Survival and year-class strength of salmon is the result of responses to local, regional, and basin scale conditions. Marine conditions vary geographically and temporally within a given year, interannually, and in the context of oceanographic regimes favorable or unfavorable to salmon production.

There are concerns that the high abundance in the North Pacific Ocean, coupled with high variability in stock performances, indicate that carrying capacity is being exceeded, and that competitive interactions are negatively affecting growth and survival. These concerns have been raised for over 20 years. Rather than indicate that carrying capacity has been exceeded, the trend of the past three decades show that the North Pacific Ocean has had the capacity for the recovery and sustained production of wild stocks while supporting the expansion of large-scale enhancement production from Japan (chum salmon) and Alaska (chum and pink salmon).

A proposed mechanism for negative impacts of high abundance of salmon in the ocean is that their feeding capacity alters the biomass of oceanic zooplankton, and in turn the phytoplankton biomass. In this scenario, this “trophic cascade” and alteration of food webs then negatively impacts other species, including coho and Chinook salmon. The record numbers and abundance of Pacific salmon can appear to be an imposing load on the North Pacific Ocean ecosystem. However, assessments of nektonic trophic structure in the Gulf of Alaska and the western North Pacific Ocean indicate that salmon have low to moderate impacts on oceanic food webs, and they respond to, rather than control, changes in ocean productivity.

Pink salmon have been identified as a keystone predator restructuring oceanic food webs to the detriment of other species. Four lines of evidence call this conclusion into question. First, Russian researchers report that in extensive ocean research programs, they have found typically no significant correlations occur among pink salmon growth rate, stock abundance, or zooplankton standing crop. Second, high numbers of pink salmon in the North Pacific Ocean have been associated with record run sizes and continued sustained biomass of salmon, rather than a reversal in these trends when pink salmon abundance increased. Third, pink salmon have shown the greatest variation in abundance among Alaska salmon, especially in response to anomalous ocean conditions. Thus rather than restructuring the food webs, they appear to be the most sensitive to changes in marine conditions. Finally, the high predation pressure of pink salmon in the context of epipelagic food webs is justified because other species, especially chum and sockeye salmon, switch to other, poorer quality prey items when pink salmon are abundant. However, the obvious implication is that these other species will “switch back” to the prey with higher nutritional value when pink salmon are at lower levels of abundance. Because chum and sockeye salmon comprise almost 80% of the oceanic biomass of salmon, salmon predation pressure on the “high value” prey remains relatively constant.

Effects of pink salmon abundance are often used as a proxy for deleterious effects of large-scale enhancement in general. In fact, while pink salmon are the most numerous of the salmon species in the North Pacific Ocean, wild stocks of pink salmon contribute some 85% of the overall abundance.

Density dependent interactions have been identified within and between species of salmon. These interactions have been observed during both periods of low and high abundance. Changes in size, survival and age at maturity have been attributed to these interactions. Despite the existence of

competitive interactions in the marine environment, high productivity of Alaska salmon has persisted during this period of high abundance. In general, size declines of pink and chum salmon occurred prior to the 1977 regime shift, and thus are associated with poorer ocean conditions rather than ocean abundance of salmon, and sockeye salmon size has been stable over the past 60+ years.

There is also concern that the high ocean abundance of the big three (pink, chum, and sockeye salmon) negatively impact coho and Chinook salmon in Alaska. For coho salmon, size declines in Southeast Alaska have been linked to pink salmon abundance in the Gulf of Alaska, while in Canada recent size increases in coho salmon have been positively associated with the combined biomass of pinks, chums, and sockeye salmon. The high correlation of run strength between coho and pink salmon in Southeast Alaska is strong evidence that their abundance is driven by similar overall response to shared marine conditions. Density-dependent mechanism other than competition may also play a role in pink salmon/coho salmon dynamics. These include such as predator sheltering of coho salmon juveniles by the more abundant pink salmon juveniles (decreasing predation on coho juveniles), predator aggregation (increasing predation on coho juveniles), and direct predation of coho juveniles and adults on pink salmon juveniles.

Chinook salmon stocks in Alaska have been depressed in recent years due to reduced marine survival, and have declined in size at age for older fish, and age at maturity. These changes are not likely driven by the high abundance of salmon in oceanic habitats. Chinook salmon, by their propensity to utilize deeper depth strata and distribute more broadly on shelf and slope areas during marine residency, are segregated to a large degree from other salmon in their use of ocean habitats with correspondingly different temperatures, prey fields, and predator complexes. Size of Chinook salmon at ocean age 2 has not declined, indicating no density-dependent effect on growth through the first two years at sea. Size declines at older ages are more consistent with selective removal of older, larger fish.

Survival declines of Chinook salmon occurred well into the period of high ocean biomass. There is substantial evidence that much of the variation in Chinook salmon marine survival is due to conditions in the first summer and winter at sea. Changes in the North Pacific ecosystem, such as increased killer whale predation, could introduce more mortality at older ages, and further depress realized survival during periods of poorer environmental conditions for Chinook salmon.

Favorable ocean conditions rather than density-dependent interactions seem to be driving both the high abundance at the basin-scale and the high variability in salmon populations at local and regional scales. Recent climatic and oceanographic events such as the marine heat waves of 2004/2005 and 2014/2015 in the Gulf of Alaska are demonstrative of the intrinsic variability of ocean conditions affecting salmon at local and regional scales. Will density-dependent interactions become increasingly important if and when ocean conditions become less favorable to salmon, with large releases of hatchery fish putting wild stocks in more jeopardy? Or will hatchery fish provide a buffer to sustain fisheries when wild stock productivity is low in response to varying environmental conditions? We conclude the latter, because there is empirical evidence that large releases and returns of hatchery pink salmon in years of both low and high wild stock abundance did not limit the production potential of the wild stocks.



Introduction

The Alaska Board of Fisheries (BOF) was recently petitioned to hold an emergency meeting asking the BOF to amend actions taken in Permit Alteration Requests (PARs) made by the Prince William Sound (PWS) Regional Planning Team and deny the increase in the number of pink salmon eggs taken in 2018 by 20 million eggs. One of the rationales the petitioners used for rescinding the PAR was "... great concern over the biological impacts associated with continued release of very large numbers of hatchery salmon into the North Pacific Ocean, including the Bering Sea and the Gulf of Alaska." To support this concern, the petitioners provided references to record high abundance and biomass of salmon in the North Pacific, as well as possible density-dependent effects of pink salmon on the trophic structure in the North Pacific Ocean and intra-specific and interspecific competition of pink salmon with other species of salmon and seabirds.

The BOF held the emergency meeting on July 17, 2018, and denied the request for rescinding the PAR. The BOF determined there was no need for such an emergency action, and deferred further consideration to the review of the State's salmon enhancement program scheduled for the October 2018 work session. The intention of that review is for members of the BOF to educate themselves about the program and understand the science the enhancement program is predicated on and the current scientific evaluation.

This paper provides a brief, broad overview of the issue of record abundance and biomass of Pacific salmon and the implications for the status of Alaska salmon. We present this overview in six sections. The first is a review of the recent information on abundance of salmon in the North Pacific. The second is an examination of trends in harvest of Alaska salmon, including enhanced production. The third is a discussion of oceanographic conditions and the concept of "carrying capacity" for salmon in the North Pacific. The fourth is a perspective on the relative role of salmon as a component of the North Pacific ecosystem. The fifth looks at intra- and interspecific competition and density dependence among salmon species, and its possible impacts on growth and abundance. The sixth section summarizes our conclusions from this overview.

I. High Abundance and Biomass of Salmon in the North Pacific Ocean

In a recent paper, Ruggerone and Irvine (2018) published an excellent compendium of the available data on numbers and biomass of pink, chum, and sockeye salmon in the North Pacific Ocean over the time period 1925 through 2015. The authors have compiled diverse data sources of harvest, harvest rates, and escapement. They have used reasonable approaches to estimating total salmon escapements by species by region, and to estimate hatchery and wild origins.

They found that the abundance and biomass of pink, sockeye, and chum salmon has been higher in the past 2.5 decades (1990-2015) than at any time in the 90-year time series, averaging 665 million adult salmon each year ($1.32 \times$ million metric tons) during 1990–2015 (Figure 1). During 1990–2015, pink salmon dominated adult abundance (67% of total) and biomass (48%), followed by chum salmon (20%, 35%) and sockeye salmon (13%, 17%). When immature salmon biomass was included in the biomass estimates, biomass was dominated by chum salmon (60% of the combined biomass of all three species),

followed by pink salmon (22%) and sockeye salmon (18%).

The high biomass has been remarkably consistent over the 1990-2015 time period. There has been higher variability in numbers of salmon than in biomass due to the variability in pink salmon abundance.

Alaska produced approximately 39% of all pink salmon, 22% of chum Salmon, and 69% of sockeye salmon, while Japan and Russia produced most of the remainder. Approximately 60% of chum salmon, 15% of pink salmon, and 4% of sockeye salmon during 1990–2015 were of hatchery origin. Alaska generated 68% and 95% of hatchery pink salmon and sockeye salmon, respectively, while Japan produced 75% of hatchery chum salmon. Salmon abundance in large areas of Alaska (PWS and Southeast Alaska), Russia (Sakhalin and Kuril islands), Japan, and South Korea are dominated by hatchery salmon. During 1990–2015, hatchery salmon represented approximately 40% of the total biomass of adult and immature salmon in the ocean.

In the context of concern for the impacts of hatchery fish on wild salmon and the North Pacific ecosystem, we reiterate three facts about pink salmon noted above. Pink salmon are the most abundant of the species, have the greatest temporal variability in abundance, and are mostly (85%) wild origin (Ruggerone and Irvine 2018). As we will discuss below, the high variability of pink salmon and differences in abundance between odd-year and even-year lines is often used to examine competitive interactions and ecosystem level impacts of salmon in the North Pacific. At the basin-scale, to the extent that such effects may occur, effects of pink salmon are predominately from wild-stock populations rather than from enhanced fish.

II. Trends in Harvest of Alaska Salmon

The high sustained abundance and biomass in the North Pacific Ocean reported by Ruggerone and Irvine (2018) is driven in no small part by historically high abundance of Alaska salmon. It is instructive to put the current levels of salmon harvest into perspective of the 115 year time series of Alaska commercial salmon harvests (Figure 2), to recognize the extent of recovery and extraordinary recent productivity of Alaska salmon. In the early 1970's, Alaska salmon harvests were at their nadir, with statewide catches of all species averaging just 22 million fish in 1973 and 1974 (Figure 2). In the “good old days” of the 1930s, catches sometimes exceeded 100 million. The State of Alaska initiated a number of management actions to address the decline and rebuild production (Clark et al. 2006), with a goal of once again reaching harvests of 100 million salmon. In 1971, the Alaska Legislature established the Division of Fisheries Rehabilitation Enhancement and Development (FRED) within the Alaska Department of Fish and Game (ADF&G) for hatchery development. In 1972, Alaska voters approved an amendment to the state Constitution (Article 8, section 15), providing for an exemption to the “no exclusive right of fishery” clause, enabling limited entry to Alaska’s state fisheries and allowing harvest of salmon for broodstock and cost recovery for hatcheries. In 1974, the Alaska Legislature expanded the hatchery program, authorizing private nonprofit (PNP) corporations to operate salmon hatcheries.

Alaska's modern salmon hatchery system started in the 1970s and grew out of depressed fisheries that reached record low harvest levels. At the same time a century old Japanese salmon hatchery system was undergoing dramatic improvements in performance with record high marine survivals of young salmon, increased releases of up to 2 billion juveniles per year, and returns of adult chum salmon ranging from



40 to 60 million fish annually (Kobayashi 1980). These impressive results caught the attention of officials and scientists developing Alaska salmon hatchery program.

Exchanges between Japanese and Alaska scientists, fishermen, and industry helped forge the enhancement strategies and policies in Alaska, resulting in similarities in the two hatchery programs. Similarities include hatcheries operated by private fishermen groups where salmon catches are taxed under a user-pay system to help defray cost of hatchery operations, a focus mostly on pink or chum salmon production, and extensive short-term rearing of pink and chums salmon fry to improve marine survival. However, as reviewed by Heard (2011), there also are significant differences between salmon fisheries, policies, and hatchery operations in the two countries. Commercial salmon fisheries in Japan have been largely dependent on hatcheries while development of hatcheries in Alaska focused on fisheries based on a careful balance between wild and hatchery production (McGee 2004). Some important differences in the two systems include locating Alaska hatcheries on non-anadromous water sources and not on important wild stock river systems, careful selection of brood stocks within a region and restricting use of hatchery brood stocks to specific geographic areas.

Alaska salmon harvests recovered rapidly in the second half of the 1970s, and exceeded 100 million fish by 1980 (Figure 2). With the exception of 1986 (96 million), the statewide catch has been over 100 million salmon annually since 1980. For 1990-2015, harvest has averaged 177 million salmon. After 1980, hatchery production started making up an increasing portion of the harvest. In the last decade (2008-2017), hatchery salmon have composed about 33% of the total commercial harvest, averaging 67 million fish annually (Stophra 2018).

This remarkable recovery and historically high abundance of Alaska salmon can be attributed to five major factors: (1) large expanses of relatively pristine and undeveloped habitats; (2) salmon management policies that have evolved since statehood (Eggers 1992, Clark et al. 2006); (3) the elimination of high seas drift-net fisheries (Clark et al. 2006); (4) production from large-scale hatchery programs designed and managed to supplement natural production (McGee 2004, Stophra 2018); and (5) favorable environmental conditions associated with the 1977 “regime shift” affecting the ecosystem dynamics of the North Pacific Ocean.

III. Ocean Conditions and Carrying Capacity

“Trying to define ocean carrying capacity is like trying to catch a moonbeam in a jar”. O. Gritsenko, VINRO, Moscow. Member, NPAFC Committee on Scientific Research and Statistics.

The recovery of Alaska salmon and the record abundances throughout the North Pacific have been repeatedly linked to changes in ocean conditions characterized as the 1977 regime shift. Warming ocean conditions resulted in striking increases in primary and secondary production (Brodeur and Ware 1992). These changes in temperature and lower-trophic level production were associated with profound changes in species composition of fish and crustaceans (Anderson and Piatt 1999). Salmon as a group benefitted (and are an important component of) these ecosystem level changes, with the dramatic increases in abundance observed around the Pacific rim. The importance of the marine ecosystem to the abundance trends is emphasized by the success of large-scale enhancement systems in both Alaska and



Japan concurrent with the high production of wild stocks from Alaska and Russia. Wild Stocks are responding to the effects of climate on both freshwater and marine ecosystems, while variation in hatchery returns for a given level of production is driven entirely by the marine conditions encountered.

Carrying capacity has been defined as the ability of an ecosystem to sustain reproduction and normal functioning of a set of organisms (Farley et al. 2018). For salmon in the ocean, feeding and survival conditions are defined by a complex of physical and biological factors, involving both bottom-up (prey) and top-down (predators) processes (Radchenko et al. 2018). These are dynamic processes, resulting in annual variability in salmon production in the marine environment. The ocean conditions driving these processes vary over both short and long time periods, so that annual variability occurs in the context of “regimes” that can be favorable or unfavorable to salmon (Beamish et al. 1999,2004; Shuntov et al. 2017; Radchenko 2018).

Over the past few decades, “carrying capacity” conditions in the North Pacific Ocean have been generally favorable to Pacific salmon as reflected by the sustained high abundances and catches. However, responses of stocks of Pacific salmon have not been uniform during this period, and extremes in survival and production have occurred both temporally and geographically. Survival and year-class strength of salmon is the result of responses to local, regional, and basin scale conditions, and not a result of a homogeneous ocean carrying capacity (Heard and Wertheimer 2012).

Marine survival of Pacific salmon is more correlated between neighboring populations than with more distant ones (Mueter et al. 2005; Pyper et al. 2005; Sharma 2013), emphasizing the importance of local and regional conditions. The first few months at sea is the period of highest mortality per day for juvenile salmon in the marine environment (Heard 1991; Quinn 2005; Farley et al. 2007, 2018). Variability in mortality during this period can be large, and can be the major driver of year-class strength. An extreme example is the returns of Fraser River sockeye salmon in 2009 and 2010. In 2009, only 1.5 million fish returned, the lowest return since 1947; in 2010, 29 million fish returned, the highest number since 1913. Conditions during the early marine period are considered the primary factor affecting these changes in survival of Fraser River sockeye salmon (Beamish et al. 2012).

Salmon surviving the early marine period are exposed to continued mortality, albeit at a lower rate (Quinn 2005). The first winter at sea has been posited as a critical time period for determining year class strength (Beamish et al. 2004; Moss 2005). Older immature and maturing salmon have much lower mortality rates (Ricker 1976), but these extend over a longer period of time, from 1 year for pink salmon to 5 years for Chinook salmon. Forecasting approaches using juvenile salmon abundance index to predict returns (Wertheimer et al 2017; Murphy et al. 2017) assume that recruitment through the early marine stage has established year-class strength, and that subsequent mortality does not vary substantially from year-to-year. However, Radchenko (2018) reports that cumulative ocean mortality can vary 1.5-2 times. These ocean effects on survival can result in large deviations, positive and negative, from forecasts from juvenile salmon indexes (Figure 3). For 2006, the forecast for Southeast Alaska pink salmon harvest was 35 million fish; the actual harvest was 11 million fish, less than one third of the forecast. In contrast, the pink salmon forecast for 2013 was 53.8 M fish, but the forecast was 43% lower than the actual harvest of 94.7 million fish, the largest harvest since catch records were recorded dating back to 1900 (Figure 3, Figure 4).



These results illustrate that variations in marine survival between different local or regional areas occur in the context of larger basin-scale climatic influences on overall production levels of pink and chum salmon in the GOA. Prevailing basin-scale conditions likely strongly influence environmental factors that favor a higher or lower range or level of potential survival for juvenile salmon from different regions.

The “carrying capacity” encountered by a salmon population is a cumulative effect encompassing different life-history phases. The conditions encountered by the salmon will depend on their geographic origin and their ocean migration patterns, which differ by species and stocks. The ocean is a dynamic environment, with substantial variability throughout the North Pacific basin. In 2013, “carrying capacity” for pink salmon in the Gulf of Alaska (GOA) was high, with strong returns throughout the GOA. Returns in both Southeast Alaska and PWS were at record levels. In contrast, in 2015 pink salmon again returned to PWS in record numbers, while returns in Southeast Alaska were below the 1995-2015 average and below forecasts from juvenile salmon indexes, demonstrative of the regional nature of the response of pink salmon stocks to ocean conditions (nearshore and oceanic).

While the general warming in the North Pacific Ocean has been a feature of the high productivity for salmon (Brodeur and Ware 1992; Mantua et al. 1997; Farley et al. 2018), ocean warming events associated with climate change are occurring with more frequency, often with detrimental impacts on salmon (McKinnell 2017). Recent ocean warming events are associated with the decline of the even-year pink salmon in Southeast Alaska. From 1960 through 2005, there was no clear dominance of even or odd year lines of pink salmon in Southeast Alaska (Figure 4). In the summer of 2005, juvenile pink salmon from SEAK encountered anomalous warm conditions in the Gulf of Alaska (Figure 5). These ocean conditions were associated with the occurrence of neretic fish and invertebrates characteristic of more southern locales, including Humboldt squid, blue shark, Pacific sardine, and pomfret (Wing 2006). The resultant 2006 return was, as noted above, only one-third of forecast, and the lowest since 1988. Even year pink salmon appeared to be recovering relative to the 2006 return, attaining a harvest of 37 million in 2014.

In the winter of 2014/2015, another marine heatwave, aka the warm blob, reached the eastern GOA (DiLorenzo and Mantua 2016). The 2014-brood pink salmon that entered the GOA in 2015 again had poorer than expected survival, attaining only half of the forecast in 2016 (Figure 3). Poor pink salmon returns occurred throughout the Gulf of Alaska in 2016, resulting in a Federal disaster declaration for the fishery. The broad nature of the pink salmon run failure is indicative of shared ocean effects. However, regional and local variability were also apparent. In Southeast Alaska, harvests of pink salmon in the northern area were 20% of the recent 10-year average, whereas in the southern area harvest was 80% of the recent 10-year average. In PWS, much of the catch was supported by fish from Solomon Gulch Hatchery, which was still 50% below forecasts based on average marine survivals. Marine survivals were poorer yet for pink salmon from Prince William Sound Aquaculture Association hatcheries, where returns were less than 20% of forecast (Russell et al. 2017).

The 2005 and 2015 ocean heat waves thus had a broad-scale impact on the carrying capacity for pink salmon in the Gulf of Alaska, with 2015 having a more pervasive impact among regions. Both wild and hatchery fish were affected; the return to SEAK is predominately (> 95%) wild, and the hatchery return

It is noteworthy that despite the poor returns of pink salmon, generally the most abundant species in the Alaska harvest, statewide harvest in 2016 was still above 100 million salmon (Figure 2). Variability in abundance numbers throughout the North Pacific reflects high variability in pink salmon, which appear to be the most sensitive salmon species to annual changes in ocean conditions because of their lack of multiple year-classes at sea.

Ruggerone and Irvine (2018) raised the concern that the high abundance of salmon coupled with variability in stock performances indicates that carrying capacity of the North Pacific Ocean for salmon has been reached or exceeded. This is not the first time such concerns have been raised. Various authors over the past 20 years have posited that high abundance of pink, sockeye, and hatchery chum salmon may have exceeded carrying capacity and be negatively affecting or constraining salmon production (e.g., Peterman et al. 1998; Ruggerone et al. 2003; Davis (2003); Sinyakov (2005, cited in Shuntov et al. 2017). In spite of these concerns, abundance and biomass have continued to be high, reaching record levels in recent years (Figure 1).

As Shuntov et al. (2017) noted, ocean carrying capacity for Pacific salmon is not a fixed productivity limit, and the considerable regional and temporal variability in salmon stocks is a response to non-homogeneous ocean conditions. Rather than indicate that carrying capacity has been exceeded, the trend of the past three decades show that the North Pacific Ocean has had the capacity for the recovery and sustained production of wild stocks while supporting the expansion of large-scale enhancement production from Japan (chum salmon) and Alaska (chum and pink salmon). The sky has not yet fallen. This is not to say that the high abundance will persist indefinitely. The shock of the marine heat waves of 2004/2005 and 2014/2015 to Alaska pink salmon demonstrates that carrying capacity can vary within a productive regime, and reminds us that the status of the current production regime is vulnerable to both gradual and abrupt changes driven by a warming climate. Continued warming could result in contraction of the range of Pacific salmon in the North Pacific Ocean (Welch et al. 1998).

IV. Trophic Position of Salmon in the North Pacific Ecosystem

A major concern over the high abundance of salmon is that their feeding capacity alters the biomass of oceanic zooplankton, and in turn the phytoplankton biomass (Ruggerone and Irvine 2018; Batten et al., in press). This “trophic cascade” and alteration of the food web has been linked to decline in size and abundance of Alaska Chinook salmon and coho salmon (Ruggerone and Irvine 2018; Shaul and Geiger 2016); growth and diet of salmon (Davis 2003); and declines in seabird nesting success and survival (Springer and Van Vleet 2014; Springer et al. 2018).

Dominance of oceanic food webs by salmon is not consistent with the abundance and biomass of salmon relative to other components of the North Pacific ecosystem, including competitors and prey fields. In the western North Pacific, Shuntov et al. (2017) estimated the nekton biomass was 81.3 million t (from 50 to 100 million t in different years). Pacific salmon accounted for 1–2% of this biomass in the 1980s. Biomass of salmon subsequently increased to the current levels of 4-5 million t, representing 4-8% of total nektonic biomass during the current period of high abundance. During this period, the biomass of

the two most abundant fish species within their ranges in the North Pacific, walleye pollock (*Theragra chalcogramma*) and Japanese pilchard (*Sardinops melanostictus*), reached 50 million t each.

In the epipelagic layer, Shuntov et al. (2017) estimated that the mean annual food consumption (plankton and small nekton) by the nektonic fauna varied within 210.4–327.3 million t; in the 0–1000 m layer it ranged from 389.0 to 516.0 million t. The amount of food consumed by salmon was 4–8 million t. The proportion of total nekton ration consumed by salmon in the epipelagic layer was 1% - 15%, depending on oceanic area (Figure 6).

This view of low to moderate impact on epipelagic food webs is consistent with mass-balance modeling of North Pacific ecosystems by Pauley et al. (1996). Pacific salmon and steelhead were estimated to make up 4.6% of the epipelagic fish biomass in the Alaska gyre. If squid are including as competitive nekton for zooplankton production, Pacific salmon made up 3.4% of the nektonic biomass. Estimated salmon biomass was < 1% of the estimated zooplankton biomass.

Similarly, the impacts of juvenile salmon feeding during early marine residency on zooplankton has been found to be relatively low. As noted above, the early marine residency is a period of high and variable mortality which may determine year class strength. Given more limited areal habitat than the coastal zone and ocean basin, this period may represent a potential bottleneck for survival. Orsi et al. (2004) used a bioenergetics model to examine consumption of zooplankton by hatchery and wild chum salmon in Icy Strait, Southeast Alaska. They found that juvenile chum salmon consumed only 0.05% of the zooplankton/km² in the upper 20-m of the water column, and 0.005% for the integrated water column to 200 m in June and July in 2001. Because juvenile salmon are typically in the upper water column, total standing crop of zooplankton is not likely to be available as forage on a daily basis, but does represent a source for zooplankton abundance in the surface layer through vertical diel migrations. The percentage of available prey consumed by juvenile salmon in the neritic habitat of Icy Strait was less than 0.05% of the available standing stock. Low consumption estimates were also estimated by several other studies. Karpenko (2002) reported that juvenile chum salmon consumed between 0.1 and 1.1% of the total stock of zooplankton in the upper 10 m of Karaginskii Bay, Kamchatka from June to August over a 5-year period. Cooney (1993) estimated juvenile salmon in PWS consumed 0.8–3.2% of the total herbivore production and 3.0–10.0% of the macrozooplankton production. Boldt and Haldorson (2002) reported that juvenile pink salmon near PWS could consume 15–19% of preferred prey taxa such as large calanoid copepods and amphipods if the available standing crop was fixed over a 10-day period; however, on a daily basis, consumption of no taxon exceeded 2% of the standing stock.

Pink salmon have been identified by some authors as the salmon species most affecting oceanic food webs (Ruggerone and Irvine 2018). Surface layer zooplankton indexes have been associated with differences in abundances of odd- and even-year pink salmon stocks (Batten et al. in press). However, there was no directed fish sampling or monitoring of zooplankton below the surface layer (7.5 m) in Batten et al.’s study. Radchenko et al. (2018) reviews studies showing that “as a rule, no significant correlations occur among pink salmon growth rate, stock abundance, or zooplankton standing crop.”

A conceptual problem to assigning plankton depletion to pink salmon feeding is prey-switching by salmon species. Pink, chum, and sockeye salmon have substantial overlap in their diets, and the latter two species have been shown to switch to other, “lower-quality” prey when pink salmon are abundant



(e.g., Davis 2003). These changes in feeding habit are often used to support the concept of density-dependent interactions with pink salmon and their congeners, e.g., Ruggerone and Connors (2015). However, if other species switch prey in response to high pink salmon abundance, they certainly would switch back to the “higher value” prey when pinks are not as abundant. Chum and sockeye salmon make up on average 78% of the biomass of these three species. As a result, there is more of a constant prey demand among this feeding guild in spite of the high variability in pink salmon abundance in the North Pacific. Rather than shaping the ocean food web, pink salmon appear to be most sensitive to interannual changes in oceanic conditions, resulting in high variability in their numbers, both temporally and geographically.

Competition among species may also be minimized by the distribution of salmon in oceanic habitats. Unlike the schooling behavior characteristic of juvenile salmon and maturing salmon in nearshore and coastal areas, salmon at sea are widely dispersed (Shuntov 2017). This behavior reduces competitive interactions and makes their feeding, growth, and survival in the ocean more density-independent.

The record numbers and abundance of Pacific salmon can appear to be an imposing load on the North Pacific Ocean ecosystem. Four to five million tons of biomass is not a trivial amount. Of this 40% is hatchery origin, primarily chum salmon. Approximately 5 billion hatchery juveniles are released into the North Pacific annually (Figure 7). However, the North Pacific Ocean is a large marine ecosystem, and the numbers are not overwhelming when put into context of total nekton and forage bases. Not all nektonic prey is available to salmon due to depth distribution; Ayedin (2000) concluded local depletion of prey by salmon can occur as salmon school density increases, even if prey is not depleted over large ocean areas. This is an important point in understanding regional differences in changes in size at return.

The sustained high marine abundances of both natural- and hatchery-origin salmon over the past 25 years indicates that the trophic structure has not been altered in some way that inhibits salmon productivity. We agree with the conclusion of Shuntov et al. (2017): “... the role of salmon in the trophic webs of subarctic waters is rather moderate. Therefore, neither pink nor chum salmon can be considered as the species responsible for the large reorganization in ecosystems and the population fluctuations in other common nekton species.”

V. Competition and density dependence versus density independent responses

An intuitive concern with the high abundance of salmon in the context of ocean carrying capacity is that density-dependent competition for limited prey resources may affect growth and survival of salmon populations. Pink, chum, and sockeye salmon have substantial overlap in their diets (Davis 2003, Brodeur et al. 2007) and the latter two species have been shown to switch to other, “lower-quality” prey when pink salmon are abundant (e.g., Davis 2003). High abundance of pink salmon in the Gulf Alaska has been associated with growth and size at return of chum salmon, sockeye salmon, coho salmon, Chinook salmon, and pink salmon themselves (e.g., Agler et al. 2011; Jeffrey et al. 2017; Ruggerone et al. 2003, 2018; Shaul and Geiger 2017; Wertheimer et al. 2004a). Reduced growth can result in lower size-at-age, shifts in age at maturity for species spending multiple years at sea, and reduced fecundity, which can affect productivity of salmon populations. Ruggerone et al. (2003) ascribed large reductions



in marine survival of Bristol Bay sockeye salmon to the impact of Asian pink salmon on the sockeye salmon growth at sea. The concern for density-dependent competition is not new; Peterman (1984) found evidence of density-dependent interactions between Fraser River and Bristol Bay sockeye salmon. This was at a time when salmon abundance had not expanded to current levels and when hatchery fish made up a low proportion of the abundance and biomass. As salmon abundance and biomass increases, Aydin (2000) concluded that density-dependent interactions could result in negative feedback loops on prey availability in the ocean ecosystem.

Despite the existence of competitive interactions in the marine environment, high abundance and biomass have not resulted in consistent negative trends in salmon size or productivity. Ruggerone et al. (2018) reported that average size has declined for chum salmon and pink salmon since 1925, but not for sockeye salmon (Figure 8). Most of the size decline for pink and chum salmon occurred prior to 1977, which would suggest that pre-1977 regime change conditions were more important than density dependent interactions. Size of pink salmon and sockeye salmon remained stable during the recent period of high abundance, while chum salmon showed some continued decline. Jeffrey et al. (2017) reported similar results for average sizes of British Columbia pink, chum, and sockeye salmon since 1951. Pink salmon declined initially in size, and then have remained relatively stable since the 1990s at a size that is 20-30% less than in the 1950s and 1960s. There was little change over the time series in the average size of sockeye salmon. Regional differences have certainly been observed. For example, Wertheimer et al. (2004) found evidence of size declines in PWS pink salmon in relation to pink salmon abundance in the GOA, while. Shaul and Geiger (2017) reported that pink salmon size has increased in Southeast Alaska in recent years.

Helle et al. (2007) found that body-size of pink, chum, and sockeye salmon from Alaska to Oregon generally declined in after the 1977 regime shift as salmon abundance increased, until 1994. After 1994, body size of these species generally increased, during a period when biomass and abundance was at sustained high levels. They attributed the initial decline to density-dependent competition, and the lack of relationship of abundance to size in the latter period as an outcome of favorable ocean conditions. They concluded that the carrying capacity of the North Pacific Ocean for producing Pacific salmon is not a constant value and varies with changing environmental and biological factors.

In their study on size of British Columbia salmon, Jeffrey et al. (2017) examined the relationship of size trends to estimates of salmon biomass in the North Pacific Ocean. They found that the biomass of North American pink salmon entering the Gulf of Alaska was the most important biomass variable in explaining size variation in BC pink salmon. The direction of the effect was negative, suggesting intraspecific competition was affecting size. For chum salmon, combined biomass of North American pink, sockeye, and chum salmon was the most important biomass variable explaining size variation. The direction of the effect was negative, suggesting some degree of competition among these congeners. Biomass of North American chum salmon was the most important biomass variable explaining size variation in sockeye salmon. Adding Asian chum salmon to this (or combined measures of biomass) did not improve the fit. The direction of the effect was positive, indicating that when chums are abundant, growth conditions for sockeye are positive.

These associations (and lack of associations) between ocean abundance and size at return of Alaska and British Columbia salmon indicate that while competition can affect size and growth, density-

independent ocean conditions drive the variability in abundance and can override the impacts of density-dependent competition. We reiterate the findings of Radchenko et al. (2018) that generally, no significant correlations occur among pink salmon growth rate, stock abundance, or zooplankton standing crop.

Reduced survival and productivity of wild stocks in Alaska have been attributed to competitive interactions with Asian pink salmon (Bristol Bay sockeye salmon; Ruggerone et al. 2003) and hatchery pink salmon (PWS pink salmon; Hilborn and Eggers 2001). Alternate analyses and recent trends have refuted these conclusions. In Bristol Bay sockeye salmon, Ruggerone et al. (2003) estimated reduced survivals of even-year sockeye salmon smolts from Bristol Bay at 23-45% less than odd-year smolts for the 1977 to 1997 smolt years. Even-year smolts enter the ocean when odd-year pink salmon are on average more abundant. They concluded that competitive interactions with Russian pink salmon reduced growth of even-year smolts, and resulted in substantially lower average smolt survival. However, the abundance of Russian pink salmon was highly variable over the time period for both odd and even year lines. When pink salmon abundance was considered in a time series analysis of the survival data, rather than using odd/even year average survival, there was no discernable effect of pink salmon abundance on survival (Wertheimer and Farley 2012). Subsequent to the 1997 smolt year, both Asian pink salmon and Bristol Bay sockeye salmon increased in abundance, and a marine survival index for Bristol Bay sockeye salmon smolts was positively associated with abundance (Farley et al. 2018.) Thus increasing biomass of Asian pink salmon has not constrained the continued high productivity of Bristol Bay sockeye salmon.

In PWS, Hilborn and Eggers (2000) concluded that hatchery production provided no net benefit in terms of pink salmon harvest, but was simply replacing wild production through density-dependent interactions. However, Wertheimer et al. (2004a, 2004b) showed that a density-independent index of marine survival explained much of the variability in wild pink salmon productivity, and that there was a large net benefit from enhancement to the PWS pink salmon harvest, albeit with some reduction in wild stock production attributed to the effects of size at return on fecundity. Amorosa et al. (2017) also showed large net gains from hatchery production, albeit lower than would be expected from the authors own argument for proportionate increases in wild pink salmon production following the 1977 regime shift. They minimize the contribution of hatchery fish in PWS by focusing on changes in the common property fishery, dismissing the annual cost-recovery harvest of an average of eight million pink salmon in their evaluation of benefits. The cost-recovery harvest is important to the fisheries economy of PWS, and an important benefit of the enhancement program (Pinkerton 1994). The recent analysis of productivity of PWS pink salmon for the re-certification of sustainability of PWS pink salmon showed continued sustained production of wild stocks during the hatchery era (Figure 9; Gaudet et al. 2017). The historical record returns of wild pink salmon in 2013 and then again in 2015 are particularly demonstrative that wild stocks in PWS retain their high production capacity after 40 years of hatchery enhancement.

Our discussion thus far has focused primarily on the abundance trends of pink, chum, and sockeye salmon, which combined make up most of the biomass of salmon in the North Pacific Ocean. Besides interactions among these species, there is concern that their high overall abundance is negatively impacting coho and Chinook salmon (Ruggerone et al. 2018).



The commercial harvest of coho salmon averaged 1.5 million fish from 1970-1977, then increased rapidly following the 1977 regime shift, peaking at over 9 million in 1994. From 1995 until 2017 the harvest has ranged from 3 to over 6 million fish annually, averaging 4.5 million, with no apparent trend during this period (Figure 10). Approximately 22% of the commercial harvest during the latter period has been produced from Alaska hatcheries. Recreational harvest has increased in recent years, and averaged 1.2 million fish from 2007-2017 (M. Stopha, ADF&G, personal communication).

Mallick et al. (2008) examined marine survival of 14 stocks of coho salmon in Southeast Alaska. They found evidence of effects on marine survival at local, regional, and basin scales. There was high covariation in survival regionally, and no trend was noted over the recent time period. Abundance of juvenile hatchery releases in the year coho smolts went to sea was identified as affecting marine survival, but the effect could be positive or negative, depending on stock. This result exemplifies the complex competitor/predator interactions that have been posited for coho and pink salmon. Negative impacts of large hatchery releases could indicate competition for prey resources or aggregation of prey (Beamish et al. 2018). Positive influences could be a result of “predator sheltering,” where the abundant hatchery juveniles act as a buffer on predation on the less abundant, larger coho smolts (Holtby et al. 1990; Briscoe 2004; LaCroix 2009). Abundant hatchery fry and juveniles could also provide an important forage base for coho salmon. Coho salmon juveniles are a major predator of juvenile pink salmon in nearshore marine areas (Parker 1971, Hargreaves and LeBrasseur 1985) and as adults when returning to coastal areas as the juvenile pink salmon emigrate towards the ocean (Sturdevant et al. 2012).

Shaul and Geiger (2017) showed a negative trend in marine survival in recent years for Berners River coho salmon which they related to ocean biomass of North American pink salmon. They attribute the negative impact to predation of pink salmon on squids that are the major prey for coho salmon in offshore areas. They propose that pink salmon are keystone predators of squid, exerting top-down control and thus directing the energy flow in the system. In contrast, Aydin (2000) concluded that the squid, with its high biomass and productivity, was controlling energy flow to salmon. Aydin (2000) found that squid abundance, while highly variable, had increased greatly (as did salmon) after the 1977/1978 regime shift. That squid abundance increased commensurate with salmon abundance indicates the species were responding similarly to the increased productivity in the North Pacific (Brodeur and Ware 1992). Aydin (2000) also found differences in odd and even year distributions of squid in the North Pacific, which could contribute to the odd/even differences in coho salmon size observed by Shaul and Geiger (2017).

If pink salmon impacts on squid were driving marine survival for coho salmon, we would also expect decreasing trends in abundance and marine survival for coho salmon over the 1995-2015 time period of high pink salmon abundance. Instead, catch has been stable, and marine survival declines, at least in southeast Alaska, are a recent phenomenon. Commercial harvest data for coho salmon and pink salmon show very strong correlation annually (LaCroix et al. 2009). If density-dependent interactions were primary, we would expect negative correlation. The correlation is actually strongly positive; from 1960 – 2017, it had an r value of 0.82 ($P < 0.001$; Figure 10). Because returning adult coho and pink salmon have roughly the same period of time in the marine environment, this indicates that shared ocean conditions are driving their year-class strength.



Size trends in coho salmon have varied regionally, with very different relationships to ocean salmon biomass. Shaul and Geiger (2017) found that size at harvest of coho salmon in southeast Alaska increased from 1970 until 1984, then declined from 1985 to 2015. They associated the decline with an index of the biomass of North American pink salmon. Their model did not indicate direct competition, but rather lagged effects at 2- and 4- years affecting the population dynamics of the squid (*Berryteuthis anonychus*). The lag response model requires that the squid have an obligate two-year life-history cycle as proposed by Jorgensen (2011). This is contradicted by other literature, which characterizes *B. anonychus* as an annual species with high productivity (Katugin et al. 2005, Drobney et al. 2008). Aydin (2000) cites studies showing that *B. anonychus* is highly productive, and spawns twice a year.

Regardless of mechanism, coho salmon size has declined in Southeast Alaska. In contrast, coho salmon body size has increased in British Columbia in recent years. Jeffrey et al. (2017) showed coho body weight declined from the 1950s, and did not reach its minimum until around 1985. Since then it has increased and is now at the highest level in the data series. The combined biomass of North American pink, sockeye, and chum salmon was the most important biomass variable explaining size variation in coho salmon, and had a positive effect on size. The authors speculate that the positive relationship may be driven by environmental conditions, which when favorable allow for greater total biomass of salmon species and higher growth (thus larger size) in coho salmon. Shaul and Geiger (2017) and Jeffrey et al. (2017) both use basin-scale measures of environmental conditions in their models exploring factors affecting coho salmon size. The contrasting results for Southeast Alaska and British Columbia are indicative of the variability in response of different populations to these conditions. This may be caused by different migration patterns in the ocean environment, or different local and regional responses of availability of salmon forage to basin-scale environmental factors.

The recent disastrous returns of Chinook salmon in Alaska has precipitated considerable focus on the least abundant but (on a fish by fish basis) most highly valued salmon species (ADF&G 2013). Chinook salmon have a highly varied and diverse life history, generally more complex than other Pacific salmon exemplified by numerous variations in run and spawn timing, freshwater biology, ocean distribution and behavior patterns, diet, slower ocean growth, and older age at maturity (Healey 1991). In the eastern North Pacific most juvenile Chinook salmon from Oregon to Southeast Alaska remained within 100-200km of their natal rivers until their second year at sea, regardless of their freshwater history (sub-yearling or yearling) and spring, summer, or fall adult run timing (Trudel et al. 2009). Healey (1983) reported that most fall type Chinook salmon tend to remain continental shelf and slope oriented during much of their ocean life history whereas many spring type fish spend much of their ocean life in more offshore waters. In recent years, based on coded-wire tag recoveries, it was found that many Alaska spring-type Chinook salmon also utilize slope and continental shelf waters as immature adults. Coded - wire tagged Chinook salmon from Southeast Alaska (SEAK) and Cook Inlet frequently are recovered in Bering Sea Aleutian Island and Gulf of Alaska trawl fisheries for Walleye Pollock (Meyers et al. 2001; Celewycz et al. 2006).

Marine habitats of Chinook salmon related to depth distribution and migration patterns are diverse and often distinct from most other Pacific salmon. Juvenile Chinook salmon distribute deeper than coho and other juvenile salmon in their first summer and fall at sea (Orsi and Wertheimer 1995; Beamish 2011). Immature Chinook salmon are associated with colder temperatures and deeper depths than other salmon species (Walker et al. 2007; Walker and Myers 2009; Riddell et al. 2018). Diel vertical migrations have

been documented in a number of data storage telemetry studies, with movement to greater depths during daylight hours (Radchenko and Glebov 1998; Murphy and Heard 2001; Walker et al. 2007). One Chinook salmon tagged in the Bering sea typically was between the surface and 100 m depth, but occasionally moved to depths in excess of 350 m (Walker and Meyers 2009).

Marine diets of Chinook salmon are distinctly different than diets of pink, chum, and sockeye salmon and more similar to coho salmon (Brodeur et al. 2007; Riddell et al. 2018). Juvenile (first-ocean year) Chinook salmon in coastal waters initially have highly varied diets composed of fish, zooplankton, and insects, then become predominately piscivorous in costal habitats (Brodeur et al. 2007). Fish made up from 65% to 99% of stomach contents by weight for juvenile (ocean- age 0) Chinook salmon sampled within the inside and outer coastal waters of SEAK (Landingham et al. 1998; Weitkamp and Sturdevant 2008). Fish were also the primary prey for immature (mostly ocean-age 1) fish in SEAK (Cook and Sturdevant 2013), coastal British Columbia (Herz et al. 2017), and northern and southern Bering Sea (Farley et al. 2009). Primary prey species included capelin, sand lance, lanternfish, and Pacific herring. In more offshore habitats, Chinook salmon consume primarily fish and squid, although euphasids can make up a substantial portion of their diet (Davis 2003; Shuntov et al. 2010; Karpenko et al. 2013). Herring and sandlance dominate the diets of older immature and maturing Chinook salmon (ocean-ages 2+) in coastal waters (Reid 1961; ATA 2016), with sandlance the dominant prey in outside waters of southeast Alaska and herring the dominate prey in inside waters (ATA 2016).

Run sizes increased across AK after the 1977 regime shift, and were variable but consistently above average until a precipitous decline starting in 2006 (Figure 11). This decline was consistent with reduced marine survival of southeast Alaska stocks after the 2000 and 2001 brood years (ADF&G 2013; Ohlberger et al. 2016; CTC 2018). Thus the decline began well after the current period of high biomass of salmon in the ocean started (Figure 1), and well after hatchery releases into the North Pacific peaked and stabilized at 5 billion per year in 1988 (Figure 7).

Size at maturity and age at maturation has declined over the last three decades for Alaska Chinook salmon stocks from southern Southeast Alaska to the Yukon River (Lewis et al. 2017). The size declines are coincident with high abundances and biomass of the Big Three (pink, chum, and sockeye salmon). Could competitive interactions with the Big Three be driving the decline? There are several lines of evidence that indicate this is not the case.

First, the differences in marine ecology we noted in the preceding paragraphs suggest that Chinook salmon, by their propensity to utilize deeper depth strata and distribute more broadly on shelf and slope areas during marine residency, are segregated to a large degree from other salmon in their use of ocean habitats with correspondingly different temperatures, prey fields, and predator complexes. These differences are exemplified by the growth differences of Chinook salmon and coho salmon in their first winter at sea. Although approximately the same size in the fall, by the following year coho salmon of the same ocean cohort are over three times larger than Chinook salmon (Riddell et al. 2018).

Second, while Lewis et al. (2017) found predominately declining size for older (ocean age 3 and 4) Chinook salmon, size of ocean age 2 fish has generally not changed over the time period (Figure 12). If competition was driving the size decline, competition should be most intense for the younger age Chinook salmon, which have a more extensive overlap in size and type of prey with other salmon. Also, lower ocean growth in Pacific salmon is typically associated with shifts in age distribution towards older



ages (Hard et al. 2008), but instead average age at maturity has declined. Thus there has not been an apparent decline in growth of 1-ocean and 2-ocean age Chinook salmon during the “high abundance” period.

Third, British Columbia Chinook salmon have been increasing in average size over this time period (Jeffrey et al. 2017). These authors found a positive relationship between biomass of North American salmon and British Columbia Chinook salmon average size, indicating that size was a function of the same favorable ocean conditions sustaining the record overall biomass.

Size declines of Chinook salmon are not new in Alaska waters; Ricker (1981) found a significant decrease in size of Chinook salmon harvested in the SEAK troll fisheries from 1960 to 1974, and identified selective fishing for older, larger fish as a factor in the decline. Research by Hard et al. (2009) and others indicate selective harvesting of large older age groups of Chinook salmon can introduce reductions in fitness and cause genetic drift in growth, size, and age of maturity due to the heritability of these characteristics. However, fishing alone does not explain the decline across the geographic range of Alaska Chinook salmon, because the degree to which populations are exposed to directed selective fishing varies considerably across the range. It also does not explain the sudden decline in marine survival, as fishing pressure and exploitation rates in the ocean have not increased (CTC 2018b).

Another large predator besides humans also target larger, older Chinook salmon. Resident killer whales have been found to preferentially feed on larger Chinook salmon (Olesiuk et al. 1990; Hanson et al. 2010). In northern British Columbia and southern Alaska waters killer whales have increased at annual rates of 2.9% and 3.5%, respectively (Hilborn et al. 2012; Matkin et al. 2014), more than doubling their abundance since the 1970s. Intense predation on larger fish, coupled with lower marine survival, could contribute to the changes at size at age and age at maturity of Alaska Chinook salmon.

There is substantial evidence that much of the variation in Chinook salmon marine survival is due to conditions in the first summer and winter at sea (e.g., Greene et al. 2005; Duffy and Beuchamp 2011; Sharma et al. 2013; Murphy et al. 2017). Local conditions encountered by juvenile Chinook salmon during early marine residency thus play an important role in determining year-class strength. However, the concordant trends in survival across such a broad geographic range indicate that large-scale processes are affecting stocks across regions. Increasing populations of pinnipeds could also be affecting early marine survival. Chasco et al. (2017) estimated predation on juvenile Chinook salmon by pinnipeds in Puget Sound had increased an order of magnitude from 1970 to 2015, and was now, expressed as adult equivalences, more than six times greater than the combined commercial and recreational catches in Puget Sound.

For Pacific salmon species that spend multiple years at sea, annual marine survival generally increases with size and age (Ricker 1976). For cohort reconstruction of Pacific northwest and SEAK Chinook salmon, natural mortality is assumed not to vary interannually and to decrease with ocean age, from 40% for ocean-age 1, 30% for ocean-age 2, 20% for ocean-age 3, and 10% for ocean-age 5 or older (Sharma et al. 2013; CTC 2018b). These assumptions are simplistic and undoubtedly not always correct, but there is little information to better inform the assumptions. Changes in the North Pacific ecosystem, such as increased killer whale populations, could introduce more mortality at older ages, and further depress realized survival during periods of poorer environmental conditions for Chinook salmon.



VI. Conclusions

In spite of concerns over exceeding the carrying capacity of the ocean, Alaska salmon have been at unprecedented levels of abundance over the past 25 years. Conditions influencing survival in the ocean, rather than density-dependent interactions, seem to be driving both the high abundance at the basin-scale and the high variability in salmon populations at local and regional scales. The Alaska salmon harvest over the past 25 years has been characterized by sustained high production from wild stocks and large contributions of hatchery fish. Enhancement has made large net contributions to supplement wild stock harvest in some areas of the state. Density-dependent interactions have been observed at different life history stages of salmon and in nearshore and oceanic habitats during this period, but have not constrained the recovery of Alaska salmon from its nadir in the 1970's, or its sustained high abundance. Rather, density independent responses to climatic factors affecting ocean conditions appear to have largely driven the high and variable productivity of Alaska salmon.

Recent climatic and oceanographic events such as the marine heat waves of 2004/2005 and 2014/2015 in the Gulf of Alaska are demonstrative of the intrinsic variability of ocean conditions affecting salmon at local and regional scales. Will density-dependent interactions become increasingly important if and when ocean conditions become less favorable to salmon? Would then large releases of hatchery fish put wild stocks in more jeopardy? Or will hatchery fish provide a buffer to sustain fisheries when wild stock productivity is low in response to varying environmental conditions? The enhancement program in PWS offers empirical support for the latter concept. Even during the recent period of generally high productivity, wild pink salmon production in PWS has fluctuated dramatically (Figure 9). In 2009, wild stock harvests were below one million fish, while over 17 million hatchery fish were harvested. By focusing harvest on hatchery fish, managers met escapement goals (Gaudet et al. 2017). Subsequently, both hatchery and wild pink salmon set new historical highs for harvest and production in 2013 and 2015. Large releases and returns of hatchery pink salmon in years of both low and high wild stock abundance did not limit the production potential of the wild stocks.



Authors

Alex Wertheimer retired after 35 years working for the National Marine Fisheries Service Fisheries as a Fisheries Research Biologist in Alaska. He has carried out research and published extensively on salmon in Alaska on issues including salmon enhancement technology and strategies, hatchery and wild salmon interactions, bycatch mortality of Pacific salmon, the impact of the Exxon Valdez oil spill on salmon in Prince William Sound, and the nearshore and pelagic marine ecology of Pacific salmon. He was a member of the science team that wrote the Alaska Genetic Policy, the National Oceanic and Atmospheric Administration (NOAA) Biological Review Team assessing status of Chinook salmon in the Pacific northwest, and the Chinook Technical Committee of the Pacific Salmon Commission. He was awarded the Wally Nuremberg Award for Fisheries Excellence by the American Fisheries Society Alaska Chapter. Upon retirement in 2009 after 35 years of Federal service, he received the NOAA Distinguished Career Award. Since retirement, he has continued to consult on scientific studies and reviews, including forecasting of Pacific salmon, quantification of by-catch mortality, and the Pacific Salmon Recovery Plan. He currently serves on the Pacific Salmon Commission's Standing Committee on Scientific Cooperation and on the Science Panel overseeing the Alaska Hatchery Research Program. He is the President of the Board of Directors of the Southeast Alaska Land Trust, and is a member of the Board of Directors for DIPAC, Inc., a major non-association private non-profit hatchery based in Juneau. He was supported in his work on this paper by the Northern Southeast Alaska Aquaculture Association.

William (Bill) Heard retired in 2012 after 52 years of Federal Service as Fishery Research Biologist. Much of his career was with NOAA Fisheries Alaska Fisheries Science Center's Auke Bay Laboratories, but he also worked for the U.S Fish and Wildlife Service Bureau of Commercial Fisheries and Bureau of Sport Fisheries and Wildlife. He did extensive research and published frequently on Alaska salmon and other fishes. Bill authored or co-authored peer reviewed publications on all five species of North American Pacific salmon. For over 35 years he supervised research at Little Port Marine Research Station focused on enhancement technology and ecology of pink, coho and Chinook salmon. He actively participated on many technical committees and focused groups involved with Alaska, National, and International salmon issues, including Governor Jay Hammond's Fisheries Council concerned with policies and development of salmon hatcheries in Alaska, North Pacific Fishery Management Council Plan Development Team for Fishery Management Plan (FMP) on salmon fisheries, Pacific Salmon Commission (PSC) Northern Boundary Technical Committee, North Pacific Anadromous Fish Commissions (NPAFC) Committee on Scientific Research and Statistics (CSRS) and U.S.-Japan Natural Resources (UJNR) Aquaculture Panel involved with salmon hatcheries in Japan. Participating in NPAFC, PSC, and UJNR afforded opportunity for travel to most North Pacific rim countries with populations of salmon including Russia and Republic of Korea. Bill received five awards for research excellence in fisheries from ADF&G, Alaska Chapter American Fisheries Society, U.S. Department of Commerce Bronze Medal Award, NOAA Fisheries Employee of the Year and NOAA Fisheries Distinguished Career Award. He was an Affiliate Associate Professor, University of Alaska Fairbanks, School of Fisheries and Ocean Sciences.

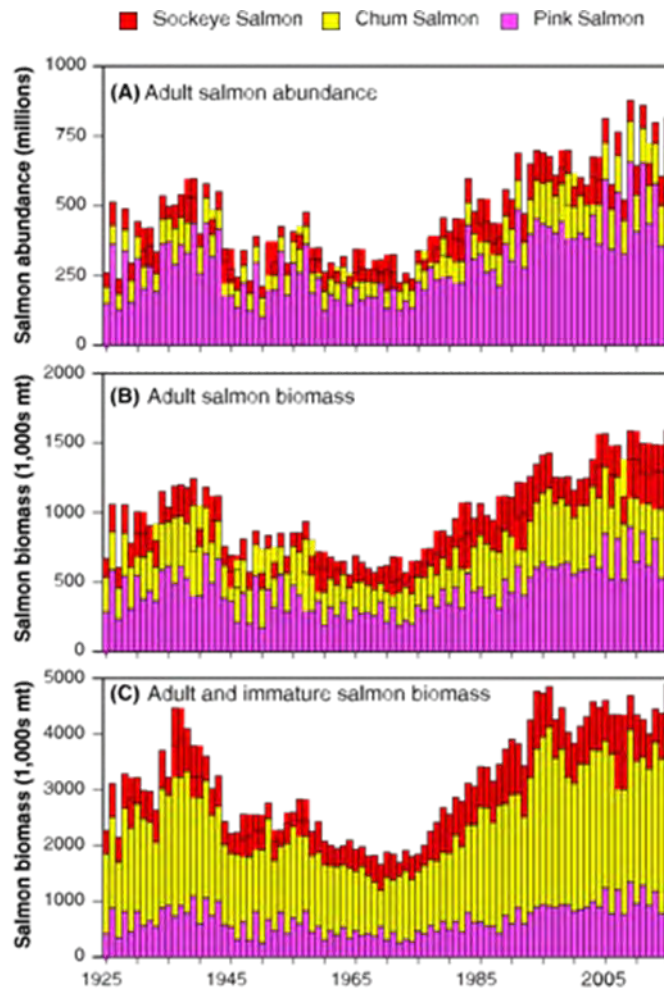


Figure 1. (A) Abundance (millions of fish), (B) adult biomass (thousands of metric tons), and (C) adult and immature biomass (thousands of metric tons) of Sockeye Salmon, Chum Salmon, and Pink Salmon in the North Pacific Ocean, 1925–2015. From Ruggerone and Irvine (2018).

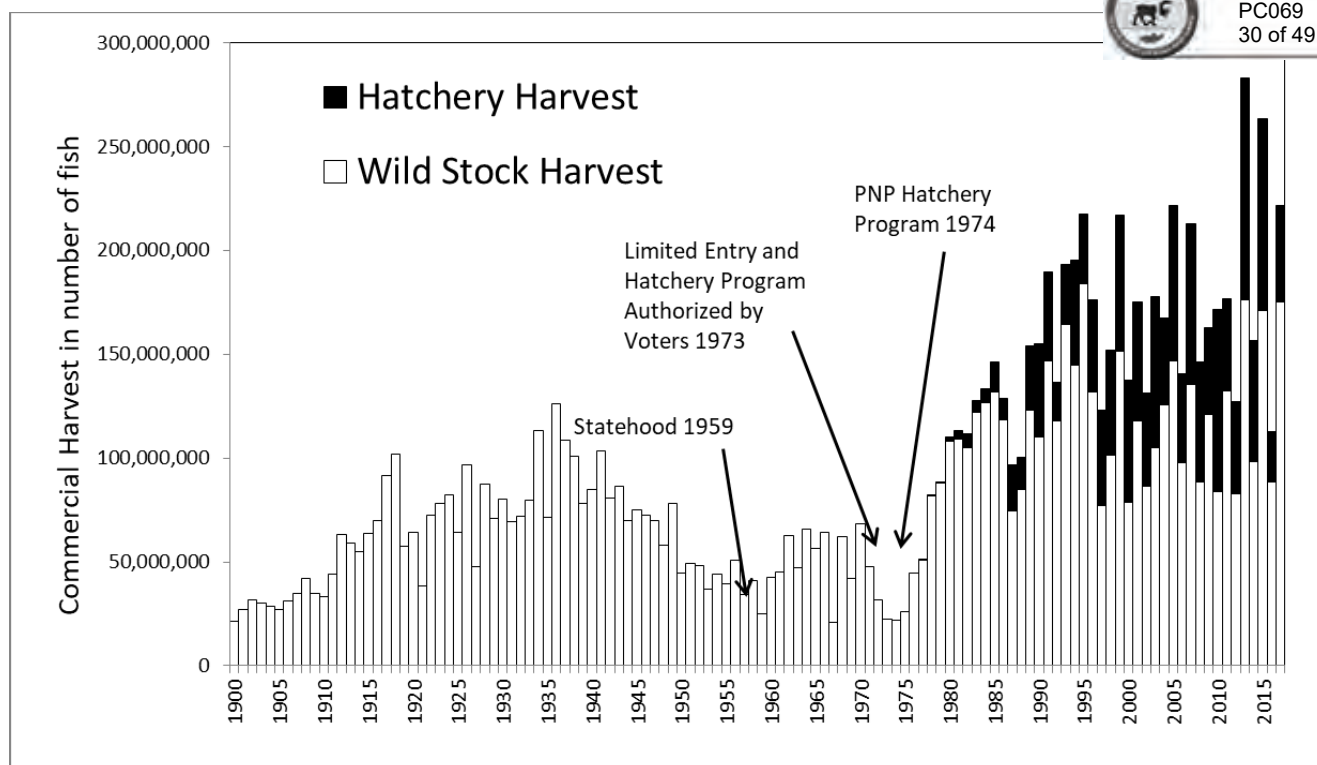


Figure 2. Commercial salmon harvest in Alaska, 1900-2017. From Stopha (2018).

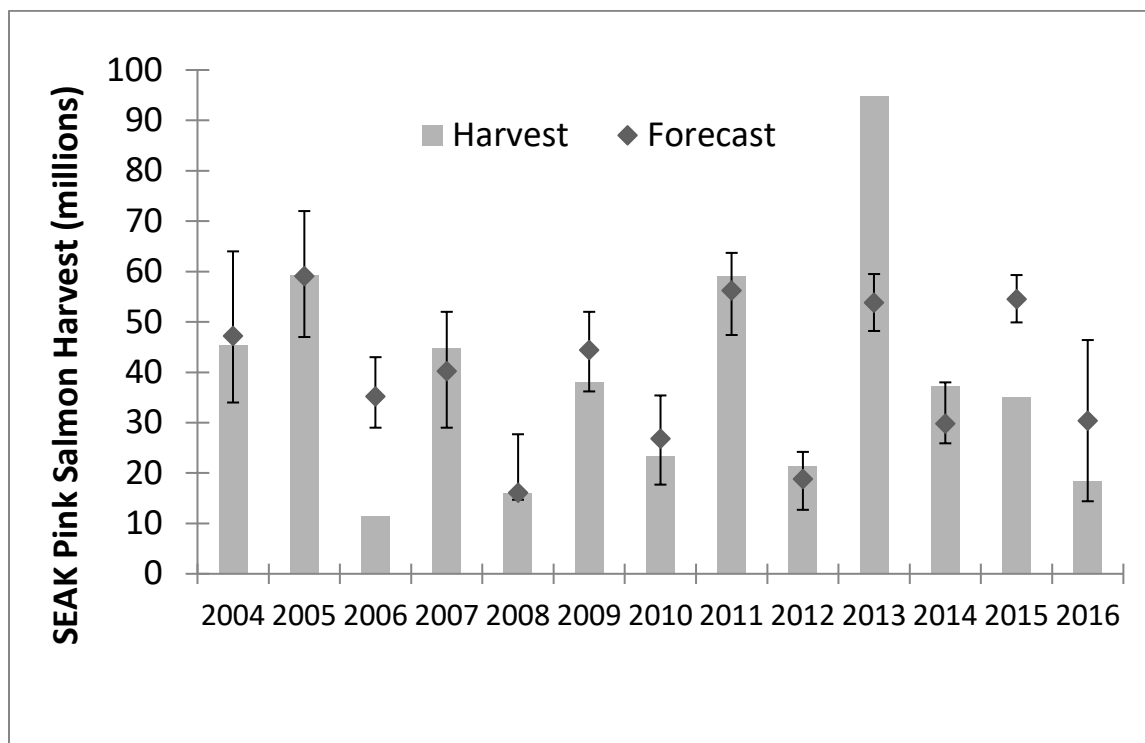


Figure 3.—Southeast Coastal Monitoring (SECM) project pink salmon harvest forecasts for Southeast Alaska (SEAK; symbols), associated 80% confidence intervals (lines), and actual SEAK pink salmon harvests (grey bars), 2004-2016.

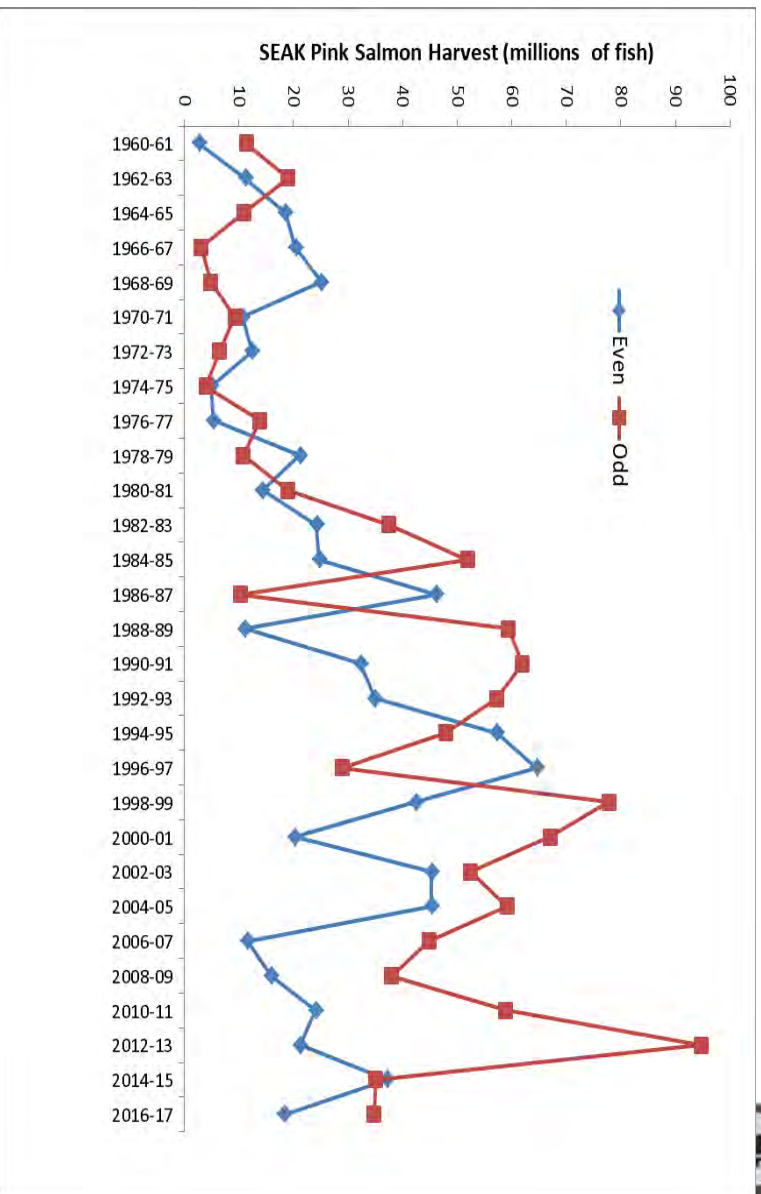


Figure 4. Even- and odd-year harvests of Southeast Alaska pink salmon, 1960-2017. Data are from Alaska Department of Fish and Game catch statistics.

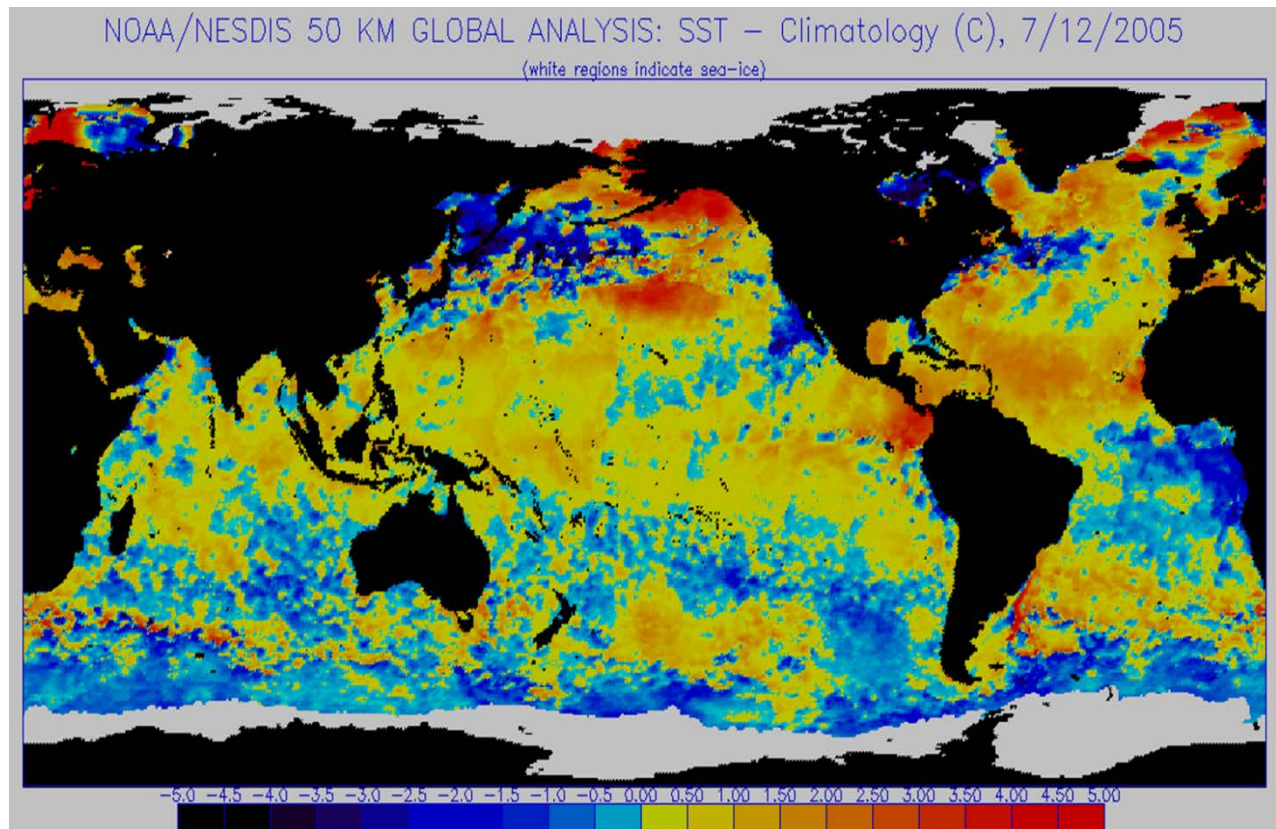


Figure 5. Sea surface temperature anomalies, July 12, 2005. NOAA Satellite and Information Service, National Environmental Satellite, Data, and Information Service (NESDIS)
<http://www.osdpd.noaa.gov/PSB/EPS/EPS.html>

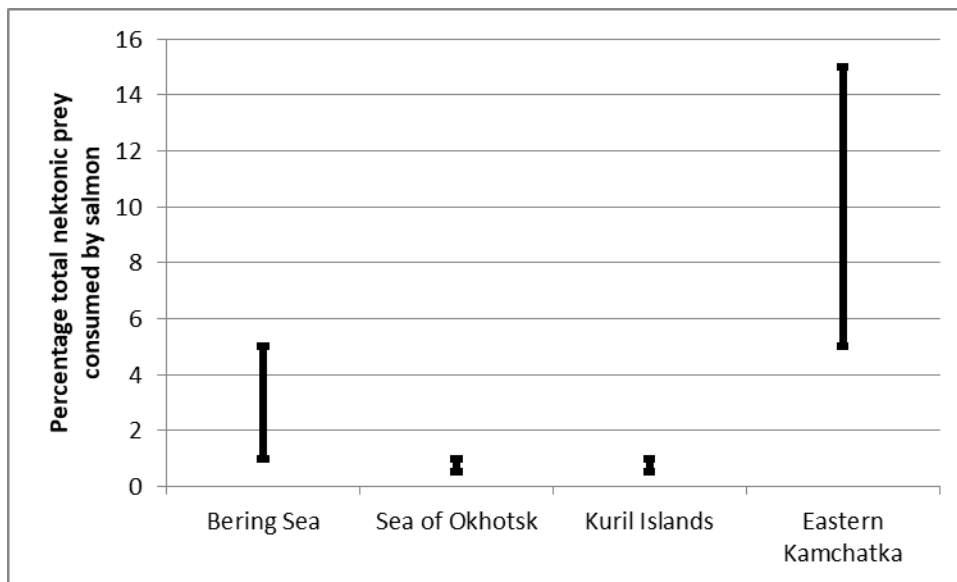


Figure 6. Percentage total nektonic prey consumed by salmon in the western North Pacific Ocean. Estimates are from Shuntov et al. (2017).

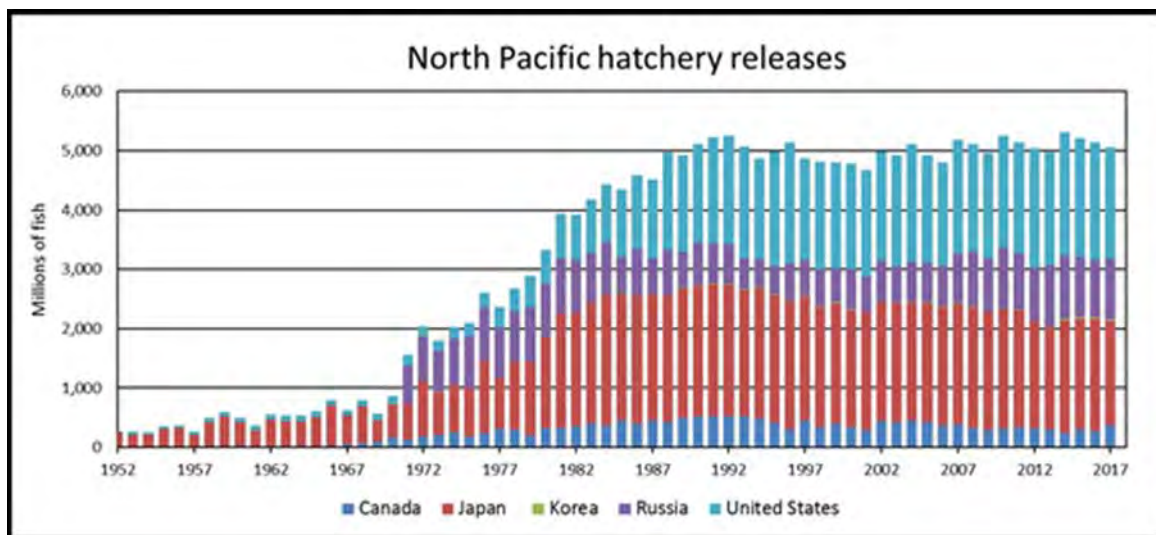


Figure 7. Hatchery releases of salmon into the North Pacific Ocean, 1952-2017. Source: North Pacific Anadromous Fish Commission.

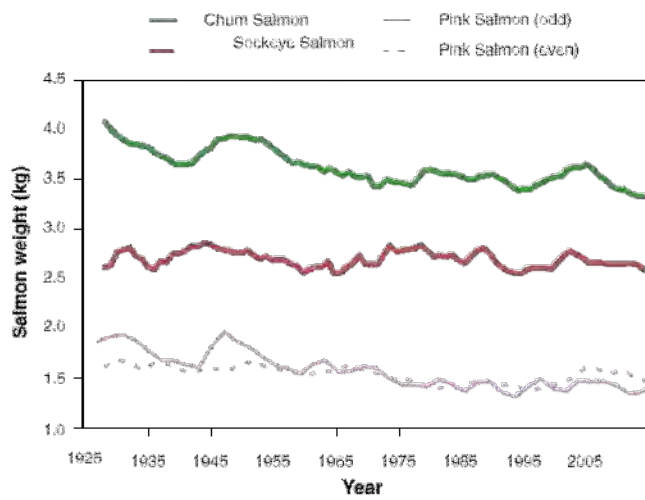


Figure 8. Average weight of pink salmon, chum salmon, and sockeye salmon captured in commercial fisheries, 1925-2015. From Ruggerone and Irvine (2018).

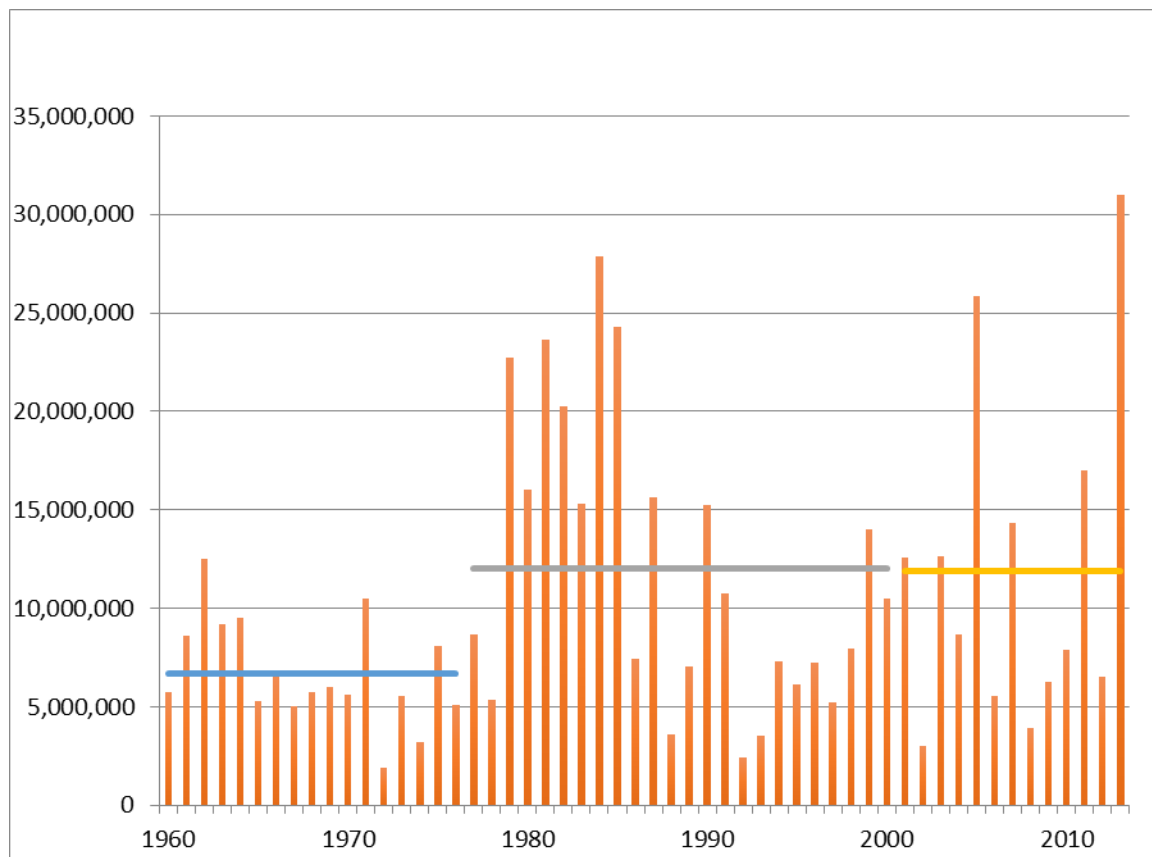


Figure 9. PWS Wild Pink Salmon Production for 1960-2013. Lines indicate average production for pre-hatchery years (1960–1976) and two hatchery time periods: 1977–2000 and 2001–2013. From Gaudet et al. (2017).

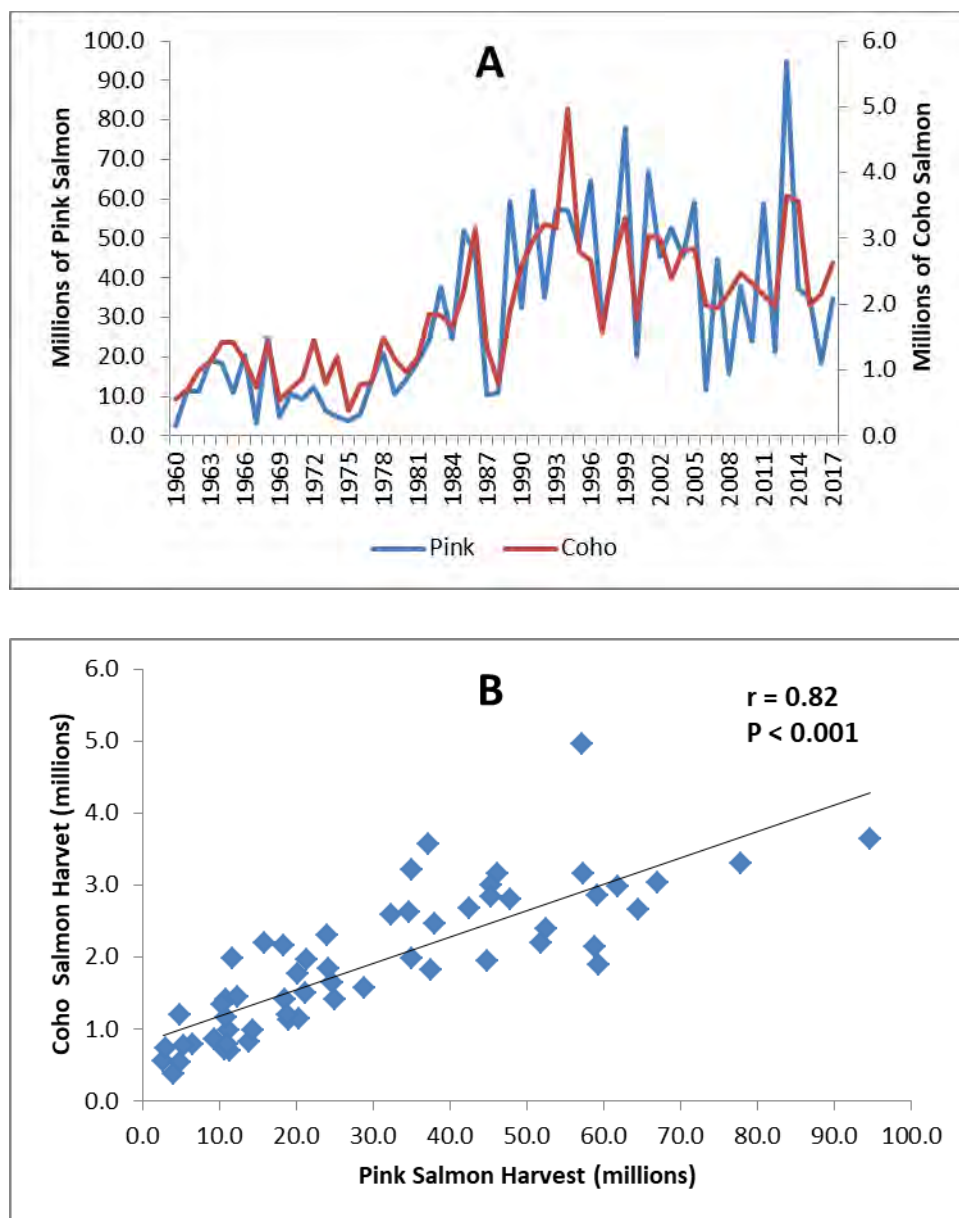


Figure 10. Commercial harvest of Southeast Alaska pink and coho salmon, 1960-2017 (A), and their correlation (B). Data are from Alaska Department of Fish and Game catch statistics.

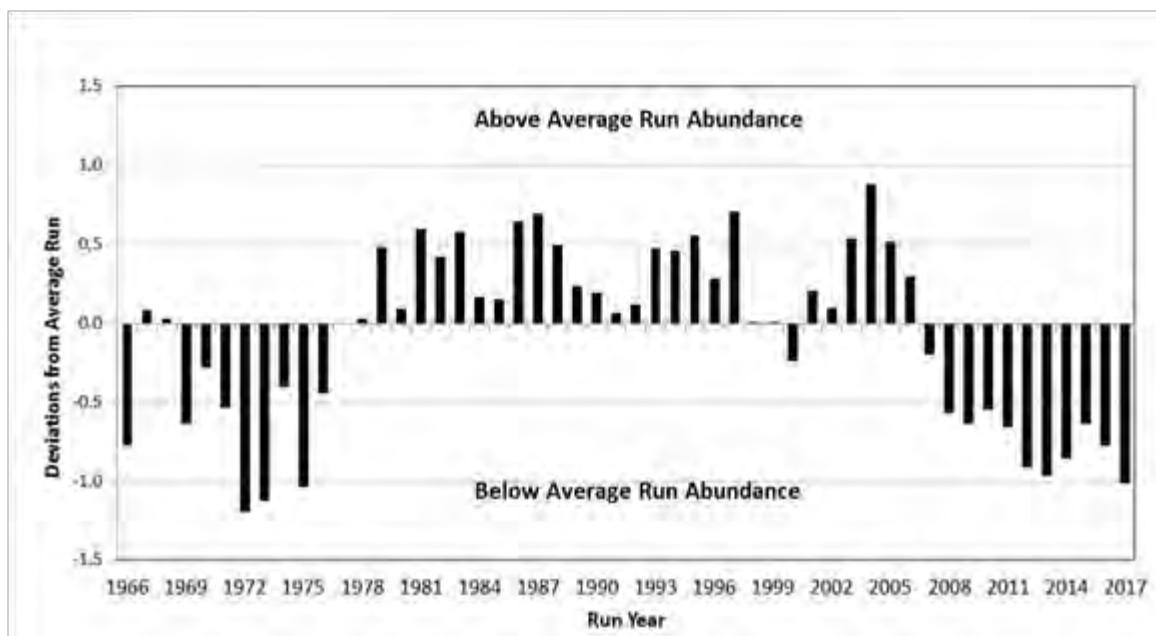


Figure 11—Average of standardized deviations from average run abundance for 21 stocks of Chinook salmon in Alaska (the Unalakleet, Nushagak, Goodnews and Kuskokwim in western Alaska; the Chena and Salcha on the Yukon River; the Canadian Yukon, the Chignik and Nelson on the Alaska Peninsula; the Karluk and Ayakulik on Kodiak Island; the Deshka, Anchor and late run Kenai in Cook Inlet, the Copper in the northeastern Gulf of Alaska, and the Situk, Alsek, Chilkat, Taku, Stikine, and Unuk in Southeastern Alaska). From CTC (2018a).

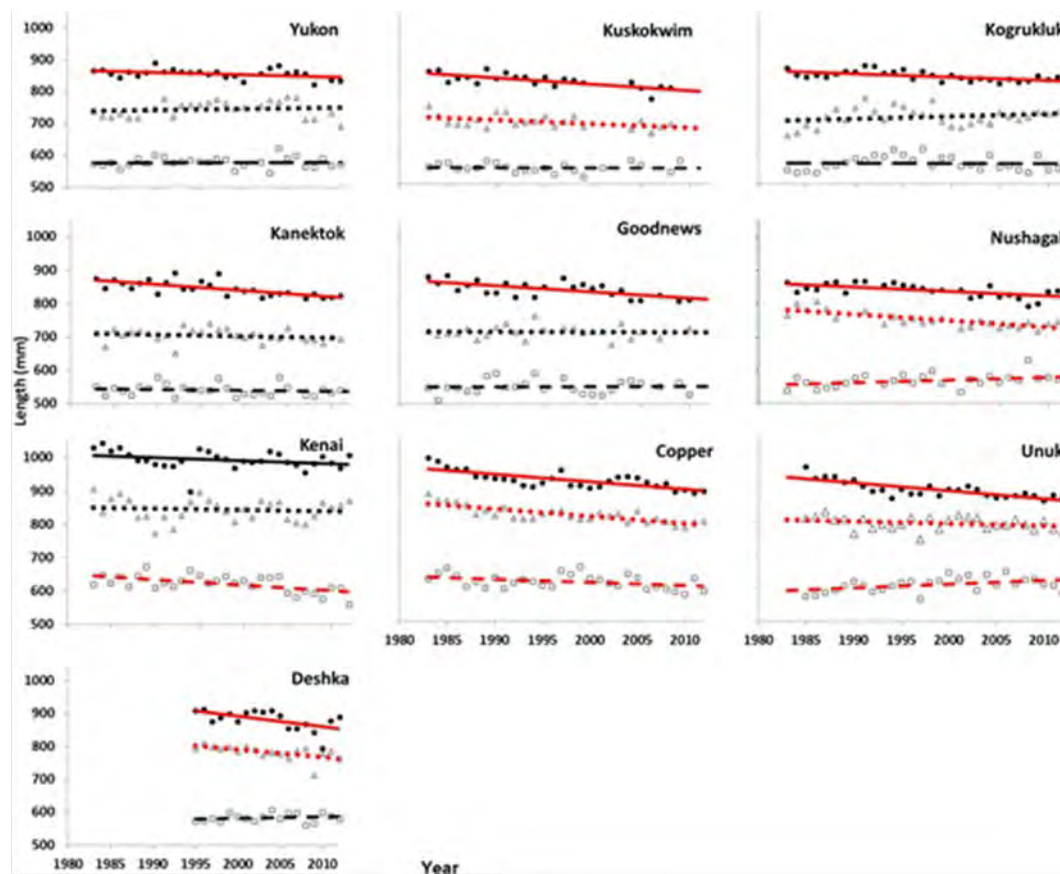


Fig 12. Linear regression of mean annual length (mm) Chinook salmon by stock, age class, and year. Closed circles and solid line = 4-ocean; triangles and dotted line = 3-ocean, open square and dashed line = 2-ocean. Red lines indicate slopes significantly different from zero ($P < 0.05$). From Lewis et al. (2017).



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Ocean Beauty Seafoods LLC
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(206) 285-6800



October 2, 2018

Alaska Board of Fisheries

John Jensen, Chair

Via email: dfg.bof.comments@alaska.gov

Dear Chairman Jensen,

Ocean Beauty Seafoods (OBS) LLC is an Alaskan seafood processor with five processing facilities located in coastal Alaska: Naknek, Alitak, Kodiak, Cordova, and Excursion Inlet. Our company has operated for over 100 years in Alaska. 4 out of the 5 facilities are operate seasonally for the summer salmon runs and rely heavily on pink and chum salmon to provide volume for the plant to run efficiently.

This letter is written in response to ACR-1 and ACR-2 mentioning hatchery production of Salmon. OBS does not support either of these ACR's. Both are aimed at impugning hatchery activities without recognizing ADFG regulatory process for hatcheries or understanding the economic ramifications ARC-2 would impose upon coastal Alaska. We ask the Board of Fisheries to move forward with the Joint Protocol by learning more about the Alaska Hatchery Program through regularly scheduled updates.

Alaska salmon processors compete in a world market that is very competitive. Based on reported catches the Russian pink harvest in 2018 was nearly 8 times as large as the 2018 Alaskan pink catch. Our industry must have volume to support fisherman, tenderman, and processors who depend on salmon to provide for their families. We cannot merely raise prices of salmon processed to offset lost volume because we would be non-competitive with fisheries in other countries. The Alaskan communities where Ocean Beauty operates heavily depend upon commercial harvests of summer salmon runs. Communities with a strong economic foundation are conducive business environments for all associated parties in commercial fishing: harvesters, processors, and vendors for fisheries supplies. Fish produced via hatcheries contribute to economic foundation of these communities.

Economic data compiled by the McDowell Group show:

- Hatcheries account for 4,700 jobs and \$218 million in local labor income.
- Income earned from hatchery related harvest reaches more than 16,000 individuals (processors, fishermen, tendermen, and hatchery workers).



When deciding on possible long-term capital investments, a key determining factor is the business foundation of the local community. Hatcheries, through jobs and the fish created, have been contributors to solid community foundations in coastal Alaska. Without the volume of fish that hatcheries produce, the cost of production of all salmon species will increase and the ex-vessel value our fisherman and communities depend on will be lost.

It is common for most to think hatcheries just contribute to commercial harvests. In fact hatcheries have not only enhanced commercial runs, but personal use and sport fish have also benefited. Again referring the McDowell report from 2012-17:

- 17% of sport Coho harvest was of hatchery origin.
- 13% of sport Sockeye harvest was of hatchery origin.
- 8% of sport Chinook harvest was of hatchery origin.

McDowell points out that these numbers are very conservative due to limited sampling. Again hatchery programs in the state of Alaska produce fish that benefit the following stakeholders: commercial, sport, and subsistence.

OBS urges the Board of Fish to continue to take no action on ACR's 1 and 2. OBS supports revisiting the process outlined in the Joint Protocol on Salmon Enhancement #2002-215 FB.

Mark Palmer

Mark Palmer

President/CEO

Ocean Beauty Seafoods LLC



PSPA

PACIFIC SEAFOOD PROCESSORS ASSOCIATION

Est. 1914

October 3, 2018

Alaska Board of Fisheries
John Jensen, Chair
Via email dfg.bof.comments@alaska.gov

RE: ACR 10 to Close Sitka Sound commercial sac roe herring fishery

Chairman Jensen and Board Members:

Thank you for the opportunity to comment on ACR 10 for the Alaska Board of Fisheries (Board) October work session. As stated, this proposal would close the Sitka Sound commercial sac roe herring fishery until regional herring stock status improves, additional research on herring is conducted, and the amount necessary for subsistence is met in at least three consecutive years. **PSPA opposes ACR 10.**

PSPA is a nonprofit seafood trade association representing seafood processing businesses and their investment in coastal Alaska, including three shorebased processors located in Ketchikan and Sitka. In addition to shorebased processors, fishermen, tenders, support vessels, support businesses, transportation companies, the City and Borough of Sitka, and the State of Alaska (through fish taxes) are dependent on the direct and indirect economic activity that the commercial herring fisheries provide.

PSPA most recently commented on several proposals relevant to this fishery in January, which proposed modifying the existing GHL formula used by ADFG and expanding the closed water areas for the commercial sac roe herring fishery in Sitka Sound. The Board approved an increase to the closed water areas in consideration of subsistence interests at that time, and this is in addition to significant changes made to the fishery by ADFG, the Board, and the commercial herring fleet in order to meet similar concerns in the past several years. The closure was not insignificant, as it closed an additional four miles of fishable waters available to the commercial fishery.

The Sitka Sound sac roe herring fishery alone has generated a total of \$70 million in ex-vessel revenue over the last decade, and supports a fishery in which the vast majority of permit holders are Alaska residents. Closing this fishery would substantially impact many fishermen (48 permit holders) and processors reliant on the fishery. These businesses rely on science-based and sustainable fisheries management and are invested in the future of this fishery. ADFG recognizes that current harvest rates for the herring population were designed to be conservative and sustainable based on comprehensive historical data. Variable annual biomass trends are not an indicator of poor management, a stock collapse, or need for a fishery closure, but are accommodated in the existing process to set harvest rates using the best available data. Alaska's commitment to sound science is clear through allowing these data and the expertise of fishery scientists and managers to drive decision-making and regulate fisheries



appropriately and responsively. In the previous Board meeting, ADFG conveyed that the current harvest strategy is based on the best scientific information available to Alaska and contains conservation provisions to protect herring stocks and their role in the ecosystem.

Absent a scientific basis for doing so, it is not reasonable to approve ACR 10 to allocate the herring resource to one user group, but to continue to use our existing process to determine harvest rates and manage the commercial fishery sustainably and in concert with subsistence needs. Importantly, we must recognize that ADF&G currently manages the herring fisheries to be responsive to the concerns and needs of subsistence users both inside and outside of closed waters, and has not only the authority, but is directed to, distribute the commercial harvest, by time and area, as necessary to ensure a reasonable opportunity to harvest ANS for herring spawn.

Thank you for your consideration of our comments and for your public service.

Sincerely,

Nicole Kimball
PSPA – Anchorage



PSPA

PACIFIC SEAFOOD PROCESSORS ASSOCIATION

Est. 1914

September 27, 2018

Alaska Board of Fisheries
John Jensen, Chair
Via email dfg.bof.comments@alaska.gov

RE: Comment on ACR 1 and 2 regarding hatchery permits

Chairman Jensen and Board Members:

Thank you for the opportunity to comment on two ACRs before the Alaska Board of Fisheries (board) at the October work session. ACR 1 mirrors two previous failed emergency petitions and requests that the board reverse a 2014 ADFG decision to modify an existing permit to allow an increase in the number of pink salmon eggs taken by Valdez Fisheries Development Association (VFDA) at the Solomon Gulch Hatchery in 2018. ACR 2 requests that the board cap statewide private non-profit salmon hatchery egg take capacity at 75% of the level permitted in 2000. **PSPA opposes both petitions and requests that the board not approve the agenda change requests.**

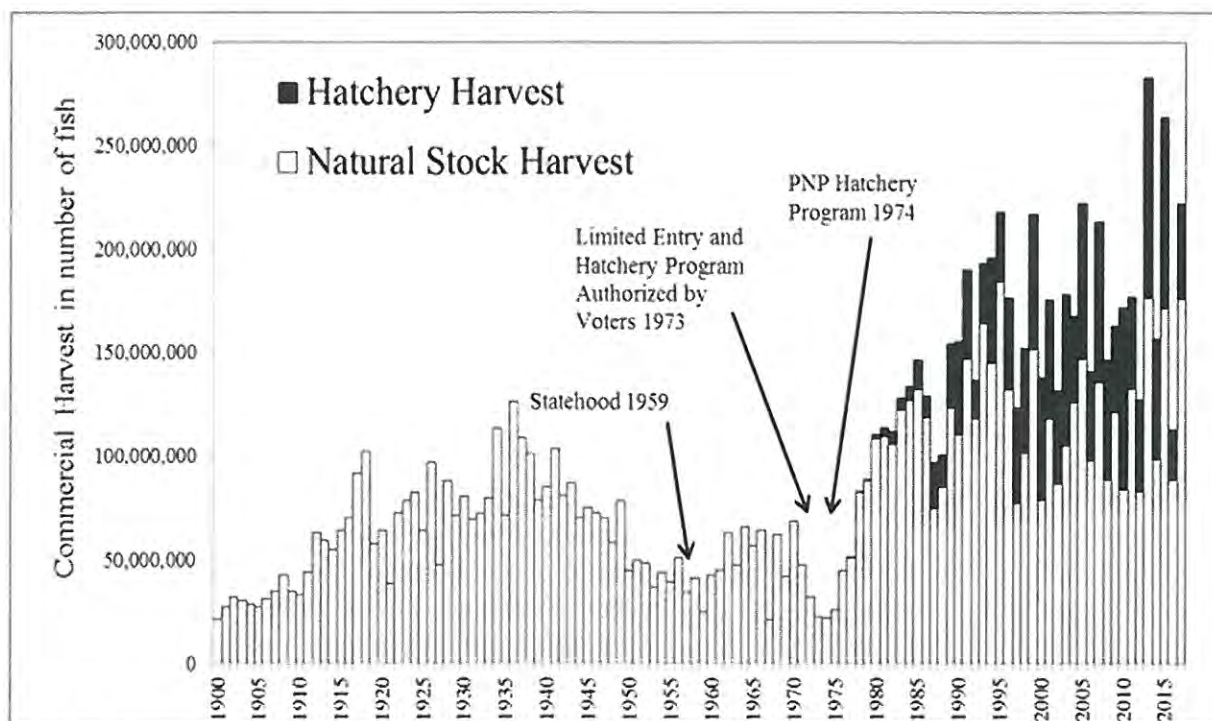
PSPA is a nonprofit seafood trade association representing seafood processing businesses and their investment in coastal Alaska, including three shorebased processors located in Prince William Sound (Cordova and Valdez), four in southeast Alaska (Wrangell, Sitka, Ketchikan), and two in Kodiak. The history and importance of the unique salmon enhancement program in Alaska to these and other communities' stability, as well as the livelihoods of thousands of Alaskans, seems to be lost in the details of the discussion over permitting.

The State of Alaska established the hatchery program in 1971—at a time when Alaska's salmon returns were at historic lows—to provide for more stable salmon harvests and bolster the economies of coastal communities that would not otherwise have viable economies (see figure below). Alaska lawmakers authorized private nonprofit corporations (PNP) in 1976 to operate salmon hatcheries, an exemplary example of state and private partnerships. The state invested significant resources into carefully and deliberately building this program in response to severely depressed commercial fisheries, and it was designed to supplement natural production, not replace it, and to minimize interactions with naturally occurring populations of salmon. Salmon produced by the program remain wild and come from local, wild stocks. Many of these programs are now integral to the Pacific Salmon Treaty which directly affects sport and commercial salmon fisheries of Alaska.

A testament to the program is that commercial pink and chum salmon fisheries improved greatly in response, both wild and hatchery-origin production, which follow similar annual trends (see figures below). **In 2017, the commercial fleet caught about 47 million hatchery-produced salmon worth an estimated \$162 million in ex-vessel value.** The program remains a model of success across the nation, both in its design and use of private non-profits to maintain its objectives at very little cost to the state.



It is for these reasons that it seems incomprehensible to undermine this critical piece of our coastal, fisheries economy in response to specious claims, and create additional regulatory and operational instability for Alaska fishery businesses.



Source: ADFG.

Hatchery pink and chum salmon are crucial for Prince William Sound and Southeast processors because they represent the volume necessary to keep plants operating, in addition to wild stock salmon and other species such as halibut, black cod, and Pacific cod. Only in this way can they remain viable and provide markets not just for salmon fishermen, but for all other commercial fishermen. Processors and harvesters have made significant long-term investments in processing plants and their fishing businesses, respectively, based on this program and permitting decisions. In addition, tenders, support vessels, support businesses, transportation companies, sportfish businesses, and community governments (through fish taxes) are just as dependent on the direct and indirect economic activity that the hatchery programs provide.

Per ACR 1, Seward, Valdez, and Cordova have multiple large and small seafood processing operations, and VFDA directly benefits harvesters and processors in the region by providing a relatively stable supply of pink salmon. The commercial fishery brings over 900 seine captains and crew members to Valdez for the VFDA pink fishery, and hundreds more processing workers. In 2017, 28.5 million hatchery-produced salmon harvested in the Prince William Sound commercial common property fishery accounted for 57% of the total common property commercial catch in the region, with an ex-vessel value of about \$76 million. This is in addition to the sport and subsistence harvests of hatchery-origin salmon that occur in the region. A recent McDowell report (2018) indicates Prince William Sound hatcheries account for 2,200 jobs, \$100 million in labor income, and \$315 million in total economic activity.



ACR 1 is the same petition previously addressed by the board, which did not demonstrate that the approved increase in 2014 of the number of pink salmon eggs to be harvested in 2018 was an unforeseen, unexpected event that threatens a fish or game resource per criteria under 5 AAC 96.625(f). ADFG demonstrated this in letters to the petitioners as of May 10 and June 14, and in responses to the board, and the board agreed. Now that emergency criteria are no longer applicable, submitters continue to ask the board to undo an action in 2014 that underwent a rigorous and public process driven by the Alaska Sustainable Salmon Policy.

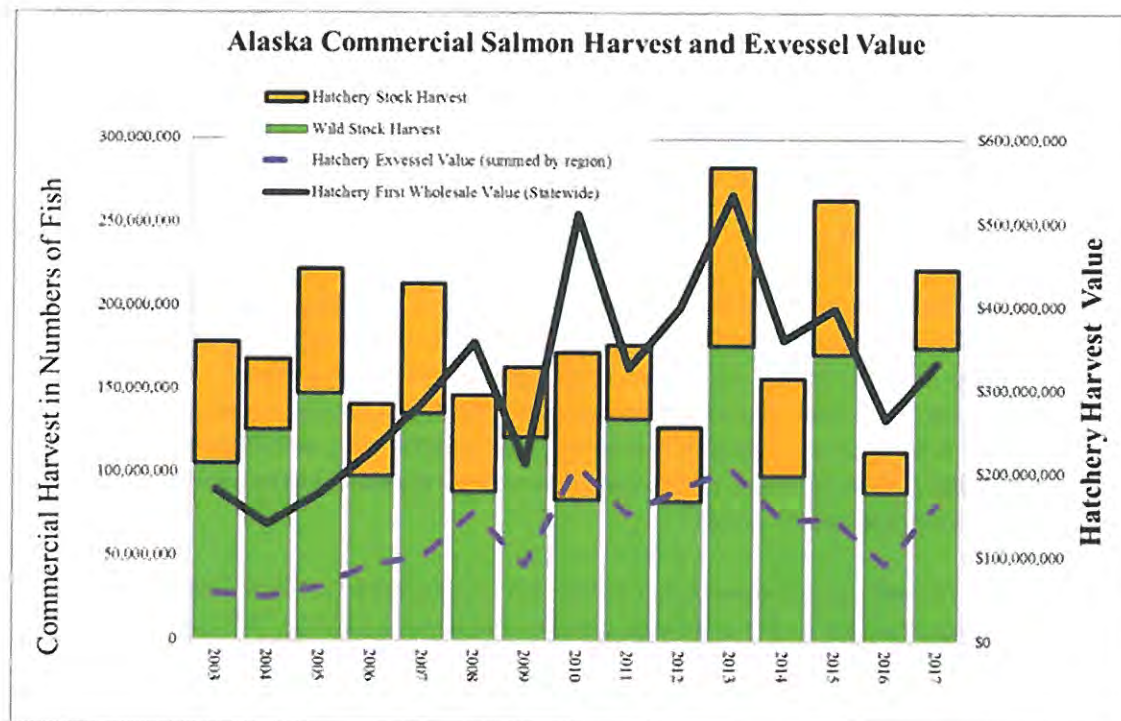


Figure 4.—Hatchery and wild stock harvest in numbers of fish and the estimated exvessel and first wholesale value of the hatchery fish harvest, 2003–2017.

An increase of 20 million eggs in 2016 and 2018 was approved in 2014 as an incremental increase over a four-year period, with no previous production increases since 1991. The approval of the permit alteration in 2014 recognized that policies and regulations were adopted to mitigate concerns associated with straying of hatchery fish, and significant, multi-year, inter-agency research implemented by the Prince William Sound Science Center and Sitka Sound Science Center has been underway to determine the degree to which hatchery pink and chum salmon straying is occurring, including the range of interannual variability in the straying rates, and an examination of the genetic structure of pink and chum salmon in Prince William Sound and Southeast Alaska and the impact on productivity of these salmon.¹ This research is a direct response to the value that hatchery production provides to Alaska and the mandate that hatchery production be compatible with sustainable productivity of wild stocks, and thus was instigated and supported by ADF&G, the university, the fishing industry, and private hatchery operators. The research plan and objectives were developed by a science panel with broad experience in

¹ http://www.adfg.alaska.gov/index.cfm?adfg=fishingHatcheriesResearch.current_research



salmon management, and wild and hatchery interactions, comprised of current and retired scientists from ADF&G, the University of Alaska, aquaculture associations, and National Marine Fisheries Service. Annual progress reports on data collection and analysis are provided on the ADFG website relating to the three overall research objectives described above. For example, PWS field research in 2017 was focused on pink salmon fitness (relative survival of hatchery-origin and wild-origin offspring following natural spawning). The final 2017 report on PWS pink salmon fitness was published in late April 2018, which indicates that hatchery fractions calculated for 2017 were overall generally consistent among high run years for pink salmon in sampled streams in PWS (2013, 2015, and 2017).² The report also notes that results comparing the relative survival of hatchery and wild-origin offspring will be available after the last PWS pink salmon field season in 2018 and subsequent DNA tissue analyses are completed in 2019. This is the type of recent, credible, long-term scientific information that should be relied on in assessing impacts of the state's hatchery program. And this *is* the type of information that is relied on by ADFG in an extensive, continuous permitting process that includes public participation and a thorough vetting of hatchery operations for fish health, impacts to fisheries management, and potential genetic interaction with naturally spawning stocks.

Per both ACRs, it should also be recognized that the benefits of the state's salmon enhancement program are wide-reaching and include commercial, sport, personal use, and subsistence fishermen and Alaska communities dependent on fishing. **All of the private non-profits (PNPs) have programs that benefit sport, personal use, and subsistence fisheries, particularly their Chinook, coho, and sockeye salmon programs. Sport fish directed programs are conducted by PNPs from Ketchikan to Kodiak, and on average, about 272,000 Alaska hatchery salmon were harvested annually in the sport and related fisheries during 2012 – 2017 (McDowell, 2018).**

The 2017 Alaska Salmon Fisheries Enhancement Annual Report³ produced by ADFG indicates that in 2017, hatchery fish contributed 21% of the statewide commercial salmon harvest. This is a significant contribution to Alaska's salmon fisheries, even while it is the lowest percentage of hatchery fish in the harvest since 1995. This low percentage was due largely to a very high wild stock harvest that was the 3rd highest in Alaska history (the report notes that 2013, 2015, and 2017 were three of the four highest wild stock returns in Alaska's history dating back to the late 1800s).

Recent economic studies⁴ have shown that during 2012 - 2017:

- Commercial fishermen harvested an *annual* average of 222 million pounds of hatchery origin salmon worth \$120 million in ex-vessel value.
- Hatchery derived first wholesale value represents 24% of total statewide salmon first wholesale value.
- About 10,000 hatchery origin Chinook, 5,000 chum, 100,000 coho, 19,000 pink, and 138,000 sockeye salmon are harvested annually in sport and related fisheries.

² http://www.adfg.alaska.gov/static/fishing/PDFs/hatcheries/research/2017_annual_report_pwssc_hw.pdf

³ http://www.adfg.alaska.gov/fedaids/pdfs/rir.5i.2018.02.pdf?_ga=2.16801777.93909972.1530292352-686289217.1523643770

⁴ Economic Impacts of Alaska's Salmon Hatcheries, McDowell Group, 2018.



- Alaska's salmon hatcheries account for the *annual equivalent* of 4,700 jobs⁵, \$218 million in labor income, and \$600 million in annual economic output.
- More than 16,000 fishermen, processing employees, and hatchery workers can attribute some portion of their income to Alaska's salmon hatchery production.
- Southeast Alaska hatcheries account for 2,000 annualized jobs, \$90 million in labor income, and \$237 million in total annual economic output.
- Prince William Sound hatcheries account for 2,200 annualized jobs, \$100 million in labor income, and \$315 million in total annual economic output.

We appreciate that the board has provided a review and discussion of ADFG's hatchery program for this October work session, and we hope that the board seriously considers the long-term and local effects of these ACRs, and general, non-defensible opposition to a program developed over time to sustain Alaska's salmon economy. Alaska's commercial fisheries have been sustainable and diverse over time because of our commitment to sound science through the use of best available data and the expertise of our fishery scientists and managers to develop and implement needed research to regulate fisheries appropriately. ACRs 1 and 2 undermine this process by asking the Board to override an existing regulatory process and ADFG expertise with respect to the management of hatchery permitting and production levels.

Please continue to uphold the overarching tenets of Alaska's fishery management system and recognize a state program driven by sound science that provides widespread benefits to Alaskans. Please deny ACR 1 and 2, and do not support any action that undermines Alaska's world-class hatchery program.

Thank you for your consideration and your public service.

Sincerely,

Nicole Kimball
PSPA - Anchorage

⁵The employment impact of 4,700 jobs is an annualized estimate; the number of people who earn some income from the harvest of hatchery salmon is 16,000, several times the annual average.



Submitted By
Peter Hamre
Submitted On
10/2/2018 8:45:33 AM
Affiliation

Dear Members of the Board of Fisheries,

I'd like to take this opportunity to comment on the two Agenda Change Requests relating to hatchery production of pink salmon in Prince William Sound. A bit about me – last year I bought a seine vessel and permit in the Sound, and thus began my career as a captain. I'm a lifelong Alaska resident, and have been a commercial and sport fishing advocate since my late teens.

The Agenda Change Requests proposed are indicative of a knee jerk reaction by sport fishing advocates who are, understandably, upset about King Salmon returns to the Kenai river. King Salmon have been declining statewide for over a decade, yet there is no solid evidence that pinpoints the causation of this decline on increased pink salmon. Simply put, there are likely a few reasons for their decline, some of which are in our control, some of which are not.

We are seeing the effects of climate change starting to make major impacts on many of our fisheries, yet there are very few studies available to model the effects upon wild and hatchery raised salmon. Last year saw an 80% reduction in the TAC for Gulf of Alaska cod, which was colloquially blamed on the warm water "blob," and its effect on available forage. At the same time, the last three odd years have produced the strongest WILD salmon runs in our state's history; Area M saw more wild fish than could even be accurately counted. Simply put, it is entirely conceivable that climate change has been an underreported causation of the decline of King Salmon. It's also conceivable that the user group that brought this action forward would assign less authority to a report that linked climate change and declined King salmon returns, because many of their top contributors are known climate change deniers.

The Kenai River Sportfishing Association is an advocacy group that is hell-bent on destroying commercial fisheries in Alaska. They routinely post false or misleading reports to sway ordinary citizens who, as recreational fisherman, are generally somewhat un-educated about fisheries management and science. There is a LOT of things that we can do to improve King salmon returns in Alaska that KRSA hasn't supported or initiated. Why? Because they simply don't want commercial fisherman around. Let me give some examples of other ways that we can boost King salmon returns, that haven't been pursued by KRSA:

1. The State could advocate for NMFS to adopt full electronic monitoring for the Pollock fleet in western Alaska. This would reduce the amount of un-reported or un-retained bycatch, and give them more accurate bycatch caps. Also, NMFS could allow the Pollock fleet to throw back viable salmon that could potentially survive, yet still mark them as bycatch. The commercial fleet WANTS to improve survival of King salmon, yet regulation prohibits them from doing so. This is a real solution that would actually improve King salmon survival, but yet here we are, talking about hatchery pink salmon as if they have single-handedly destroyed King salmon runs.
2. The State could reduce the bag limit of sport-caught King salmon in some areas. There are still areas where the bag limit is 2 per day, all year long. What citizen needs to catch 730 Kings per year? That's one person, making an enormous impact on the resource, with minimal economic impact. We shouldn't downplay the likelihood that this is occurring; it is happening, and I know of people that really make impacts like this. Once again, KRSA and sportfishing advocates turn a blind eye.
3. Adopt regulations that make it illegal to retain King salmon in all state water commercial fisheries in which King salmon are not the target species. King salmon amount to a negligible amount of the catch in most commercial salmon operations, yet are causing major political problems for us. Why not make it illegal to retain them at all? I personally throw all King salmon back into the ocean the minute the seine is rolled aboard, as do many other commercial fishermen. A good percentage of these fish will survive and make the resource stronger.
4. Ban Cook Inlet gillnetters from retaining Kings for home pack. This is a no-brainer. Home pack Kings are grossly under-reported in Cook Inlet, and this needs to change.

In summary of these bulletins, there are many achievable modifications to existing law that would actually improve King salmon returns in a demonstrable way, yet KRSA is proposing that somehow, hatchery pink salmon are the single greatest threat facing King salmon and it isn't worth their time to try to boost King salmon numbers in other, more concrete ways.

Let me address the economics of this proposal. There are around 240 seine vessels fishing in the Sound, each with four to six people working on them. Many of those people support a family, meaning that the seine fishery supports thousands of people, and that's only the

fisherman, not to include the processors, and many others involved in the chain of supply. Reducing the egg take to 75% of 2000 levels would have a disastrous impact on the fishery. We would witness the failure of more than half of the fleet, which would cause a crash of commercial fishing in general in Alaska, as many of the participants are involved in multiple fisheries. Simply put, if the fishery in Prince William Sound is to exist at all, we need robust hatchery returns.

There is also the issue of the whole economy of Alaska. Seiners in the Sound are overwhelmingly Alaska residents, meaning every dollar they make gets poured back into the Alaskan economy, as does the income of their deckhands. We cannot say the same of sportfishing guides on the Kenai, many of whom are out of state, and many of whom don't make enough money to create a meaningful impact upon our economy. It has always been a priority of this state to encourage the proliferation of Alaska resident commercial fisherman, and this focus has made this industry the third strongest in the state. It would be grossly negligent to pull the rug out from under these fisherman, all of whom are heavily capitalized and invested in their industry.

In summary, I urge the Board of Fisheries to reject these Agenda Change Requests. If these are allowed to move forward, not only will thousands of people lose their well-paying jobs, but a dangerous precedent will be set upon some incredibly shaky science. This is not the way we as a state should manage our fisheries.



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September 27, 2018

Alaska Board of Fisheries
John Jenson, Chair
Via email dfg.bof.comments@alaska.gov

RE: ACR 1-Prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017 (5 AAC 24.366). and ACR 2-Cap statewide private non-private salmon hatchery egg take capacity at 75% of the level permitted in 2000 (5 AAC.40.XXX).

Dear Chairmen Jenson and Board Members:

Thank you for the opportunity to comment on Agenda Change Request 1 (ACR 1) and Agenda Change Request 2 (ACR 2) put forth pursuant to the Alaska Board of Fisheries Work Session on October 15th and 16th. **Peter Pan Seafoods, Inc strongly opposes ACR 1 and ACR 2.**

Peter Pan Seafoods is a long-standing processor of Alaska's seafood. We have processing facilities in King Cove, Port Moller, Dillingham and Valdez as well as fisherman support facilities at Sand Point, False Pass and Naknek. We have been processing in Prince William Sound since 1988. Our operations are intricately tied to and supported by the communities in which we reside. The health of these communities and our industry is dependent on sound management that protects the health of Alaska's fishery resource.

KRSA submitted an agenda change request to Prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017 (5 AAC 24.366). All private non-profit hatchery permit alterations regarding hatcheries in Alaska, including that by VFDA of a 20 million additional egg take, follow a vetted and transparent public process. Each request is reviewed by a panel of industry members from ADF&G, hatchery organizations, and private industry members to provide a recommendation whether to approve or deny the alteration. Each industry member thoroughly reviews the potential impacts the permit alteration could have on the fishery locally, as well as the surrounding fisheries.



The Alaska Hatchery Research Project, funded in partnership with the state, hatchery organizations and the processing industry, is a groundbreaking study to provide conclusion to many unanswered questions regarding salmon in Alaska. Specifically, the interaction between wild and hatchery raised pink and chum salmon. The three major questions to be answered are the current status and effects of the genetic stock structure, straying of hatchery bred salmon, and overall impact on fitness of wild pink and chum salmon. This study takes years to collect, review, and conclude the findings. To assume the interaction of wild and hatchery bred salmon is harmful before the results have been released is not using sound judgment or decision making. ACR 1 and ACR 2 rely solely on assumptions and are not scientifically supported.

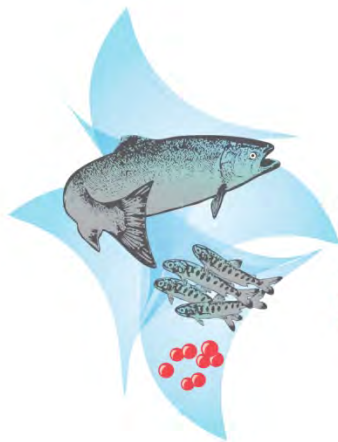
ACR 1 and ACR 2 potentially have remarkable economic impacts directly effecting the harvesting and processing sectors, as well as communities. Over 900 captains and crew are in Valdez during the period when the fishery is targeting VFDA pinks. All engaged in the fishery are supporting the grocery stores, hardware stores, and restaurants in the community. This activity is synonymous for all communities that benefit from hatchery production throughout Alaska. To reduce and destroy hatchery production that has already been approved through a public and transparent process would be detrimental to the communities and livelihoods of the individuals that rely on these fisheries.

Peter Pan Seafoods, Inc thanks you for your consideration and encourages you to oppose ACR 1 and ACR 2.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mike Simpson".

Mike Simpson
Dir. Of Alaska Operations



Prince William Sound
Aquaculture Corporation
DEVELOPING SUSTAINABLE SALMON FISHERIES
FOR ALASKA AND THE WORLD



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October 1, 2018

Alaska Dept. of Fish & Game
Alaska Board of Fisheries
PO Box 115526
1255 W. 8th Street
Juneau, AK 99811
Via email: dfg.bof.comments@alaska.gov

RE: Oppose ACR 1 & ACR 2, Board of Fisheries Work Session October 16-16, 2018

Dear Chairman Jensen and Board Members,

The Prince William Sound Aquaculture Corporation (PWSAC) is a regional nonprofit hatchery organization operating five hatcheries, four on the westside of Prince William Sound and one on the Gulkana River, raising all five salmon species. Three of the hatcheries operated by PWSAC are owned by the State of Alaska, and operated under professional service agreements.

Two ACR's regarding hatchery production have been submitted for board consideration. PWSAC does not support either of the ACR's, and encourages the Board of Fisheries to instead schedule regular updates on hatchery production, permitting, scientific research, and fishery contributions as part of the regular three-year cycle.

PWSAC was founded in 1974 by local fishermen to support the regional economy after several years of low salmon returns prevented commercial fishing. The organization is governed by a board of forty-five members who represent diverse users. Our board has representation from the following groups:

- Commercial Fishermen (Seine, Drift Gillnet and Set Gillnet)
- Sport Fishermen
- Subsistence Fishermen

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- Personal Use Fishermen
- Prince William Sound Municipalities
- Alaska Native Organizations
- Scientists
- Salmon Processors

Today, PWSAC is Alaska's largest hatchery organization employing 45 full time staff members and 75 seasonal workers located in Cordova, Anchorage and at our remote hatcheries in Prince William Sound and Gulkana. The organization has a total budget of \$14.2 million which is funded by salmon enhancement taxes and cost recovery fish sales. PWSAC employs many professionals with advanced scientific degrees, while simultaneously providing early career opportunities for those interested in fisheries science and management. Salmon reared by PWSAC are harvested by all user groups in Prince William Sound and on the Copper River including commercial, sport, personal and subsistence users.

Economic data from 2017 compiled by the McDowell Group, indicates that PWSAC has a total economic impact of \$192 million annually, supporting 1,405 jobs. On Average, PWSAC produces \$49 million in ex-vessel value annually and \$122 million in first wholesale value. Fish from PWSAC operations are harvested by sport, personal use and subsistence fishermen. The primary species harvested by these user groups are coho, sockeye, king and chums. From 2012-2017 over 40,000 cohos were harvested, which is equal to roughly 2,200 daily bag limits annually. Sockeye are harvested in abundance by these user groups with a total of 54,000 fish harvested annually. Residents from Fairbanks, Anchorage, Mat-Su and Copper Valley are the primary beneficiaries. Assuming an average family of four eats 40 sockeye per year, this means nearly 5,400 Alaskans eat PWSAC produced sockeye annually.

According to a recent study by the McDowell Group, the Alaska Hatchery Program has a significant economic impact statewide, supports residents in many coastal communities as well as Anchorage, Mat-Su and Fairbanks, and benefits all user groups. Hatchery production statewide provides \$120 million in ex-vessel value annually, with over \$361 million in first wholesale value. The total economic impact from this production is estimated at \$600 million and supports 4,700 jobs statewide. A total of 16,000 fishermen, processing employees and hatchery employees can attribute a portion or all their income to hatchery operations, with thousands more in the support sector benefiting from this production. Other user groups also benefit from hatchery production. Due to limited data collection on sport, personal and subsistence users it is currently estimated that 10,000 Chinook, 5,000 Chums, 100,000 Coho, 19,000 Pink and 138,000 Sockeye are harvested annually by these user groups.

ACR 1- *Prohibit Valdez Fisheries Development Association from incubating, rearing and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.*

This topic has been before the board of fisheries several times in 2018. Multiple emergency petitions have been filed and each has been rejected by both ADF&G and the board. As noted in previous discussions regarding this topic, the concerns raised by the supporters have been around since the inception of the program. These concerns have been addressed through out the history of the program with ADFG scientists and others. This approach by supporters is an attempt to subvert the ADF&G's regulatory process and authority which is based on science and applies a precautionary principle in setting hatchery policy.

The basis for this request appears to come from a recent paper title "Numbers and Biomass of Natural and Hatchery Origin pink salmon, chum salmon, and sockeye salmon in the North Pacific Ocean 1925-2015" which

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discusses salmon populations in the Pacific. The paper highlights that pink salmon are the most abundant species in the Pacific, representing 67% of the adult biomass. The paper also states that hatchery production of pink salmon represents only 15% of the pink salmon in the Pacific while natural-origin production is high due to favorable ocean conditions. Natural-origin pink salmon make up 85% of the pink salmon in the Pacific, and of those over 55% come from Russia which is the largest producer of pink salmon. In total, hatchery origin salmon represent 28% of the total adult biomass according to the study when accounting for all species.

The paper does not conclude that hatchery pink salmon production should be reduced or indicate that doing so would in any way improve marine survival for either wild pink salmon or other salmon species. We are unable to follow the logic of the proposers, which seems to be that Alaska should give up very significant benefits to commercial, sport, subsistence, and personal use fishermen and Alaskan communities for no discernable benefit. Even the papers cited by the proponents don't support or suggest the actions proposed. The paper makes the following recommendations: 1) Mark or tag hatchery salmon so that they can be identified after release, 2) estimated hatchery and natural-origin salmon in catches and escapement, and 3) maintain these statistics in publicly accessible databases. These recommendations are already incorporated into the Alaska Hatchery program.

ACR 2- *Cap statewide private non-profit hatchery egg take capacity at 75% of the level permitted in 2000.*

ACR 2 fails to define any fishery conservation purpose or reason for the request. The implications of this sort of drastic action are far reaching and would have a significant impact on the Alaska seafood industry and all users of the salmon resource.

PWSAC production levels stabilized in 1981 and have remained relatively stable for many years. In 1997, PWSAC was permitted to take 566 million pink salmon eggs; today PWSAC is permitted to take 525 million pink salmon eggs, a 7% **decrease** over the last 30 years. There have been several changes in permits over the years and actual annual production varies depending on whether egg take thresholds are met. If adopted, ACR 2 would reduce PWSAC's current egg takes by 37% overall spread across pink salmon (34%), chum salmon (50%), sockeye salmon (29%), coho salmon (25%) and king salmon (25%).

The overall economic impact from these changes would be significant. Due to the multiple species and users enumerating the exact impact is difficult. However, the ex-vessel value of PWSAC produced fish would decline by \$17 million. Further, there would be a 25% reduction in the number of sockeyes harvested in the Copper River personal use fishery that would equate to roughly 13,500 fish.

As addressed in previous comments provided to the board, the issue of carrying capacity of the Pacific Ocean is broad and complex. There are many comments that have been submitted addressing the complexity of this question and summarizing the information available. North Pacific Anadromous Fish Commission (NPAFC) is an international body that addresses overarching questions regarding salmon production in the Pacific. Their body is made up of scientific representatives from all countries in the Pacific producing hatchery salmon. We encourage the board to become familiar with the research findings from the NPAFC as a first step towards understanding the current scientific consensus on such issues.

Alaska's hatchery program has been in place for decades and has successfully provided opportunity for all user groups, reduced pressure on wild stocks, and avoided harm to wild stocks through rigors and scientific permitting process led by

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ADF&G. This process provides for public input and is the established forum for regulating hatchery p concerned that efforts by interest groups to insert politicize a long-standing program will be costly, duplicative, and disruptive to a program with far reaching benefits to Alaskans and the salmon resource. It is imperative that the hatchery program continue to be regulated and managed on a scientific basis. Hatcheries have long planning cycles for operational and capital needs, and sudden unforeseen changes in production due to politics may result in financial harm to the entities as well as the users.

We've attached to our submission as an appendix comments submitted by PWSAC counsel Ashburn & Mason for the July 17th meeting in PC012. These comments are important, as it should be recognized that the legal authority of the Board of Fisheries with respect to the hatchery program has limitations.

PWSAC supports efforts by the Alaska Board of Fisheries to better understand the Alaska Hatchery program. To this end, we look forward to providing detailed information during the future meetings as appropriate. The topic is complex, requiring diligence when reviewing potential changes. **We urge you to take no action on ACR #1 and ACR #2**

Sincerely,

Casey Campbell

General Manager/CEO

Prince William Sound Aquaculture Corporation mission statement: *"To ethically and professionally optimize salmon production in Area "E" for the long-term well-being of all user groups."*

Appendix:

"Economic Impact of the Prince William Sound Aquaculture Corporation, *September 2018*"

"Public Comments of Ashburn & Mason, P.C, Counsel for Prince William Sound Aquaculture Corporation in Opposition To May 16, 2018 KRSA et al. Emergency Petition Regarding VFDA Hatchery Production, *July 9th 2018*"

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Economic Impact of the

Prince William Sound Aquaculture Corporation

September 2018

Prepared for
**Prince William Sound
Aquaculture Corporation**



Prepared by
**McDowell
GROUP**

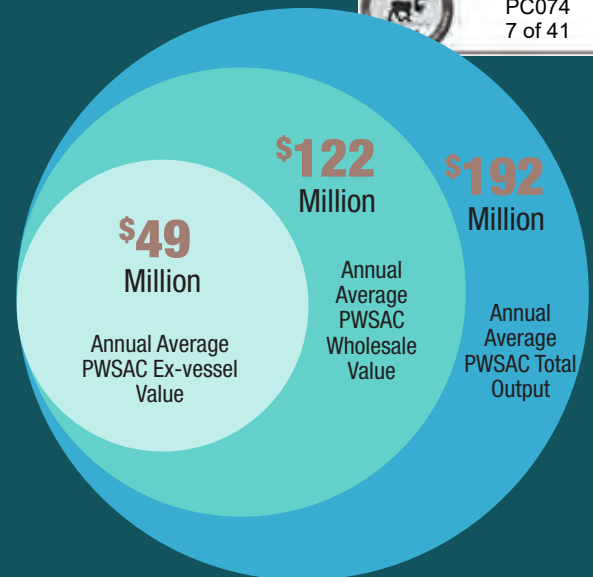




By the Numbers

Prince William Sound Aquaculture Corporation

2012-2017



539 million pounds

90 million pounds

\$296 million

\$49 million

\$59 million

43%

\$730 million

\$122 million

1,405 jobs
direct, indirect, and induced

\$68 million
including all multiplier effects

\$192 million

Cumulative common property harvest volume of PWSAC salmon

Annual average volume of PWSAC salmon common property harvest

Cumulative common property harvest value of PWSAC salmon

Annual average value of PWSAC salmon common property harvest

Annual average odd-year value of PWSAC common property harvest

PWSAC salmon share of total PWS commercial salmon harvest value, 2012-2017

Cumulative first wholesale value of PWSAC-produced salmon products

Annual average first wholesale value of PWS-produced salmon products

Annual average employment supported by PWSAC

Total annual labor income supported by PWSAC

Total annual economic output generated by PWSAC produced salmon



Introduction

This report details the broad economic impact on Alaska of Prince William Sound Aquaculture Corporation (PWSAC). This is the sixth impact report prepared by McDowell Group for PWSAC since 2001.

PWSAC was founded in 1974 by local Prince William Sound (PWS) fishermen. The private non-profit corporation's mission is to optimize salmon production in PWS for all user groups, including commercial, sport, personal use, and subsistence. PWSAC produces all five salmon species from five hatcheries, four located in PWS and one located inland on the Gulkana River. PWSAC manages and operates three facilities owned by the Alaska Department of Fish & Game at no cost to the state.

Armin F. Koernig Hatchery

Originally the site of a salmon cannery, the Armin F. Koernig Hatchery is located about 90 miles west of Cordova on Evans Island. The facility was PWSAC's first hatchery and began operations in 1974.

Wally Noerenberg Hatchery

The Wally Noerenberg Hatchery is located approximately 20 miles east of Whittier in Lake Bay. Built in 1985, the hatchery is one of the largest salmon production facilities in North America.

Cannery Creek Hatchery

The Cannery Creek Hatchery was built in 1978 by the Alaska Department of Fish and Game (ADF&G). In 1988 PWSAC took over management and operations (ADF&G still owns the hatchery.) The facility is located about 40 miles east of Whittier in Unakwik Inlet.

Main Bay Hatchery

Built in 1981 by ADF&G and still owned by the state, PWSAC began providing management and operation services in 1991. Main Bay Hatchery is located 40 miles southwest of Whittier.

Gulkana Hatchery

The Gulkana Hatchery is located on the Gulkana River near Paxson, 250 miles northeast of Anchorage. Established by ADF&G in 1973, PWSAC manages the facility which focuses primarily on sockeye salmon.

Administrative Operations

PWSAC's main administrative offices are in Cordova. The organization also operates a distribution center in Anchorage used to consolidate and expedite supplies to hatcheries. That center also houses administrative staff.



Commercial Fisheries Impact

Prince William Sound commercial seine and gillnet fishermen harvest significant volumes of salmon produced by PWSAC.

Common-property Commercial Harvest and Ex-vessel value

- ▶ Between 2012 and 2017, PWS commercial fishermen (all gear types) harvested a cumulative total of 539 million pounds of PWSAC-produced salmon worth \$296 million. The annual commercial harvest of PWSAC fish averaged 90 million pounds worth \$49 million.
- ▶ PWSAC salmon accounted for 43 percent of the total PWS salmon harvest volume over the 2012 to 2017 period (1.2 billion pounds) and 45 percent of the total value (\$642 million).
- ▶ By volume and value, pink salmon is the most important species produced by PWSAC. Commercial fishermen harvested 390 million pounds (120 million pink salmon) from PWSAC between 2012 and 2017 worth about \$131 million. The annual commercial harvest of PWSAC pink salmon averaged 65 million pounds worth \$22 million.
- ▶ Over the 2012–2017 period, more than one in three pink salmon harvested in PWS came from PWSAC.
- ▶ Sockeye salmon are the most valuable species produced by PWSAC on a per pound basis. Over the study period, 44 million pounds were harvested worth \$94 million. About 7.3 million pounds of sockeye worth \$16 million were harvested annually.
- ▶ Chum are valued primarily for their roe, but flesh markets have developed in recent years. About 104 million pounds of this PWSAC-sourced chum worth \$68 million were harvested between 2012 and 2017, or an annual average of 17 million pounds worth \$11 million.
- ▶ PWSAC also produces coho: about 2.2 million pounds worth \$2.3 million were harvested over the study period. Nearly 375,000 pounds were harvested annually worth about \$390,000.





Seine Harvest of PWSAC Salmon

- ▶ Seine vessels focus primarily on pink and chum salmon fisheries in PWS. About 220 vessels with 900 crew and captains harvest PWSAC fish.
- ▶ Between 2012 and 2017, seiners harvested about 996 million pounds of salmon in PWS worth \$347 million. PWSAC fish accounted for 404 million pounds or 41 percent of total volume. These hatchery fish were valued at \$148 million, 43 percent of the total seine harvest.
- ▶ For the individual PWS seine permit holder, earnings over this period totaled \$1.6 million, or an annual average of \$265,000. Harvest of PWSAC fish contributed about \$682,000 (annual average of \$114,000) to this total.

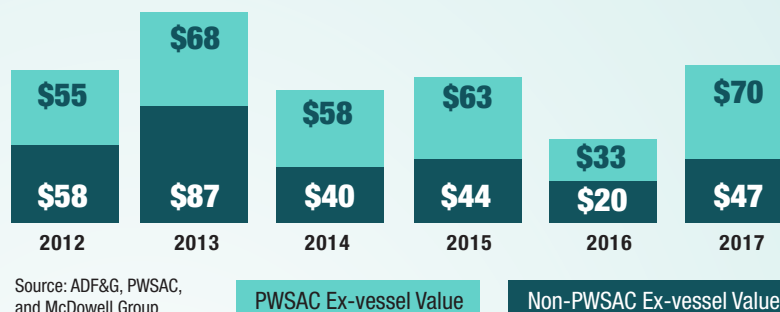
Ex-vessel Earnings from PWSAC Salmon 2012-2017 (millions of dollars)

| Year | Seine | Gillnet | Total |
|--------------|--------------|--------------|--------------|
| 2012 | \$23 | \$35 | \$58 |
| 2013 | \$58 | \$29 | \$87 |
| 2014 | \$14 | \$25 | \$40 |
| 2015 | \$25 | \$19 | \$44 |
| 2016 | \$2 | \$18 | \$20 |
| 2017 | \$25 | \$22 | \$47 |
| Total | \$148 | \$148 | \$296 |

Source: ADF&G, PWSAC, and McDowell Group Estimates.

Value of Prince William Sound Common-Property Salmon Harvest

by Source, 2012-2017 (millions of dollars)



Gillnet (Drift and Setnet) Harvest of PWSAC Salmon

- ▶ Gillnetters harvest less volume than seiners but capture higher value sockeye and coho. Nearly 520 drift vessels with about a thousand crew and captains harvest fish in PWS, in addition to roughly 30 setnet sites with 90 crew and permit holders.
- ▶ PWS gillnet fishermen harvested 220 million pounds of salmon between 2012 and 2017, an annual average of 37 million pounds. This harvest was worth \$295 million, an annual average of \$49 million per year. Of this total, salmon from PWSAC contributed 135 million pounds worth \$148 million, or 61 percent of total volume and 50 percent of earnings.
- ▶ For the average permit holder, earnings over this 6-year period totaled \$538,000. Harvest of PWSAC fish accounted for \$270,000 of this amount, or about \$45,000 annually.



Processing Impact

- ▶ Salmon from PWSAC is processed primarily in Cordova and Valdez, in addition to Seward, Kodiak, and other communities.
- ▶ The PWS seafood processing sector includes shoreside plants, floating processors, and direct marketers.
- ▶ Between 2012 and 2017, PWS processors sold \$1.63 billion worth of seafood products; \$1.58 billion (97 percent) came from salmon. Halibut, sablefish, Pacific cod, and other species composed the remainder.
- ▶ Between 2012 and 2017, the first wholesale value of salmon products originating from PWSAC salmon totaled more than \$730 million, or an annual average of about \$122 million. Pink salmon products were the largest component, contributing an annual average of more than \$70 million.
- ▶ Processors added \$434 million in value to PWSAC-produced salmon over the 2012-2017 period. This value-added (or gross margin) is total value (\$730 million) minus the cost of purchasing the fish (\$296 million).
- ▶ Most PWSAC pink salmon is processed into frozen headed and gutted (H&G) form and shipped to a reprocessing facility. A declining portion of pink salmon are canned. In 2012 about half of all Alaska pink salmon were canned; in 2017 this proportion had declined to about a quarter.
- ▶ Nearly all PWSAC chum leave Alaska as frozen H&G. The primary coho and sockeye products are also primarily frozen, but with more value-add such as fillets and vacuum sealed. These two species also serve the fresh market, especially sockeye in the early season.
- ▶ Utilization of PWS salmon has increased as markets have been developed for different grades of salmon flesh products. Increased regional capacity for fish meal and fish oil production has also increased utilization.

Sport, Personal Use, and Subsistence Impact

Sport

- ▶ PWSAC salmon are commonly harvested by charter boat operators from Seward.
- ▶ Nearly 40,000 PWSAC coho were harvested by anglers over the 2012-2017 period, equal to about 2,200 daily bag limits annually; 7,500 PWSAC sockeye were harvested as well, or more than 200 daily bag limits per year.
- ▶ Residents of more than 50 Alaska communities harvested more than 325,000 PWSAC-produced sockeye salmon from 2012 through 2017, including:
 - Fairbanks: **115,000 fish**
 - Anchorage: **80,000 fish**
 - Matanuska-Susitna: **60,000 fish**
 - Copper River Valley: **50,000 fish**

Personal Use and Subsistence

- ▶ Personal use and subsistence users harvest sockeye salmon produced by PWSAC's Gulkana hatchery in the Copper River. Between 2008 and 2017, PWSAC was the source of nearly two-in-five sockeye salmon harvested in these fisheries.
- ▶ Assuming the average 4-person family eats 40 salmon per year, PWSAC's annual contribution to personal use and subsistence fisheries helps feed 5,400 Alaskans annually.
- ▶ Harvest of PWSAC salmon attracts users who support hospitality, retail, and guiding businesses in the Copper River Valley.

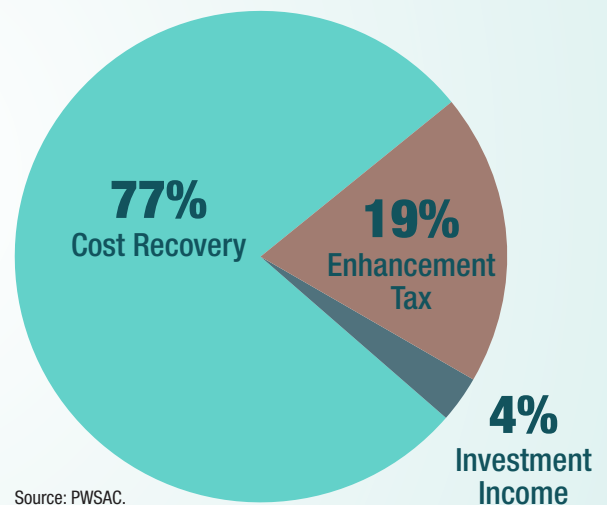


PWSAC Operations

PWSAC is funded primarily through revenue generated from cost recovery operations when a portion of returning hatchery fish are sold directly to seafood processors. Other sources of operating revenue include a 2.0 percent enhancement tax paid by area fishermen and investment revenue. PWSAC periodically receives capital grants from the State of Alaska to support improvements at state-owned facilities.

- ▶ In 2017, operating revenue totaled \$12.6 million. Cost recovery was the largest component, contributing \$10.1 million or 80 percent of the total. Enhancement tax revenue of \$2.0 million (16 percent) and investment income of \$0.6 million (4 percent) accounted for the remainder.
- ▶ Over the 2012-2017 period, operating revenue from all sources averaged \$12.0 million. Cost recovery revenue contributed an annual average of \$9.3 million, or 77 percent of the total. Enhancement tax generated an average of \$2.3 million (19 percent) per year and investment income totaled \$0.4 million (4 percent) annually.

PWSAC Operating Revenue Sources
2012-2017 Annual Average



Source: PWSAC.





Economic Impact of PWSAC in Alaska

- ▶ PWSAC accounted for an annual average of 1,405 direct, indirect, and induced jobs over the 2012-2017 period. Total annual labor income averaged \$68 million over this time, including all multiplier effects.
- ▶ PWSAC's employment impacts include 610 annual-equivalent jobs connected with commercial fishing, 645 jobs associated salmon processing, and 150 jobs related to hatchery administration and operations.
- ▶ PWSAC's impacts include \$39 million in labor income connected with commercial fishing, \$24 million associated salmon processing, and \$6 million related to hatchery administration and operations.
- ▶ Total economic output associated with PWSAC, including all direct, indirect, and induced spending and wages, is estimated at \$192 million annually.
- ▶ The total number of people earning income as a result of PWSAC operations and production is more than double the annual average of 1,405, including fishermen, seasonal processing workers, seasonal and year-round hatchery employees, and support sector workers.

Annual Average Economic Impact of PWSAC 2012-2017

| | Direct Impacts | Indirect & Induced Impacts | Total Economic Impacts |
|------------------------------|-----------------|----------------------------|------------------------|
| Commercial Fishing | | | |
| Employment | 420 | 190 | 610 |
| Labor Income | \$29.4 million | \$9.2 million | \$38.6 million |
| Seafood Processing | | | |
| Employment | 425 | 220 | 645 |
| Labor Income | \$16.8 million | \$7.0 million | \$23.8 million |
| PWSAC Operations | | | |
| Employment | 85 | 65 | 150 |
| Labor Income | \$3.5 million | \$2.2 million | \$5.7 million |
| Total Economic Impact | | | |
| Employment | 930 | 475 | 1,405 |
| Labor Income | \$49.6 million | \$18.4 million | \$68.0 million |
| Output | \$123.2 million | \$69.0 million | \$192.2 million |

Note: Totals may not sum due to rounding.

Source: McDowell Group estimates using IMPLAN, ADF&G, DOLWD, and PWSAC data.



Distribution of Economic Impacts

The economic impact of PWSAC extends well beyond Prince William Sound. PWS seine and gillnet permit holders come from many Alaska communities:

- ▶ In 2017, PWS seine permit holders were from 22 Alaska communities; residents of 30 Alaska communities held PWS gillnet permits.
- ▶ In 2017, Anchorage and Matanuska Borough residents held 115 limited entry permits for PWS.
- ▶ After Cordova, Homer residents generate the most commercial fishing income (more than \$21.6 million in 2017) from PWS salmon fisheries. Resident of Kenai Peninsula Borough earned a total of \$31.9 million.
- ▶ Municipality of Anchorage residents rank third in terms of PWS commercial fishing income, with \$13.7 million in earnings in 2017, while Mat-Su Borough residents earned more than \$3.5 million.

With PWSAC accounting for 45 percent of the value of PWS salmon fisheries over the 2012-2017 period (including 40 percent in 2017), it is evident that income generated by harvest of PWSAC salmon is broadly distributed.

PWSAC's economic impact outside of PWS also stems from its purchases of supplies, professional services, freight services, and many other goods and services from vendors throughout Southcentral Alaska.

In 2017, PWSAC spent \$4.0 million on with 158 different vendors in 23 Alaska communities, including \$1.5 million in Anchorage with 102 different vendors. Other spending occurred in Whittier, Seward, Fairbanks, Palmer, Eagle River, and Kenai, among others.

PWSAC has more direct economic impact in the Anchorage/Mat-Su area as well, employing 16 individuals from the region with annual wages of nearly \$600,000. PWSAC maintains an office in Anchorage, with 7 employees.

Local processors handling PWSAC salmon supported further economic impacts in Southcentral Alaska outside PWS through purchases of supplies, utilities, and other services.

Residency of PWS Salmon Permit Holders with Ex-vessel Earnings, 2017

| Location | Permits Owned | Ex-vessel Earnings |
|-----------------------------------|---------------|---------------------|
| Valdez/Cordova Census Area | 325 | \$36,865,213 |
| Cordova | 301 | \$33,093,490 |
| Valdez | 21 | n/a |
| Chitina | 1 | n/a |
| Copper Center | 1 | n/a |
| Whittier | 1 | n/a |
| Kenai Peninsula Borough | 155 | \$31,853,416 |
| Homer | 97 | \$21,627,598 |
| Seward | 22 | \$4,238,507 |
| Soldotna | 6 | \$282,171 |
| Kasilof | 7 | \$269,402 |
| Kenai | 7 | n/a |
| Anchor Point | 5 | n/a |
| Sterling | 5 | n/a |
| Moose Pass | 3 | n/a |
| Ninilchik | 1 | n/a |
| Nikolaevsk | 1 | n/a |
| Seldovia | 1 | n/a |
| Municipality of Anchorage | 81 | \$13,735,376 |
| Anchorage | 48 | \$4,352,712 |
| Girdwood | 22 | \$6,224,356 |
| Eagle River | 8 | n/a |
| Chugiak | 3 | n/a |
| Mat-Su Borough | 34 | \$3,546,537 |
| Wasilla | 26 | \$2,117,088 |
| Palmer | 3 | n/a |
| Willow | 3 | n/a |
| Sutton | 2 | n/a |
| All Other Alaska | 27 | \$2,606,806* |
| Juneau | 6 | n/a |
| Kodiak | 5 | \$1,964,499 |
| Delta Junction | 5 | \$642,307 |
| Fairbanks | 3 | n/a |
| Petersburg | 3 | n/a |
| Dillingham | 2 | n/a |
| Dutch Harbor | 1 | n/a |
| Haines | 1 | n/a |
| Hoonah | 1 | n/a |
| Alaska Resident Total | 622 | \$90,580,317 |

*Subtotal does not include confidential values.

Note: n/a means values are confidential. **Alaska Resident Total** includes confidential data.

Source: CFEC



Tax Revenue Associated With PWSAC

PWSAC salmon production generates significant state and local taxes

- ▶ Between 2012 and 2017, harvest of PWSAC salmon generated about \$10.6 million through the State of Alaska's Fisheries Business Tax. Half of this total is shared with communities where PWSAC salmon are landed (\$5.3 million) and the State retains the remainder. Cordova and Valdez receive most of these funds.
- ▶ Other tax revenue is directly generated when PWSAC-sourced fish are landed in a community with a raw fish tax (e.g., Kodiak). Communities with sales tax (e.g., Cordova and Seward) are also supported indirectly when the harvest and processing sector purchase goods and services locally.
- ▶ Property tax revenue is also generated indirectly through processing of salmon. Silver Bay Seafoods and Peter Pan Seafood are among the largest non-oil property tax payers in Valdez. Trident Seafoods, Ocean Beauty Seafoods, and Copper River Seafoods paid nearly \$250,000 in 2018 property taxes to the City of Cordova.

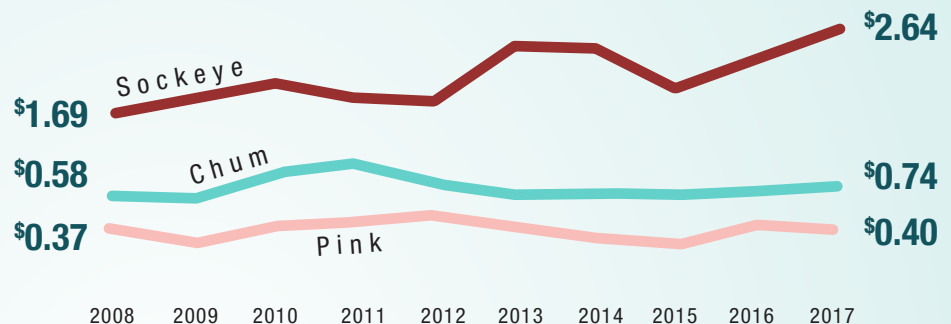




Market Outlook for Wild Alaska Salmon

- ▶ The near-term market outlook for wild Alaska salmon is positive. Strong consumer demand for Alaska-caught fish combined with processor innovations and a focus on quality have strengthened Alaska's place in the competitive global market.
- ▶ Over the last decade ex-vessel prices have generally been stable or trended higher. Nominal ex-vessel pink salmon prices averaged \$0.39 per pound in PWS, ranging from a high of \$0.53 in 2012 to a low of \$0.23 in 2015. Relatively weak statewide harvest levels for pink salmon in 2018 will help support demand and a stable or elevated price.
- ▶ Chum salmon prices averaged \$0.67 per pound over the same period, including a high of \$0.87 in

Average Nominal Prince William Sound
Ex-vessel Salmon Prices (per pound), 2008-2017



Source: ADF&G

2011. Average PWS sockeye prices per pound have grown, reaching \$2.64 in 2017.

- ▶ Near-term threats to the Alaska salmon industry include currency fluctuations, trade disruptions, and run failures. Competition with farmed salmon remains a long-term challenge.



Methodology and Sources

All photos are from ASMI, Franklyn Dunbar, and McDowell Group.

The data used in this report comes from a variety of sources, including PWSAC, Alaska Commercial Fisheries Entry Commission (CFEC), Alaska Department of Fish and Game (ADF&G), Alaska Department of Labor and Workforce Development (DOLWD), and Alaska Department of Revenue (DOR). In addition, interviews were conducted with PWSAC staff, ADF&G employees, and other experts. Estimates provided in this report are based on the best available data. The study team used data from these sources, in addition to proprietary research, to develop economic models to estimate direct, indirect, and induced employment and labor income.



ASHBURN & MASON P.C.

LAWYERS

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July 9, 2018

VIA EMAIL: dfg.bof.comments@alaska.gov

Chairman John Jensen
Alaska Board of Fisheries
P.O. Box 115526
Juneau, AK 99811-5526

Re: Public Comments of Ashburn & Mason, P.C., Counsel for Prince William Sound Aquaculture Corporation In Opposition To May 16, 2018 KRSA et al. Emergency Petition Regarding VFDA Hatchery Production (Comment Due Date July 9, 2018).

Dear Chairman Jensen and Members of the Board of Fisheries,

Ashburn & Mason, P.C., counsel to Prince William Sound Aquaculture Corporation (“PWSAC”), submits the following opposition and public comments to the above-referenced petition:

INTRODUCTION

Petitioners ask the Board to declare an emergency and reduce the current permitted salmon production at Valdez Fisheries Development Association’s (“VFDA”) Salmon Gulch Hatchery. The Department of Fish and Game (the “Department”) granted VFDA’s production permit in 2014, which provided for gradual production increases on a yearly basis. In year three of the permit, Petitioners now ask the Board to declare an



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“emergency” and essentially veto this permit without engaging in the notice and comment rulemaking required by statute. The Petition establishes no “emergency,” nor does the Board of Fisheries (“Board”) have the statutory authority to veto the Department’s prior permit decision regarding salmon production.

A permit granted four years ago does not qualify as an “emergency” under any definition of the word, let alone the strict definition governing emergency petitions under Alaska law. By statute, true regulatory emergencies are held to a minimum and rarely found.¹ The reason for this strict standard is that enacting regulations outside of the notice and comment rulemaking procedures mandated by the Administrative Procedure Act is strongly disfavored. Here, establishing an emergency requires “unforeseen” and “unexpected” threats against fish and game resources.² VFDA’s long-standing permit is neither unforeseen nor unexpected. The fact that Petitioners chose not to engage in the public process leading to the permit grant does not make the permit “unforeseen.”

Even if there were an emergency, the Board lacks statutory authority to grant the relief requested by Petitioners. As set forth in detail below, the legislature invested the Department with the legal duty to oversee all aspects of hatchery creation, operation, and

¹ AS 44.62.270.

² 5 AAC 96.625(f).



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production,³ including but not limited to how many fish hatchery operators are allowed to incubate and release each year. By statute, the Department, not the Board, regulates hatchery activities that directly impact production levels, such as the harvest of eggs from hatchery broodstock.⁴ The Board, on the other hand, is tasked with regulating and allocating the harvest of both hatchery and wild salmon among all user groups that the hatcheries were established to serve, including commercial, personal use, sport, subsistence, and hatchery cost recovery.⁵ The Department and the Board have respected and abided by this division of labor and authority for over 30 years. To our knowledge, the Board has never before attempted to second guess a decision by the Department to authorize a specific level of egg take in a hatchery permit.

The Petition seeks to disrupt this well-established division of authority by interjecting the Board into the realm of production management. Specifically, the Petition asks the Board to micro-manage egg take levels from hatchery broodstock, which is squarely within the Department's sphere of authority and expertise, and outside the Board's jurisdiction over allocation of harvest levels. The Petition's only ground for this change in the *status quo* is a narrow statutory subsection, AS 16.10.440(b), addressing

³ AS 16.10.400-.470; 5 ACC 40.005-.990.

⁴ AS 16.10.445; 5 AAC 40.300; 5 AAC 40.340; 5ACC 40.840.

⁵ *E.g.*, AS 16.05.251.



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the Board's authority to amend hatchery permits regarding the "source and number of salmon eggs." This provision cannot bear the weight Petitioners place on it.

When this statute was enacted in 1979, the legislative's reference to "the source and number of salmon eggs" almost certainly referred to the collection of *wild* salmon eggs, before the hatcheries' cost recovery operations had been fully established. Back in 1979, collection of salmon eggs from wild stocks involved the harvest of wild salmon still swimming out in the ocean. In those early days, egg take had a potential to affect the Board's allocative decisions. By contrast, hatchery egg take today is conducted entirely from returning hatchery broodstock, captured in terminal harvest areas, not out in the Sound, with little or no allocative implications.

Even if the statute could be construed to apply to eggs recovered from returning hatchery broodstock, it is an insufficient legal basis for disrupting the Department's comprehensive regulatory regime, which includes hatchery production planning and detailed permitting requirements. Again, the Board has jurisdiction over harvest levels, and the Department has jurisdiction over all aspects of hatchery production, including egg take levels.⁶

⁶ E.g., AS 16.10.445, granting the Department exclusive authority over "the source and number of salmon eggs taken" by hatchery operators.



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The Petition is also premature. The potential effects of hatchery fish straying into wild salmon streams, which is the stated impetus for the Petition, have been closely watched by the Department's biologists over the years. These effects are now the subject of an ongoing, in-depth scientific study. Until the study results are known, it is premature to consider curtailment of hatchery production that has already been permitted by the Department. Further, the Board has already stated its intent to address hatchery issues during its regular fall meeting cycle. These important issues can be addressed at that time where there is full opportunity for public participation and comment.

ABOUT ASHBURN & MASON AND PWSAC

Ashburn and Mason is submitting these comments, which focus on the relevant statutes, regulations, and established administrative practice, as a supplement to the comments submitted directly by the Prince William Sound Aquaculture Corporation ("PWSAC"). Ashburn & Mason has represented PWSAC since its creation in 1974. Our firm worked closely with PWSAC's visionary founders in the legislative process that resulted in the creation of the private nonprofit hatcheries ("PNPs") regional aquaculture associations, now codified at AS 16.10.375, *et. seq.*

PWSAC's founders were commercial fishers and community leaders who were responding to repeated wild salmon run failures, and the resulting economic distress



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throughout the Prince William Sound region in the early 1970s. Working together, the fishermen, local community representatives, the Department, and key legislators developed an innovative legal framework for the creation and operation of the state's PNPs and regional aquaculture associations.

Over the past 40-plus years, the statewide hatchery system has been a resounding success, and is an integral part of Alaska's world class sustainable fisheries. Alaska's hatcheries have generated tens of millions of dollars of economic benefit every year spread across all user groups, supplementing, but not displacing, the sustained yield of Alaska's wild salmon stocks. In fact, all of PWSACs hatcheries were started with salmon eggs collected originally from local wild stocks. The genetics of all Prince William Sound hatchery fish are therefore traceable back to local streams.

DISCUSSION

I. NO EMERGENCY EXISTS TO JUSTIFY THE PETITION TO RESTRICT VFDA'S PERMITTED EGG TAKE

By statute, true regulatory emergencies, which allow the Board to issue regulation without public notice and comment, are held to a minimum and rarely found.⁷ This is because public notice and comment are essential to the fairness and transparency of

⁷ AS 44.62.270.



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regulatory rulemaking in Alaska. The explicit state policy against the adoption of emergency regulations is so fundamental to the function of regulatory rule-making that it is codified in the Administrative Procedure Act.⁸ The Commissioner's decision to deny the emergency Petition reflects this well-established policy and decades of Alaska law and regulation, and must be respected.

The Petition does not present an emergency. Rather, it challenges a permit granted several years ago. The narrow exception for adoption of emergency regulations is limited to "unforeseen" and "unexpected" threats against fish and game resources.⁹ These threats must be so imminent that regulatory intervention cannot wait for the usual notice and comment process under the Administrative Procedure Act.¹⁰ For example, the Board adopted an emergency regulation to reorganize the Chignik fishery in 2005 when the Supreme Court issued a decision invalidating the previous fishery rules just six weeks before the season was slated to open.¹¹ The Superior Court agreed that the timing of the Supreme Court's decision created a legitimate emergency because no one could

⁸ *Id.*

⁹ 5 AAC 96.625(f).

¹⁰ 5 AAC 96.625(f).

¹¹ As referenced *infra.* at 3-4, the Commissioner currently has standing authority to review petitions for emergency regulation. See, 2015-277-FB. Prior to the adoption of this policy in 2015, the Board retained the authority to review petitions for emergency regulation.



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reasonably rely on when the Supreme Court would issue its decision, or what that decision would be. In addition to the “unexpected” and “unforeseen” nature of the Supreme Court’s decision, the timing also created a sense of imminence. With less than six weeks before the fishing season opened, the Board “had to act quickly...because it had to have something in place for the June opening.”¹²

Here, the Petition fails to demonstrate how VFDA’s long-standing permit, or the current conditions in the Sound, present an unexpected or unforeseen situation threatening the salmon fisheries. No acute biological or environmental event has impacted the Sound or Cook Inlet in recent months, creating an unpredictable threat. Rather, the purported justification for an emergency petition is an alleged trend, observed over the last several *years*. There is no reason why the proposed Board action could not have been presented a year ago or, more to the point, why it could not wait until the next regularly scheduled Board meeting, which will provide a fuller and fairer opportunity for interested parties and members of the public to comment and participate in the process.

In short, the Commissioner properly exercised his authority under AS 16.05.270 and 2015-277-FB to determine that the Petition failed to present an emergency under the

¹² See, *State of Alaska, Alaska Bd. of Fisheries v. Grunert*, 139 P.3d 1226, 1241 (Alaska 2006).



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Administrative Procedure Act. For the reasons explained in the Commissioner's June 14, 2018 letter to Petitioners, emergency action is unwarranted under these circumstances.

II. THE BOARD DOES NOT HAVE VETO AUTHORITY OVER HATCHERY PRODUCTION PERMITS

A. The Commissioner Has Primary Authority Over Hatchery Permitting and All Hatchery Operations

1. History and Purpose of the Hatchery Program

The desire of Alaskans to manage their abundant salmon fisheries was a driving force behind Alaska Statehood.¹³ The importance of protecting and developing natural resources such as salmon is embedded in the Alaska Constitution, which directs the legislature to "provide for the utilization, development, and conservation of all natural

¹³ See, e.g., *Pullen v. Ulmer*, 923 P.2d 54, 57 n. 5 (Alaska 1996); Alaska Legislative Affairs Agency, *Alaska's Constitution: A Citizen's Guide* (4th ed. 2002) at http://w3.legis.state.ak.us/docs/pdf/citizens_guide.pdf (Many Alaskans concluded "that the notion of the federal government's superior vigilance as a trustee of the public interest was really a cloak for the institutional interests of bureaucrats and the economic interests of nonresident corporations exploiting those resources (principally Seattle and San Francisco salmon canning companies)."); HOUSE COMM. ON INTERIOR AND INSULAR AFFAIRS, *Act Providing for the Admission of the State of Alaska into the Union of 1957*, H.R. REP. No 85-624 (1958) (The Statehood Act "will enable Alaska to achieve full equality with existing States, not only in a technical juridical sense, but in practical economic terms as well. It does this by making the new State master in fact of most of the natural resources within its boundaries . . ."); Univ. of Alaska Anchorage, Institute for Social and Economic Research, *Salmon Fish Traps in Alaska* (1999), at 14, at <http://www.iser.uaa.alaska.edu/publications/fishrep/fishtrap.pdf> ("Alaska political entrepreneurs used the [fish] trap issue to rally the citizens of the territory around the quest for statehood.").



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resources belonging to the State, including land and waters.” It also requires the legislature to make decisions that “provide for the maximum benefit of its people.”¹⁴ The Alaska Constitution proclaims that “fish, wildlife, and waters are reserved to the people for common use,”¹⁵ and dictates that “Fish, forests, wildlife, grasslands, and all other replenishable resources belonging to the State shall be utilized, developed, and maintained on the sustained yield principle, subject to preferences among beneficial uses.”¹⁶ Further, the Constitution expressly references the goal of “promot[ing] the efficient development of aquaculture in the State,” and protecting Alaska’s economy from outside interests:¹⁷

No exclusive right or special privilege of fishery shall be created or authorized in the natural waters of the State. This section does not restrict the power of the State to limit entry into any fishery for purposes of resource conservation, to prevent economic distress among fishermen and those dependent upon them for a livelihood *and to promote the efficient development of aquaculture in the State.*

By the early 1970s, salmon runs were in steep decline throughout Alaska. In Prince William Sound, seining did not open at all in 1972 and 1974 due to dangerously

¹⁴ ALASKA CONST. art. VIII, § 2.

¹⁵ ALASKA CONST. art. VIII, § 3.

¹⁶ ALASKA CONST. art. VIII, § 4.

¹⁷ ALASKA CONST. art. VIII, § 15. The Constitution has since been amended to provide for the limited entry permit system now in place, *See infra* n. 7, but the reference to promoting the “efficient development of aquaculture” remains unchanged.



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low wild stock returns. In response, the State of Alaska resolved to restore the salmon fisheries. A constitutional amendment provided the basis for limited entry legislation for commercial fisheries,¹⁸ and the state hatchery program was initiated through the creation of the Fisheries Rehabilitation & Enhancement Division (FRED).¹⁹

Under AS 16.05.020, the Commissioner must “manage, protect, maintain, *improve, and extend* the fish, game ... of the state in the interest of the economy and general well-being of the State.” The Department is further required to: “develop and continually maintain a comprehensive, coordinated state plan for the orderly present and long-range rehabilitation, *enhancement*, and development of all aspects of the state’s fisheries for the perpetual use, benefit, and enjoyment of all citizens” and “through rehabilitation, *enhancement*, and development programs do all things necessary to ensure perpetual *and*

¹⁸ AS 16.43.400 *et seq.* Alaska’s limited entry fishery essentially provides that only permit holders may engage in commercial fishing. The granting of these permits, and the management of the commercial fisheries, are tightly regulated by numerous state agencies including the State Commercial Fisheries Entry Commission (CFEC), the Alaska Department of Fish & Game (ADF&G), and the Board of Fisheries (BOF). *See generally Johns v. CFEC*, 758 P.2d 1256, 1263 (Alaska 1988) (“The Limited Entry Act has two purposes: enabling fishermen to receive adequate remuneration and conserving the fishery.”).

¹⁹ AS 16.05.092. As explained more fully below, FRED no longer exists as a distinct division within the Department. However, the operation of most or all of the original hatcheries owned and operated by FRED has been transferred to the regional aquaculture associations, under long-term professional services agreements. PWSAC, for example, currently operates the Cannery Creek, Main Bay, and Gulkana Hatcheries, all of which were constructed and initially operated as FRED hatcheries in the early 1970s.



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increasing production and use of the food resources of state waters and continental shelf areas.”²⁰ Similarly, the Department is required generally to “manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and the general well-being of the state.”²¹ The Department is also generally charged to do everything possible to assist with hatchery operations.²²

In addition, the legislature created the Fisheries Enhancement Revolving Loan Fund to promote the enhancement of Alaska’s fisheries by, among other things, providing long-term, low-interest loans for hatchery planning, construction, and operation.²³ PWSAC has received significant support from this program over the years, particularly for capital investments.

In 1974, the FRED state-owned and managed hatchery program was expanded to include private ownership of salmon hatcheries with the passage of the Private Non-Profit (PNP) Hatchery Act.²⁴ The Act stated that its purpose was to “authorize the private ownership of salmon hatcheries by qualified non-profit corporations for the purposes of

²⁰ AS 16.05.092(3) (emphasis added).

²¹ AS 16.05.020(2) (emphasis added).

²² AS 16.10.443.

²³ AS 16.10.500-.560; *see generally* Alaska Division of Investments, “Fisheries Enhancement Revolving Loan Fund Program Overview,” April 2007 at <http://www.commerce.state.ak.us/investments/pdf/FEover07.pdf>.

²⁴ These provisions are now codified at AS 16.10.375 *et seq.*



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contributing, by artificial means, to the rehabilitation of the State's depleted and depressed salmon fishery." Further, as noted above, a separate fisheries enhancement loan program was created in 1976 to provide state financing for nonprofit hatcheries.²⁵

Over time, the State has transferred operation of some of the FRED hatcheries to other entities, including the nonprofit hatcheries operated by the regional aquaculture associations, concluding that it would be more cost-effective for these hatcheries to be operated by the regional associations. The legislature specifically authorized the subcontracting of state hatcheries in 1988,²⁶ acknowledging that after 17 years of the State planning, building and operating hatcheries, Alaska sought an even more efficient way of ensuring a healthy, robust, and sustainable salmon fishery.²⁷

²⁵ AS 16.10.500 *et seq.*; see also *State Commercial Fisheries Entry Comm'n v. Carlson*, 65 P.3d 851 (Alaska 2003) ("The state operates a revolving loan fund to support investments in developing and operating fish hatcheries and other fish enhancement projects.").

²⁶ AS 16.10.480.

²⁷ Alaska's partnership with the nonprofit hatcheries is unique. Almost all states operate hatcheries of some kind (salmon, trout, walleye, catfish, etc.), but no state operates a hatchery program like Alaska's, and no state works with private nonprofit entities to assist the state government in its hatchery programs. By way of example, California has 21 state hatcheries (<http://www.dfg.ca.gov/fish/Hatcheries/HatList.asp>), Oregon has 33 state hatcheries (<http://www.dfw.state.or.us/fish/hatchery/>), and Washington has 91 state hatcheries (<http://wdfw.wa.gov/hat/facility.htm>), and all of these hatcheries are operated by the government.



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Alaska law provides that the hatcheries may only be non-profit.²⁸ By design, the hatcheries are allowed to recover operating and capital expenses, as well as costs for research and development and expansion of the production system, including wild stock rehabilitation work.²⁹ The system is designed to provide benefits to the common property resource users. The nonprofit regional aquaculture associations have no stock-holders, owners, or members. Today, five regional aquaculture associations, from Southeast Alaska to Kodiak, including PWSAC, produce hatchery salmon for common property fisheries.

Thus, the Alaska Constitution, combined with numerous statutes, including those creating the Department of Fish and Game,³⁰ the Limited Entry Act,³¹ the Private Non-Profit Hatcheries Act,³² and the Fisheries Enhancement Revolving Loan Fund,³³ together

²⁸ AS 16.10.380.

²⁹ AS 16.10.455.

³⁰ AS 16.05.010, *et seq.*; *see also* 5 AAC 40.100-.990.

³¹ AS 16.43.400 *et seq.* Alaska's limited entry fishery essentially provides that only permit holders may engage in commercial fishing. The granting of these permits, and the management of the commercial fisheries, are tightly regulated by numerous state agencies including the State Commercial Fisheries Entry Commission, the Alaska Department of Fish & Game (ADF&G), and the Board of Fisheries (BOF). *See generally Johns v. CFEC*, 758 P.2d 1256, 1263 (Alaska 1988) ("The Limited Entry Act has two purposes: enabling fishermen to receive adequate remuneration and conserving the fishery.").

³² AS 16.10.375-480.

³³ AS 16.10.500-.560.



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demonstrate a strong and long-standing state policy in Alaska of promoting hatchery development for the purpose of enhancing and ensuring the long-term vitality of Alaska's fisheries.

2. The Department Strictly Regulates All Aspects of Hatchery Creation, Operation, and Production

The Alaska Department of Fish and Game has been charged by the Alaska legislature with final authority over how many fish hatchery operations are allowed to incubate and release each year,³⁴ and to regulate all other details of hatchery operation.³⁵

Pursuant to AS 16.10.375, the Commissioner must designate regions of the state for salmon production and develop a comprehensive salmon plan for each region through teams consisting of Department personnel and nonprofit regional associations of user groups. The Commissioner also has the task of classifying an anadromous fish stream as suitable for enhancement purposes before issuing a permit for a hatchery on that stream. As 16.10.400(f).

Of particular relevance to the issue presently before the Board, AS 16.10.400(g) requires a determination by the Commissioner that a hatchery would result in substantial public benefits and would not jeopardize natural stocks. The statutes also require the

³⁴ AS 16.10.445; 5 AAC 40.300; 5 AAC 40.340; 5 AAC 40.840.

³⁵ AS 16.10.400-.470; 5 AAC 40.005-.990.



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Department to conduct public hearings near the proposed hatcheries, and to consider comments offered by the public at the hearings before issuance of a permit.³⁶

All state hatcheries are operated pursuant to a permit issued by the Department.³⁷ Standard permit conditions include: (1) provisions that eggs used for broodstock come from a source approved by the Department;³⁸ (2) no placement of salmon eggs or resulting fry into waters of the state except as designated in the permit; (3) restrictions on the sale of eggs or resulting fry; (4) no release of salmon before department inspection and approval; (5) destruction of diseased salmon; (6) departmental control over where salmon are harvested by hatchery operators; and (7) hatchery location to prevent commingling with wild stocks.³⁹

Further, there is an intricate system of basic and annual hatchery plans that are reviewed annually by the Department and provide for performance reviews, and in

³⁶ AS 16.10.410.

³⁷ AS 16.10.400; 16.40.100-.199; 5 AAC 40.110-.240.

³⁸ AS 16.10.445. This requirement is related to regulations regarding fish transport permitting. *See* 5 AAC 41.001-.100. These regulations provide that no person may transport, possess, export from the state, or release not the waters of the state any live fish unless that person holds a fish transport permit issued by the Commissioner.

³⁹ *See generally* McGee, *Salmon Hatcheries in Alaska – Plans, Permits, and Policies Designed to Provide Protection for Wild Stocks*, Published for 2004 American Fisheries Society Symposium, at 327.



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appropriate cases, permit alterations.⁴⁰ The basic management plans include a complete description of the facility, including the special harvest area, broodstock development schedules, and description of broodstock and hatchery stock management.⁴¹

Year-to-year hatchery production is regulated through the annual management plans (AMPs) approved and adopted by the Department. For example, each year, PWSAC and the other PNPs across the state work with the Department, which ultimately formulates an AMP for each hatchery. That plan, among other things, determines the number of eggs the hatchery will collect, how the eggs will be collected, the number of fish it will incubate, and how many fish will be released from the hatchery.⁴² The AMP also addresses how PNPs will conduct their cost recovery harvest at each hatchery and addresses other specifics of hatchery operation.⁴³

3. The Board's Proper Role is to Allocate Harvest, Not to Override the Department's Permitting and Production Decisions

⁴⁰ 5 AAC 40.800-990. As noted above, there is also an extensive Regional Comprehensive Planning Program established under AS 16.10.375 and 5 AAC 40.300-370, with full public participation. This process creates Regional Planning Teams who are charged to "prepare a regional comprehensive salmon plan . . . to rehabilitate natural stocks and supplement natural production" 5 AAC 40.340.

⁴¹ See generally McGee, at 329.

⁴² 5 AAC 40.840.

⁴³ McGee, at 329.



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The Board of Fisheries is established by AS 16.05.221, “for purposes of the conservation and development of the fishery resources of the state.”⁴⁴ In general terms, the Board’s duties complement those performed by the Department. While it has broad statutory authority, the Board has historically focused on allocation of fisheries resources between and among the various user groups and gear types. For example, under AS 16.05.251(a) the Board has the power to set time, area, and methods and means limitations on the taking of fish. Under AS 16.05.251(a)(3), the Board also establishes quotas, bag limits, and harvest levels. To the best of our knowledge, however, the Board has always deferred to the Department’s expertise and experience with respect to the detailed management of hatchery permitting and production levels.

B. The Board Cannot Override Annual Hatchery Production Permits Issued by the Department

Petitioners contend that AS 16.10.440(b) grants the Board the authority to upend the Department’s carefully constructed regulatory framework governing hatchery

⁴⁴ AS 16.05.221.



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production.⁴⁵ This interpretation of the statute reads it out of context and is inconsistent with its historical origins. Under Alaska law, this statutory provision must be construed in light of the overall statutory scheme governing Alaska's salmon hatcheries,⁴⁶ its legislative history and intent,⁴⁷ and over 40 years of consistent administrative interpretation and practice, during which the Board (to our knowledge) has never

⁴⁵ AS 16.10.440 provides: (a) Fish released into the natural waters of the state by a hatchery operated under AS 16.10.400 - 16.10.470 are available to the people for common use and are subject to regulation under applicable law in the same way as fish occurring in their natural state until they return to the specific location designated by the department for harvest by the hatchery operator. (b) The Board of Fisheries may, after the issuance of a permit by the commissioner, amend by regulation adopted in accordance with AS 44.62 (Administrative Procedure Act), the terms of the permit relating to the source and number of salmon eggs, the harvest of fish by hatchery operators, and the specific locations designated by the department for harvest. The Board of Fisheries may not adopt any regulations or take any action regarding the issuance or denial of any permits required in AS 16.10.400 - 16.10.470.

⁴⁶ See, e.g. *Monzulla v. Voorhees Concrete Cutting*, 254 P.3d 341, 345 (Alaska 2011), citing *In re Hutchinson's Estate*, 577 P.2d 1074, 1075 (Alaska 1978), where the Supreme Court articulated the doctrine of *in pari materia*: the "established principle of statutory construction that all sections of an act are to be construed together so that all have meaning and no section conflicts with another."

⁴⁷ See, e.g. *Native Village of Elim v. State* 990 P.2d 1, 5 (Alaska 1999), *Kochutin v. State*, 739 P.2d 170, 171 (Alaska 1987) citing *Hammond v. Hoffbeck*, 627 P.2d 1052, 1056 & n. 7 (Alaska 1981).



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attempted to use this statute as the basis for usurping the Department's traditional control over hatchery production.⁴⁸

At the time Section 440(b) was enacted in 1979, the hatchery system was in its infancy. Most hatchery egg take was from wild stocks, not returning hatchery fish, which is how egg take is conducted today. The thinking at the time was that salmon eggs harvested from wild stocks were still a "public resource" while the fish were swimming out in the ocean, and the harvest of wild fish for egg take had allocation implications that could potentially fall within the Board's purview. In contrast, today's egg take procedures are conducted almost exclusively from returning hatchery broodstock that are captured in the special harvest areas directly in front of the hatcheries. At that point, the hatchery salmon cease to be a public resource and their capture and the collection of their eggs have very limited allocative implications. Further, as the Commissioner noted in his January 14, 2018 Memorandum to the Board on the subject of the current Petition, "the

⁴⁸ See e.g. *Marathon Oil Co. v. State, Dep't of Nat. Res.*, 254 P.3d 1078, 1082 (Alaska 2011), *Premiera Blue Cross v. State, Dep't of Commerce, Cmty. & Econ. Dev., Div. of Ins.*, 171 P.3d 1110, 1119 (Alaska 2007), and *Bullock v. State, Dep't of Cmty. & Reg'l Affairs*, 19 P.3d 1209, 1219 (Alaska 2001), where the Alaska Supreme Court held that agency decisions based on "longstanding, consistent and widely known" interpretations of agency expertise should be given "great weight."



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Board's authority over the possession, transport and release of live fish had not been delegated to the department when AS 16.10.440(b) was amended."⁴⁹

Moreover, the legislative history of Section 440(b) indicates that it was never intended to be used by the Board as back door means of overriding the Department's permitting authority or limiting hatchery production. The Resources Committee's letter of intent on HB 359, which included the language in question, states as follows:

There are three other major changes made by the bill:

- (1) Section 2 of the bill amends AS 16.10.440(a)(b). The amendment clarifies the role of the Board of Fisheries. The role of the Board of Fisheries as envisioned by the original legislation was to regulate the *harvest* of salmon returning to the waters of the state. That role extends to regulating those fish which are returning as a result of releases from natural systems and also from hatchery releases. There are provisions in other specific locations for the harvest of salmon by the hatchery operator for sale, and use of the money from that sale, for the specific purposes as stated in AS 16.10.450. The added language clarifies that the Board of Fisheries may adopt regulations relating to the *harvest* of the fish by hatchery operators at the specifically designated locations. The Board of Fisheries in the past year or two has enacted regulations relating to those harvests for several of the private nonprofit hatcheries in the state.⁵⁰

⁴⁹ Memorandum from Sam Cotton, Commissioner, to John Jensen, Chair, dated January 14, 2018, Re: Emergency Petition to the Alaska Board of Fisheries requesting the Board to reverse a department decision to allow a 20 million increase in the number of pink salmon eggs to be harvested by VFDA in 2018.

⁵⁰ House Journal, March 15, 1979, pp. 601-602 (emphasis added).



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The exclusive reference to regulation of harvest, and the absence of any mention of production controls, corroborates the conclusion that the legislature never intended to authorize the Board to limit hatchery production.

The Board's traditional function has always been to allocate harvests among competing user groups, not to regulate production of fish. This legislative history, with its emphasis on "harvest," is also consistent with PWSAC's long-held belief (apparently shared by the Department) that Section 440(b) was intended to cover egg take from wild salmon streams, not to apply to egg take from returning hatchery fish.

Further corroboration of this conclusion is found in AS 16.10.445(a), which unambiguously requires the Department, not the Board, to "approve the source and number of salmon eggs taken under AS 16.10.400-16.10.470." Additional evidence that the Department, not the Board, is responsible for regulating hatchery egg take can be found in 5 AAC 41.001, *et. seq.* For example, 5ACC 41.005 prohibits the release of hatchery fish without a permit issued by the Commissioner. Regulation of egg take and release of the resulting salmon fry are obviously two sides of the same coin. The regulatory scheme clearly and consistently assigns exclusive responsibility for regulating those two closely related hatchery activities to the Commissioner.



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Given the legislative history, the 30-plus year pattern of administrative interpretation, the anomalous language in Section 440(b) regarding regulations to “amend...the terms of a permit,” and the mandate of Section 445(b), it is quite clear that the Board has little or no role in regulating hatchery production, including but not limited to egg take permit restrictions.

Moreover, regulation of hatchery production by the Board would overlap and almost certainly conflict with the comprehensive and detailed hatchery regulations that are currently in place and operating effectively. As noted above, the Department has a rigorous permitting process for new hatcheries, 5 AAC 40.100-.240. There is an extensive Regional Comprehensive Planning program established under AS 16.10.375 and 5 AAC 40.300-.370, with full public participation. By regulation, the responsibility of the Regional Planning Teams is to “prepare a regional comprehensive salmon plan ... to rehabilitate natural stocks and *supplement* natural production . . .” 5 AAC 40.340 (emphasis added). As mentioned earlier, there is also an intricate system of basic and annual hatchery plans that are reviewed annually by the Department, performance reviews, and, in appropriate cases, permit alterations. 5 AAC 40.800-.900. Production levels are carefully monitored by the Department under these regulations and adjusted if necessary for economic or biological reasons. The Department's statutory authority for



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this intense level of hatchery regulation is quite clear, and there seems to be little room for the Board to insert itself into a very public process that has been working well for many years.

CONCLUSION

Back in the early 1970s, Prince William Sound experienced recurring wild salmon run failures, which caused serious financial distress throughout the region. In response, the framers of the Constitution and the Alaska Legislature took active and far-sighted steps to first establish a state run hatchery system and, shortly thereafter, the private non-profit and regional hatchery regime that has consistently stabilized the runs and enhanced salmon harvests throughout the state since 1976. Overall, Alaska's hatcheries have been a remarkable success and have helped the state's salmon resources to thrive and expand over the past 40 years, creating millions of dollars of positive economic impact, without any demonstrable harm to wild salmon stocks.

From the very beginning, every aspect of Alaska's hatcheries' creation, operation, and production have been closely supervised and regulated by the Department, with harvest area and allocation decisions made by the Board. This division of responsibility has served Alaska well for many years and there is no good reason to abandon it now.


For these reasons, the Board should deny the Petition.



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ASHBURN & MASON, P.C.




Matthew T. Findley



A. William Saupe

for:



Laura C. Dulic



PSVOA

PURSE SEINE VESSEL OWNERS' ASSOCIATION

1900 W Nickerson St., Ste. 320 ■ Seattle, WA 98119 ■ Tel: (206) 283-7733 ■ Fax: (206) 283-7795 ■ www.psvoa.org



PC075
1 of 2

October 2, 2018

VIA E-MAIL

John Jensen, Chair
Alaska Board of Fisheries
P.O. Box 115826
Juneau, AK 99811

**Re: Oppose ACR 1 & 2 Reductions to Salmon Enhancement Programs
Oppose ACR 10 Closure of the Sitka Sound Commercial Sac Roe Fishery**

Dear Chair Jensen Board of Fisheries Members:

The Purse Seine Vessel Owners Association ("PSVOA") respectfully submits the following comments in opposition to ACR 1, 2, and 10. PSVOA represents purse seine vessel owners throughout Alaska and the Northwest, including seiners who participate in the Southeast Alaska and Prince William salmon seine fisheries, and the Sitka Sound commercial sac roe fishery.

ACR 1 – This proposal was submitted previously in a similar form as an “emergency petition” on two separate occasions. The Board denied the petition each time. As an ACR, this proposal should be rejected as well because it fails to satisfy the criteria for an out of cycle proposal.

Alaska’s hatcheries, including the hatchery which is the purported subject of this ACR, are managed through a collaborative and public process involving ADF&G, the Regional Planning Team, and the Valdez Fishermen’s Development Association. This process involves input from interested stakeholders. Any action taken by the Board in response to this ACR will only serve to undermine the collaborative efforts of these organizations and the individuals they represent.

Moreover, the science underlying the theory that Alaska’s salmon hatcheries are somehow responsible for the recently observed decline in some salmon species in certain regions of Alaska is speculative, at best. In contrast, the tremendous economic benefits Alaska’s salmon hatcheries provide commercial fishing families and Alaska’s coastal communities are well-documented.

For the reasons stated above, PSVOA respectfully requests that the Board deny ACR 1. At best, ACR 1 is premature. The Board has asked for information during the October 15-16 Work Session. ADF&G will present numerous documents and summarize the best available science, which will debunk the unproven theories and misinformation which underly ACR 1.

ACR 2 – This draconian proposal is completely unfounded, and, like ACR 1, it is premature. The current Board has determined that it wants to undertake a review of the state’s salmon enhancement program at the October 2018 work session. PSVOA applauds the Board’s decision to



undertake such a review. During the review, the Board will learn about the salmon enhancement program, and review the science upon which the enhancement program is based. In addition, the Board will be given a presentation on the most recent data collected in ADF&G's ongoing Hatchery Wild Interaction Research study and the North Pacific Anadromous Fish Commission's ocean carrying capacity science.

PSVOA respectfully requests the Board reject ACRs 1 & 2, which would unnecessarily rescind ADF&G's NPA for 20 million VFDA pink salmon eggs. Even considering these ACRs before receiving a briefing on the science referenced above and other relevant information would be premature and a disservice to those who rely on Alaska's enhancement program for commercial and recreational harvest.

ACR 10 – A nearly identical proposal to eliminate the commercial Sitka Sound herring sac roe fishery was rejected by this Board in January 2018. The author of the proposal has not come forward with any new information since the Board's decision in January. Accordingly, ACR 10 does not satisfy the criteria for acceptance as an ACR. ADF&G's ASA herring model has been successful in sustaining the Sitka Sound herring stock for many years while providing opportunities for commercial harvest, which is closely monitored. To its credit, ADF&G has initiated outside peer review of the ASA model by leading researchers at the University of Alaska and University of Washington. In addition, ADF&G is presently conducting research to determine the maturity at age composition of the Pacific herring in Sitka Sound. PSVOA respectfully requests the Board deny this ACR.

PSVOA appreciates the opportunity to comment on these ACRs, and thanks the Board for its consideration of the same.

Very truly yours,

/s/ Robert Kehoe

Robert Kehoe, Executive Director
Purse Seine Vessel Owner's Ass'n



Raymond M May, F/V Sitkinak

Po Box 8985

Kodiak, Alaska 99615

Board of Fisheries

October 15-16 Work Session

Anchorage, Alaska

October 3, 2018

RE: Agenda change requests ACR 1,2 and 10

Dear Chairman Jensen and Board of Fish Members:

I was born and raised on Kodiak Island. I'm an Alaska Native fisherman that is enrolled in two tribes (Native Village of Port Lions & Native Village of Afognak), along with being a shareholder of three Native Corporations (Leisnoi Inc., Afognak Native Corp., & Koniag Inc.). I've been a subsistence, sport, & commercial fisherman in Alaska for 39 years. I don't believe ACR 1,2 and 10 should be taken up out of cycle.

Why would the board decide to take up ACR 1 and 2 on salmon hatchery egg take after two board members called a special meeting in May and July on the same issues? We just went thru the ACR 10 herring issue January 2018 in Sitka. Is there really new information on any of these issues? I personally saw plenty of herring biomass to warrant enough fish for a subsistence harvest in the Sitka Sound sac roe fishery all of the last four years. Permit holders have taken a conservative effort to ensure a healthy future in this fishery.

As a commercial fisherman I have a business plan to execute & pay for this permit I purchased 4 years ago. I do not see any biological reason to reduce harvest rate or strategy. Alaska has the best managed fisheries in the world. I have only seen the ADF&G conservatively manage Sitka herring sac roe fishery as the overall biomass of herring around Sitka Sound has increased over the past 40 years. There is plenty of data already presented to you this year to support my stance on these ACR's. Thank you for your time & consideration.

Sincerely,

Raymond May

Owner, F/V Sitkinak

Submitted By
Richard Dane Eckley
Submitted On
10/3/2018 12:33:39 PM
Affiliation
fisherman

Date: 10/3/2018
Fisherman: Richard D Eckley
Vessel: F/V Ariel
Homeport: Cordova, Alaska

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR1 and ACR2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are heavily science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed, Richard D Eckley



Submitted By
Rob Nelson
Submitted On
10/3/2018 11:35:34 AM
Affiliation

Chairman Jensen and members of the board,

My name is Rob Nelson, I am a lifelong Alaskan, commercial fisherman and sportsfishing enthusiast. I grew up on the southern Kenai peninsula before and during the development of our hatchery system. I have seen first hand the benefits of enhancement efforts throughout the state to all user groups.

There are three ACR's I'd like to comment on. First is ACR 1, the proposal to destroy 20 million pink salmon fry at the Solomon Gulch hatchery. WOW! Who would have thought a group would petition to destroy salmon. The 20 million fry in question are a result of a long review and permitting process between VFDA and ADFG. Aside from the obvious benefits on the commercial side, I would you to personally observe the throngs of sportfishermen lining the beaches around the head of Port Valdez and see the steady stream of pink salmon coming thru the fish cleaning stations around the harbor. There is no biological reason to destroy these salmon that are destined to provide additional opportunities and the resulting benefits to commercial, sport, state and associated services.

ACR 2, Are we really trying to call up an alleged political promise from 18 years ago. Its kinda hard to even add to that. From my perspective, both these ACR's have roughly the same goal, and that is to cut hatchery production with the misguided thought that would result in increased Chinook returns. Of course it is ironic since a large portion of our Chinook sport harvest is of hatchery origin ie: Kasilof river, Ship creek, Homer spit etc. I would also like to address the pink salmon straying in Lower Cook Inlet that has caused such an uproar. First I'd like to note that some of the identified streams like Fritz Creek and Beluga Slough do not have established salmon runs. Occasionally fish appear in these creeks on a sporadic basis. Virtually every fish that does show up is a stray, hatchery origin or wild. It is in salmon DNA, part of their survival strategy that has made the species so successful. There is plenty of documented examples and research on the straying habits of all salmon species.

ACR 10, This is just another attempt to become the sole allowable user group of this resource. A blatant disregard to sound science, research and state management. The Sitka herring stock is viewed around the world as the gold standard in science based, responsible fishery management. This was just before the board just 9 months ago. Once again there is no justification for this ACR. Thank you for your time, I'd be happy to discuss these issues further at your convenience.

Submitted By
Robert R Eckley
Submitted On
10/3/2018 12:13:55 PM
Affiliation
fisherman

Date: 10/3/2018
Fisherman: Robert R Eckley
Vessel: F/V Ariel and F/V Dreadnought
Homeport: Cordova, Alaska

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR1 and ACR2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are heavily science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed, Robert R Eckley and Family



Submitted By
Russell Cabana
Submitted On
9/27/2018 2:05:47 PM
Affiliation
PWS Permit holder

Concerning ACR 1.

First off this should not be brought up during a non-PWS cycle. I understand the concern for chinook and sockeye salmon returning to the Kenia river, but to blame it on the PWS Hatchery programs is wrong. I would very much like to see the scientific research studies and agency reports that document the adverse impacts on wild salmon and other wildlife from increased food competition in the North Pacific Ocean and what the Negative impacts are. Mainly because over the last ten years PWS has seen some of its largest natural runs on record. On the straying concern Pink salmon straying is natural accuring and has been going on well before the introduction of Hatchery stocks. As for the Increased food competition, from what I've read on the ADF&G website and seen first hand out in the ocean, Chinook and Pink salmon have completely different diets in the ocean. Pink salmon feed the most in their last few months before returning to spawn where they eat a large number of pink salmon fry leaving to the ocean. Based on the ADF&G website Chinooks main threats are overfishing, dams, habitat loss, habitat degradation, and climate change. Most of which occurs within the river which returning to. So unless there is some hard evidence of direct corolation between the two, I do not understand why this is on the up coming 10/3 Work Session.

Submitted By
Russell Cabana
Submitted On
10/2/2018 11:39:05 AM
Affiliation
PWS seiner

Concerning the ACR 1 and 2, hatcherys have always been a huge part of Alaska's fisheries and create a great source of taxable income for the state and its communities. Cutting back on hatchery programs would not only hurt Alaska's economy, but hard working Alaskan's as well. The issue stated in ACR 1 needs to be solved in the Kenia Rivier itself and not from Hatchery's around the state!!

Submitted By
Sharon Tuttle
Submitted On
10/3/2018 3:24:57 PM
Affiliation
None

Phone
907 488-7678
Email
tutfam@ptialaska.net
Address
3520 Wildwood Dr
North Pole, Alaska 99705

I oppose any limitations to Alaska's hatcheries and the production of salmon. A significant sector of Alaska's population depends on fishing and its supporting industries for their income and livelihood. Our state and its citizens already face budgetary challenges and repercussions as the State faces more and more budgetary reductions in funding and available resources. Approving hatchery limitations would do nothing to move our state forward and out of its current fiscal situation.

I would respectfully ask the Board not to support hatchery limitations, but rather, work with industry experts, statewide commercial fisherman, and the public to explore innovative options and efficiencies to expand this valuable state resource, rather than limit it.

Thank you for the opportunity to comment and your time for considering all the input provided.



Sitka ♦ Craig ♦ Valdez ♦ Naknek ♦ Metlakatla

P.O. Box 1741 Cordova, AK 99

Phone: (907) 738-7202



October 3, 2018

Chairman John Jensen
Alaska Board of Fisheries
Boards Support Section
PO Box 115526
Juneau, AK 99811
Submitted via email: dfg.bof.comments@alaska.gov

RE: Comments on hatchery-related Agenda Change Requests

Dear Chairman Jensen and Alaska Board of Fisheries Members:

Silver Bay Seafoods, LLC (Silver Bay, or SBS) is opposed to Agenda Change Requests (ACRs) 1 and 2 currently under consideration by the Alaska Board of Fisheries (BOF, or board) at its October 15 and 16 Work Session in Anchorage. Silver Bay recommends that the Alaska Board of Fisheries confirms Alaska Department of Fish and Game's (ADF&G) assessment of ACRs 1 and 2, including: a) there is not a fishery conservation purpose or concern, b) the agenda change request does not correct an error in regulation, and c) the agenda change request does not address an effect of regulation on a fishery that was unforeseen when the regulation was adopted. Apart from consideration of the many technical arguments which will be heard refuting the proposers' claims, Silver Bay does not believe that these ACRs meet the criteria for being heard outside of their regular cycle.

Silver Bay Seafoods is a vertically integrated, primarily fishermen-owned processor of frozen salmon, herring, and other seafoods products for both domestic and export markets. Silver Bay began in 2007 as a single salmon processing facility in Sitka, Alaska, and has since grown into one of the largest seafoods companies in Alaska. Silver Bay has state of the art, high volume processing and freezing facilities throughout Alaska, currently operating in Sitka, Craig, Valdez, Naknek and Metlakatla. The Company is also active in the California Loligo squid fishery.

Silver Bay Seafoods opposes the Kenai River Sportfishing Association's (KRSA) petition for an ACR (ACR 1) and their requests to prohibit the Valdez Fisheries Development Association (VFDA) from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018, and to cap VFDA's Solomon Gulch Hatchery (SGH) egg take capacity at the level permitted in 2017. **Silver Bay Seafoods recommends that the BOF confirms Alaska Department of Fish and Game's (ADF&G) and the board's previous findings for a lack of emergency with regards to similar iterations of this proposal, denies KRSA's request for an ACR, and further recommends that the board take no action to reduce the permitted pink salmon egg take capacity at SGH.**

Silver Bay began participating in the Prince William Sound (PWS) commercial salmon fishery in 2010, maintains a significant market share in the fishery, and is interested in ensuring its long-term sustainability and viability. Following the record-setting season of 2015 in which the PWS management area's salmon



harvests and estimated ex-vessel values were among the best in the state for the third time in a handful of years (2010, 2013, and 2015), Silver Bay embarked on an expansion of its operations in Valdez. Hundreds of Alaskan electricians, fabricators, general contractors, and other skilled trades workers constructed a 65,000-square foot processing facility with a daily capacity to process 2.7 million round pounds of salmon per day. Complete with an ikura processing mezzanine and salmon oil plant, the company also constructed an adjacent 17,000 square foot 206-bed bunkhouse, thereby increasing its capacity to house a 450-person workforce to operate the facility. Altogether, Silver Bay invested many tens of millions of dollars in its new facilities in Valdez. As part of this expansion, Silver Bay also grew its harvesting fleet to a total of 60 fishermen-owners who have invested in the company and their Valdez plant, and who share in the company's success. Silver Bay's fleets and their families are provided with an opt-in health insurance plan, and participate directly in the company's management decision-making processes.

Silver Bay Seafoods and its fishermen-owners pursued this expansion based in part on their shared experiences in the PWS salmon fishery, and a faith in ADF&G's and the BOF's consistent science-based management of the area's salmon fishery resource. Silver Bay and its fishermen-owners participate in many of the forums associated with this fishery, including service on boards of directors for the area's hatchery operators, and engagement with private-public collaborations which exist between commercial fishery participants and ADF&G. This includes participation in the local regional planning team process which, after thorough review of VFDA's Permit Alteration Request in 2014, approved a gradual and staggered increase in permitted pink salmon egg capacity, culminating with VFDA's 20-million egg increase at SGH in 2018.

Silver Bay is aware of ADF&G Lower Cook Inlet (LCI) stream sampling efforts in 2017, which resulted in the documentation of an estimated 214 PWS hatchery pink salmon being found in ten LCI streams with escapement goals. Although the proposers of ACR 1 assert that these fish represent an unacceptable level of pink salmon produced by PWS hatcheries, we note ADF&G Commissioner Cotten's June 14 Memo to the Alaska Board of Fisheries which states that not enough information is currently available to determine whether these fish present a threat to fish or game resources. What is known is that these sampling efforts were opportunistic and scientifically inconclusive by nature and design, and their findings of PWS hatchery fish represent a scant .1% (0.001) of these streams' midpoint Sustainable Escapement Goal (SEG) range as reported by Otis et al. (2016).

With regards to the proposers' reference to recent scientific publications which they argue cause great concern for the biological impacts associated with PWS hatchery production, we refer you to the Alaskan hatchery operators' critique of the proposers' previously cited publications submitted as PC003 for the July 17, 2018 Alaska Board of Fisheries Emergency Petition Meeting in Anchorage. It is our understanding that a more detailed review of these publications will be provided to the board at its October Work Session meetings. Many of the publications previously cited by KRSA are irrelevant to the discussion at hand, with some deserving of little credibility within the scientific community. Silver Bay recommends instead that the Alaska Board of Fisheries continues to familiarize itself with and supports the ongoing Alaska Hatchery Research Project (AHRP) which was designed and is conducted at great expense to explore potential interactions between hatchery and wild salmon in PWS. The AHRP may be found further described at:

http://www.adfg.alaska.gov/index.cfm?adfg=fishingHatcheriesResearch.current_research



The proposers of ACR 1 further assert that PWS pink salmon releases appear to be jeopardizing marine survival of wild stocks of sockeye and Chinook salmon throughout the North Gulf Coast of Alaska, although widely accepted peer reviewed data do not support this claim. For example, Ruggerone and Irvine (2018) report that total abundance (catch plus escapement) of natural-origin sockeye salmon returning to the South Peninsula, Kodiak, Cook Inlet, PWS, and Southeast Alaska regions has increased in recent years from an average of 2.2 million fish per year for the years 1952–2005, to an annual average of 3 million fish for the years 2006–2015. This increasing trend holds true for the entirety of natural-origin sockeye salmon stocks returning to Asia and North America, with total abundance averaging 85.2 million fish annually for the years 2006–2015, versus an average annual abundance of 65.4 million fish for the years 1952–2005. Wild pink and chum salmon have also experienced record production throughout the North Pacific Ocean in recent years, with Ruggerone and Irvine (2018) reporting total natural-origin pink salmon returns to Asia and North America as having increased from an annual average of 261 million fish for the years 1952–2005, to 406 million fish annually during the years 2006–2015. Finally, Ruggerone and Irvine (2018) report a total average annual abundance of natural-origin chum salmon in Asia and North America of 47.6 million fish for the years 1952–2005, increasing to 63.1 million fish annually in 2006–2015. None of these findings are supportive of the proposers' claims for harm to wild salmon stocks due to PWS hatchery pink salmon production.

Recent downturns in Chinook salmon abundance throughout Alaska have been well documented, although the cause for such declines is unknown. Using Kenai River Chinook salmon as an indicator for potential interactions with PWS pink salmon provides some results that counter ACR 1's claims. Total abundance estimates for Kenai River Chinook salmon do not have as long of a time series available as previously reported in Ruggerone and Irvine (2018), with Kenai River Chinook salmon abundance estimates available since the mid-1980s. However, it should be noted that Fleishman and Reimer (2017) report total Kenai River Chinook salmon abundance estimates in 2004 and 2005 which serve as the highwater marks for this stock for the years 1986–2015 – some 28 and 29 years following the first releases of hatchery pink salmon fry in PWS. Further, preliminary estimates from the 2018 season indicate upticks in productivity and escapements for Copper River Chinook salmon in Southcentral Alaska, and for Chilkat River, Unuk River, and some hatchery Chinook salmon stocks in Southeast Alaska as well.

It should also be noted that hatchery pink salmon production in PWS has been relatively stable for decades. Starting in 1991, SGH was permitted to take 230 million green pink salmon eggs annually and did so for the following 23 years. In this time, industry and fishery management successfully developed innovative and effective approaches to ensure that ADF&G's wild stock objectives have been met while maximizing the value of the available resource. This success allowed VFDA to diversify and expand its operations to benefit the area's sport fish user groups. For example, it is estimated that VFDA hatchery production accounts for 75% of all coho and 90% of all pink salmon caught by sport fish anglers in the Valdez area, and the total sport fish economic output for VFDA is estimated at \$6.6 million annually. These programs are largely paid for through the cost recovery harvest of hatchery pink salmon, the revenue from which comprises an overwhelming proportion of VFDA's budget. Thus, any decrease in pink salmon production as is recommended by ACR 1's proposers may reduce VFDA's capacity to support those hatchery programs which benefit noncommercial fishery participants the most.



Finally, it is estimated that salmon harvested in the VFDA pink salmon fishery represents 30–40% of the seafood product produced annually at the SBS Valdez plant. If the proposals discussed in this letter were to be acted on by the board during its 2018/2019 cycle, individuals and entities associated with Silver Bay Seafoods' Valdez plant operations – including 60 seine vessel captains; 210 seine crew members; 25 tender operators and their 100 crew members; over 400 seafood processors; local shipping companies, such as Alaska Marine Lines and Samson Tug and Barge, and their employees; 6 spotter pilots; local restaurants, coffee shops, grocery stores, bars, hotels, gear stores, fuel docks, rental cars and taxi companies – would be harmed. Further, the City of Valdez would see significant reductions in revenues to their electrical and harbor departments and declines in revenues from raw fish taxes and sales taxes as well. Altogether, VFDA estimates that a 20-million green egg reduction at SGH would result in a loss of over \$1.7 million annually to PWS common property fisheries.

Likewise, Silver Bay Seafoods is opposed to ACR 2, which seeks to reduce the statewide private non-profit salmon hatchery egg take capacity to 75% of permitted levels in 2000. If the board were to follow this ACR's recommendations, it would result in significant losses to commercial salmon fisheries in PWS and Southeast Alaska. For example, this would reduce PWS pink salmon production by approximately 291 million eggs relative to 2018 production, chum salmon by another 70 million eggs, sockeye salmon by 5.26 million eggs, and coho salmon by just under 800,000 eggs. Using some basic assumptions, this would result in a loss of up to \$50 million annually to common property fisheries in PWS, with similarly catastrophic impacts for regional communities, processors, and supporting industries. Much of the same could be expected for Southeast Alaska as well, despite little justification having been provided in support of ACR 2 by its proposer.

Again, Silver Bay Seafoods recommends that the BOF confirms Alaska Department of Fish and Game's (ADF&G) and the board's previous findings for a lack of emergency with regards to a similar iteration of ACR 1, denies KRSA's request for an ACR, and further recommends that the board take no action to reduce the permitted pink salmon egg take capacity at SGH. Similarly, Silver Bay recommends that the board takes no action on ACR 2, and likewise denies its inclusion on the agenda for the board's Statewide Finfish Meeting in March 2019. Instead, Silver Bay urges the board to continue with its previous plans to convene an informative meeting at its October Work Session in Anchorage, followed by a systematic review of hatchery production in each of the State's management areas during regularly scheduled board cycle meetings over the next several years.

We hope that the points raised in these comments provide you with additional information to aid you in your final determinations regarding ACRs 1 and 2. Thank you for your service to this valuable resource and the communities that depend on it.

Sincerely,

Tommy Sheridan
External Affairs
Silver Bay Seafoods
tommy.sheridan@silverbayseafoods.com

References cited

Fleischman, S. J, and A. M. Reimer. 2017. Spawner-recruit analyses and escapement goal recommendations for Kenai River Chinook salmon. Alaska Department of Fish and Game, Fishery Manuscript Series No. 17-02, Anchorage.

Otis, E. O., J. W. Erickson, C. Kerkvliet, and T. McKinley. 2016. A review of escapement goals for salmon stocks in Lower Cook Inlet, Alaska, 2016. Alaska Department of Fish and Game, Fishery Manuscript Series No. 16-08, Anchorage.

Ruggerone, G. T., and J. R. Irvine. 2018. Numbers and biomass of natural- and hatchery-origin pink salmon, chum salmon, and sockeye salmon in the North Pacific Ocean, 1925–2015. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science* (10): 152–168.



Sitka ♦ Craig ♦ Valdez ♦ Naknek ♦ Metlakatla

P.O. Box 1741 Cordova, AK 99

Phone: (907) 738-7202



October 3, 2018

Chairman John Jensen
Alaska Board of Fisheries
Boards Support Section
PO Box 115526
Juneau, AK 99811
Submitted via email: dfg.bof.comments@alaska.gov

RE: Comments on Agenda Change Request 10

Dear Chairman Jensen and Alaska Board of Fisheries Members:

Silver Bay Seafoods, LLC (Silver Bay, or SBS) is opposed to Agenda Change Request 10 currently under consideration by the Alaska Board of Fisheries (BOF, or board) for deliberation at its October 15 and 16 Work Session in Anchorage, and thanks the board for the opportunity to comment on this important issue. Silver Bay recommends that the Alaska Board of Fisheries confirms Alaska Department of Fish and Game's (ADF&G) assessment of ACR 10, including: a) there is not a fishery conservation purpose or concern, b) the agenda change request does not correct an error in regulation, and c) the agenda change request does not address an effect of regulation on a fishery that was unforeseen when the regulation was adopted. Apart from consideration of the many technical arguments which will be heard refuting the proposers' claims, Silver Bay does not believe that this ACR meets the criteria for being heard outside of its regular cycle.

Silver Bay Seafoods is a vertically integrated, primarily fishermen-owned processor of frozen salmon, herring, and other seafoods products for both domestic and export markets. Silver Bay began in 2007 as a single salmon processing facility in Sitka, Alaska, and has since grown into one of the largest seafoods companies in Alaska. Silver Bay has state of the art, high volume processing and freezing facilities throughout Alaska, currently operating in Sitka, Craig, Valdez, Naknek and Metlakatla. The Company is also active in the California Loligo squid fishery. Silver Bay began participating in the Sitka Sound commercial sac roe herring fishery in 2008, maintains a significant market share in the fishery, and has an interest in ensuring its long-term sustainability and viability.

Silver Bay opposes ACR 10, which seeks to close the Sitka Sound commercial sac roe herring fishery. Other fishery participants will undoubtedly provide technical arguments and supporting documentation in response to ACR 10. However, our comments will focus on the collaborative opportunities identified during the January 2018 Southeast and Yakutat Finfish and Shellfish meetings in Sitka. Namely, during that meeting, Southeast Herring Conservation Alliance (SHCA) submitted RC 379 for public consideration, which was received favorably by industry, representatives of Sitka Tribe of Alaska (STA), and BOF members:



http://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2017-2018/se/rcs/rc379_Southeast_Herring_Conservation_Alliance_Subsistence_Herring_Eggs.pdf

Similarly, RC 380 was also submitted to the board by Alaska Native Inter-Tribal Association (ANITA) and SHCA for consideration as a mechanism to protect the Sitka Sound herring fishery resource in perpetuity for all users including subsistence herring egg harvesters, commercial fishermen, and the community of Sitka:

http://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2017-2018/se/rcs/rc380_Southeast_Herring_Conservation_Alliance_Subsistence_Herring_Eggs.pdf

Silver Bay Seafoods expressed strong support of RCs 379 and 380 previously, and remains committed to these collaborative endeavors.

In response to these gestures, it is our understanding that STA expressed gratitude for industry's willingness to work with the Tribe in a cooperative and collaborative manner. It is our further understanding that SHCA and industry made good faith efforts to ensure that SHCA herring egg harvests were conducted in such a way as to reduce potential conflict between SHCA and subsistence harvesters. And though STA ultimately did not enter into a cooperative agreement with SHCA and ANITA, it is our understanding that the Tribe did agree to present this offer to a working group who will make a recommendation to the Tribal Council. Silver Bay Seafoods views this dialogue as a step in the right direction, and encourages all stakeholders to embrace the promise and possibilities that remain with RC 379 and RC 380.

For example, with regards to RC 379's "Workforce Development" component, ample opportunities remain in Sitka for collaboration between industry, STA, and others to better utilize local fisheries as educational platforms for local students. The University of Alaska Southeast Fisheries Technology Program in particular has a history of working with industry and Native organizations to promote fisheries education for high school students, and has recently been awarded a National Science Foundation (NSF) grant for a project called "Enhancing Aquaculture: education for underserved Alaskan communities to promote workforce development in fishing industries." The main goal of the grant is to develop a semester-long aquaculture intensive in Sitka, Alaska, in partnership with local hatchery programs operated by Northern Southeast Regional Aquaculture Association (NSRAA) and Sitka Sound Science Center (SSSC):

<http://salmonculturesemester.alaska.edu/index.html>

Further, a planned March 2019 Alaska Chapter American Fisheries Society (AFS) conference in Sitka presents an excellent opportunity to achieve RC 379's "Improved community relations through collaborative educational/social event" component. Silver Bay recommends that industry and STA work together to ensure that this event provides an educational opportunity for all parties to include scientific presentations, and social/community gathering(s) designed around the conference's format.



Finally, Silver Bay respectfully disagrees with ACR 10s assertions that the 2018 commercial fisheries' failure to harvest the season's Guideline Harvest Level (GHL) is indicative of biological concern for the fishery resource. Instead, it should be noted that 60% of the forecast biomass in 2018 was below industry's minimum size threshold to satisfy market requirements, thereby making shortfalls in commercial harvest likely during the 2018 season.

Although the preliminary estimates reported by ADF&G indicate lesser Sitka Sound total spawn mileage in 2018 relative to the previous 10-year average, initial indications are for spawn deposition extending nearly twice as far offshore in 2018 as was the case in 2017, and with higher egg density. Due to exceptional spawn observed along the Kruzof Island shoreline in particular, the 2018 herring spawning biomass was much higher than was apparent from the spawn mileage alone, according to ADF&G. Final results from ADF&G's 2018 herring stock assessment for Sitka Sound will be available in November 2018, although the department currently estimates that the Sitka Sound herring population size did not change appreciably between 2017 and 2018.

Again, Silver Bay Seafoods recommends that the BOF denies the proposers' request for the inclusion of ACR 10 on the agenda at the board's Statewide Finfish Meeting in March 2019. Instead, Silver Bay urges that Sitka Sound fishery resource stakeholders continue to make progress with regards to RC 379 and RC 380, including the creation of workforce development opportunities for local students, and an informational forum at the proposed AFS conference in Sitka this coming spring.

We hope that the points raised in these comments provide you with additional information to aid you in your final determinations regarding ACR 10. Thank you for your service to this valuable resource and the communities that depend on it.

Sincerely,

Tommy Sheridan
External Affairs
Silver Bay Seafoods
tommy.sheridan@silverbayseafoods.com

Submitted By
Sonja Nelson
Submitted On
9/24/2018 8:27:53 AM
Affiliation

Members of the Board of Fisheries, I am submitting comments in regard to ACR1 and ACR2, I am strongly OPPOSED to these politically driven, propaganda based proposals. I am a Lower Cook Inlet seine permit holder and recognize the contribution to statewide fisheries that hatcheries provide. The claims in the ACR's have no scientific basis and are purely speculative driven by personal bias. There is no legitimate reason for these proposals to be taken up out of cycle, no emergency exists. Thank you, Sonja Nelson



Southeast Alaska Fishermen's



PC084
1 of 5

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October 3, 2018

Board of Fish
Alaska Dept of Fish & Game
John Jensen, Chair
PO Box 115526
Juneau, AK 99811

Dear John Jensen, Chair and Board of Fish Members,

Southeast Alaska Fishermen's Alliance (SEAFa) is a multi-gear/multi-species non-profit organization representing our 330+ members involved in the salmon, crab, shrimp and longline fisheries of Southeast Alaska. Enclosed are our comments on the Agenda Change Requests being considered at the October work-session and additional comments for consideration.

ACR 1 - Prohibit VFDA from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity (KRSA):

OPPOSE

SEAFa agrees with ADF&G's opinion in RC 2 staff comments evaluation that this proposal does not meet any of the three criteria for acceptance as an agenda change request and has been the subject of several emergency petitions. The underlying arguments of the previous petition was straying and ocean carrying capacity. Submitted for this work-session is a paper by Alex Wertheimer and William Heard titled High Ocean Biomass of Salmon and Trends in Alaska Salmon in a Changing Climate. We agree with the conclusions of this work by Heard & Wertheimer. We also attended the North Pacific Anadromous Fish Commission (NPAFC) mentioned in the paper with participation from all the Pacific Rim Countries on ocean carrying capacity and came away from that meeting no longer concerned about ocean carrying capacity. For the issue of salmon straying, that is a fundamental aspect of salmon. Without straying



there would be no salmon in the inside waters of SE Alaska as they use to be covered by glaciers.

ACR 2 - Cap statewide private non-profit salmon hatchery egg take capacity (Virgil Umphenour): OPPOSE

SEAFA agrees with ADF&G's RC 2 evaluation that this proposal does not meet any of the three criteria for acceptance as an agenda change request. We agree with the comments submitted by the Dept. According to ACR 2 it states that under AS 44.62 BOF has the authority to amend private non-profit hatchery egg takes for production. We are not sure how the Alaska Administrative Procedures Act grants authority over hatchery egg takes. We have read ADF&G's comments in RC 2 as well as the Dept of Law comments from November 6, 1997 and believe that the Board of Fish does not have the authority to reduce hatchery egg take capacity to 75% of the 2000 level as requested in ACR 2. In particular, page 6 of the Dept of Law memo points to a decision by the Alaska Supreme Court (Peninsula Marketing Ass'n v. Rosier 890 P.2d 567, 573 Alaska 1995) that points out "to read the limited grant of authority to the Board over hatcheries set out in AS 16.10.440(b) to permit the Board to effectively veto ***fundamental policy decisions by the department for which there is specific statutory authority***¹ would upset the balance of the statutory scheme chosen by the legislature."

HATCHERY COMMENTS IN GENERAL REGARDING BOTH ACR 1 & 2 AND ALASKA SALMON HATCHERY FORUM BEING HELD DURING THE WORKSESSION

SEAFA fully supports the State of Alaska hatchery program and regulatory process. If you understand and participate, the hatchery permitting process is very public and transparent. Hatchery permits go through a very rigorous review through ADF&G genetics, pathology and management staff which is available for the Regional Planning Team to consider in their recommendation to the Commissioner of ADF&G.

The hatchery program was developed in response to the decline in abundance of salmon in the 1970 and was meant to supplement wild stocks and take pressure off wild stocks when necessary while moderating the extreme fluctuations in salmon abundance. The 2018 salmon season is a very good example of meeting the intent of the hatchery program. Without enhanced salmon in Southeast Alaska it would have been a very poor season for all three gear groups. Seine fishing in Crawfish doubled some of their seasons, hatchery opportunities helped the gillnet fleet with the restriction from stocks of concern action plans and provided chum and coho opportunities to the troll fleet with the reduced Chinook allocations. The hatchery

¹ Emphasis added



factories are providing you a report on the Alaska Salmon Hatchery Contribution Estimates to Sport, Personal Use and Subsistence Harvests (1979-2017) that is very informative in the effect salmon enhancement has had on these fisheries in addition to the commercial fisheries. While a good portion of the costs of enhancement comes from “cost recovery” the commercial fishermen also pay a self-assessment tax of up to 3% in many areas that also significantly contribute to the ability for a program to exist.

In the late 1990’s early 2000’s there were many meetings between the Board of Fish, ADF&G and public discussing hatchery issues and what authority the Board of Fish has regarding the hatchery program. In the end, hatchery factories agreed to amend their permits to the amount of fish actually being released at each site (i.e. dissolving latent capacity that existed in the program) and resulted in the Joint Protocol on Salmon Enhancement between the Board of Fish and ADF&G. (#2002-FB-215). SEAFA supports the idea of the Board of Fish holding hatchery forums as proposed in the Joint Protocol to be brought up to date on the hatchery programs and current research and to understand the hatchery releases for the Board cycle they will be acting upon that year. **Hatcheries are vital to the economical well-being of the commercial fisheries as well as sport, personal use and subsistence.**

ACR 9 - Align the Southeast Alaska King Salmon Management Plan with the Pacific Salmon Treaty annex (ADF&G): SUPPORT

SEAFA supports this ADF&G proposal that provides the mechanism to align sport fish regulations with the new Pacific Salmon Treaty agreement that was not in place during last winter’s SE Board cycle. This proposal definitely meets the criteria for acceptance of an agenda change request under section (b) The board will, in its discretion, change its schedule for consideration of proposed regulatory changes as reasonably necessary for coordination of state regulatory actions with federal fishery agencies, programs, or laws. Aligning the sport fish regulations to the new terms in the treaty is important for the conservation of Chinook Salmon that are at low levels of abundance at this time.

ACR 10 - Close Sitka Sound commercial sac roe herring fishery until regional herring stock status improves, additional research on herring is conducted, and the amount necessary for subsistence is met in at least three consecutive years (Louise Brady & Peter Bradley): OPPOSE

SEAFA opposes this proposal as it does not meet any of the three criteria for acceptance as an ACR. The intent or effect of this proposal was considered and heard during last winter’s SE Board of Fish cycle, the appropriate avenue for consideration. This proposal is very allocative in



nature and the proposers did not address what new compelling information is available for consideration that the Board did not have access to last winter. The herring fishery is intensely managed by ADF&G based on science and protecting the sustainability of the resource for the future of the resource. Changes have been made to this fishery including at last winter's meeting to address concerns brought forward by the public. Fishery resources are cyclical in nature and with herring don't always spawn in the exact same location. Natural fluctuations in biomass and spawning behavior do not indicate a collapse in stocks.

ACR 11 - Align regulations for sport fishing services and sport fishing guide services (ADF&G) : SUPPORT

SEAFa supports this ADF&G proposal to align sport fishing services & sport fishing guide services regulations with the change in the status of legislation sunseting January 1, 2019. This proposal meets the requirement for an agenda change request by correcting an error in a regulation as well as (b) coordinating current regulations with statute. Maintaining a registration system for marine waters for sport fishing services and sport fishing guide services is important particularly for maintaining the commitments made and meeting federal law for the halibut fisheries.

MISC. BUSINESS AGENDA:

Last winter the Board of Fish passed Proposal #150 submitted by NSRAA for establishing a SHA in Crawfish Inlet with the intent that all gear groups be allowed to participate in the area. This was supported by all gear groups (seine, troll & gillnet) during the committee of the whole even though there was acknowledgement that the intent for 2018 was for only troll and cost recovery to occur. In hindsight, there was confusion about this proposal and the Board's intent when the return came in substantially higher and more fish returned than the troll fleet could handle and more than was needed for cost recovery. A seine fishery was able to be prosecuted strictly because this is in a district that can be opened for harvest of salmon to the seine fishery. The gillnet fleet was not given an opportunity basically because there were conflicting opinions on what the board intent actually was.

In looking back, there were a couple of things that occurred, the public/fishermen were speaking to the proposal as if this was for the terminal harvest area (THA – common property opening) and not strictly a Special Harvest Area (SHA – cost recovery). These two terms get confused and used interchangeably at times although there is a legal difference between the two. Within the proposal that the board passed the suggested regulatory language that was intended to include gillnet, seine and troll was written in bold, and brackets instead of bold and



underlined. The Board needs to clarify what they intended when they passed the proposal. It is our understanding that NSRAA will be submitting an emergency petition with regulatory language to clarify last year's proposal/intention. **We request the Board to look at this issue and the confusion around it and clarify their intent in the appropriate fashion.**

We will not be at the Board of Fish meeting but will be listening online to your deliberations and hatchery discussion. If you have any questions regarding our comments above, please feel free to call at any time.

Sincerely,

Kathy Hansen
Executive Director



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October 3, 2018

Board of Fisheries

October 15-16, 2018

Work Session Anchorage, Alaska

Re: Oppose ACR 1, ACR 2 & ACR 10, location of the 2021 SE Finfish meeting

Dear Chairman Jensen and Board of Fish Members:

Southeast Alaska Seiners Association (SEAS) respectfully submit comments opposing ACR 1 submitted by KRSA, ACR 2 submitted by Mr. Umphenour, ACR 10 submitted by Louise and Peter Bradley, and gives comments and recommendations for the 2021 SE finfish meeting location.

ACR 1 – This proposal has been submitted by emergency petitions in much the same language, and was voted down twice this year already. As an ACR it fails to meet the necessary criteria for an out of cycle proposal.

- This issue has been voted down twice, the Board has ruled. Industry and the BOF should not be expected to continually answer the same question in the same year. If necessary the BOF should adopt a provision regarding how many times the same issue can be brought before them “out of cycle”. This is undue time and expense expended by all the stakeholders, especially the valuable time of the BOF.
- The Board has received a plethora of information pertaining to the insignificance of this increase in production in regard to the scope of production in Alaska and more importantly in the global production that share the same “open grazing range”. The research the proponent references in their submission has been thoroughly reviewed, commented on as to its scientific credibility, flaws in research design, and questions and



lenses the Board should consider in looking at these data sources. We believe it needs no further comment.

ACR 2 – How can this Board entertain a proposal that could bankrupt the fishing industry as a whole? We must assume there is a disconnect with the value and significance the hatchery component plays in maintaining financial stability to Alaska’s commercial fisheries.

- Alaska’s vast and well managed fisheries resources have been the **ONLY** long standing, stable economic engine for Alaska since statehood. When timber declined, **WE** were there, when oil declined **WE** were there, when tourism was in its infancy and it fell hard in the recessions, **WE** were there. We are still here, relevant, resilient, a lifeblood. **WE** are a top economic and employment engine whether any legislative body or governing party lends support, adds taxes, cuts fisheries funding, we survive; why? Because Alaska **IS** fisheries; look at our coastline, no other state or country has our vast coastline that provides sustainable fishery resources that are still not fully utilized.

This proposal asks you to downsize a **MAJOR** economic engine of the state’s economy by cutting their production to 75% of 2000 levels. It asks you to disregard the massive investment of the State and the Industry over the last 18 years. It asks you to forget about the business plans of the State’s largest private employer as they have developed over the last 18 years.

But instead of defending who we are and what we contribute, let’s look at it from a similar example;

- If some proposal would be levied on the tourism industry to cut the cruise ship industry to 75% of 2000 level because of perceived pollution or overtaxing some communities infrastructure, how would that look?

Holy Smokes! They have built vessels (billions of dollars), communities have spent millions adding docks to accommodate those vessels, local businesses have tours they depend on for their livelihood, restaurants hotels, bars, etc.... you know the drill. Alaska had 1.9 million visitors in 2017 (McDowell). So like hatchery production, let’s just single out the cruise ship “production”. In 2017, 1.09 million tourists came to Alaska on cruise ships. There is no data available for 2000, but in 2001, 510,000 passengers came to Alaska on cruise ships (State of Alaska 2002). So maybe we think they are ruining our rearing habitat for out-migrating pink salmon and that is why the stocks are in decline, (You could find a better correlation between cruise ships expansion and local fish decline than anything we have seen in recent Board of Fish proposals). Outcome- Cut the cruise ships to **375,750 visitors a year**. That is the equivalent this proposal is suggesting on the fisheries investment that has been made in enhancement



since 2000. There is not a person in Alaska who would support this, and neither should this Board.

ACR 10 - This proposal seeks to take management of the Sitka herring fisheries out of the hands of Fish and Game and prescribe an unresponsive, predetermined, inflexible harvest strategy.

- The BOF, the Department, and the commercial herring harvesters have made significant changes to the fishery in order to address concerns raised by subsistence users.
- Fisheries and all their business partners rely on science based decisions to sustain a positive business model.
- There are 48 permit holders for this fishery, 78% of which are Alaska residents.
- This proposal re-allocates all herring to one user group.
- There is a long history of adjustments to area and guideline harvest levels to respond to changing herring structure dynamics.

We believe the States fisheries biologists should remain in control of setting the harvest levels for this fishery using the best science available and emerging data.

Please consider holding the 2021 BOF finfish meeting in Ketchikan. It is my understanding that The Ted Ferry Civic Center is holding the dates of January 2nd to the 17th available for the BOF meetings pending your confirmation at this work session. Ketchikan has not received the economic benefit of one of these meeting for several years, and its fishermen have had the added burden of travel and lodging expenses to address Board members and participate in the committee of the whole.

Respectfully,

Susan Doherty

Executive Director, Southeast Alaska Seiners Association

1. Alaska Visitor Volume Report Summer 2017 Prepared for: Alaska Department of Commerce, Community, and Economic Development Division of Economic Development July 2018 McDowell Group.
2. ALASKA VISITOR ARRIVALS AND PROFILE SUMMER 2001 Prepared for the State of Alaska Department of Community and Economic Development November 2002

October 3, 2018

Alaska Board of Fisheries
Mr. John Jensen, Chair

By Electronic Copy Only: dfg.bof.comments@alaska.gov

Re: comments on 2018 Work Session ACR 1 and ACR 2

Dear Chairman Jensen and members of the Board of Fisheries,

Thank you for the opportunity to comment on the above-referenced Agenda Change Requests. The Board's response to these two ACRs is exceptionally critical to Alaskans - perhaps more than any of us even realizes or understands. We implore you to carefully consider the potential impact of these ACRs. The granting of them, in order to "be inclusive and hear more" is not innocuous. It encourages and amplifies the steady drumbeat of those in Alaska who continue to search for a target, with no regard for the robust body of science that is in evidence and is contrary to their assertions. Those who would dismantle Alaska's salmon hatchery system also ignore the best and most obvious evidence - that overall hatchery production levels have been steady for decades, a time period which encompasses many record-breaking returns of both hatchery and wild salmon.

Southern Southeast Regional Aquaculture Association (hereafter "SSRAA") is a regional non-profit salmon hatchery organization formed under state and federal law, and which was originally incorporated in 1976. SSRAA, along with the other regional hatchery associations in the State, along with the associated Private Non-Profit (hereafter "PNP") salmon hatcheries in Alaska, have a substantial interest in the outcome of these ACRs.

SSRAA opposes both ACR 1 and ACR 2. We do so for a host of reasons, which are only summarized here in these individual comments. We ask that you also take into consideration the comments by the other Alaska salmon hatchery organizations, the United Fishermen of Alaska, the seafood processors, the municipalities, the fishermen, and the gear groups that have commented and resolved against and in response to these ACRs. Together, we are Alaska's largest private sector employer. Together, we speak as one.

The subject of ACR 1 is, once again, an attempt to reduce the lawfully permitted capacity of the Solomon Gulch Hatchery operated by the Valdez Fisheries Development Association, Inc. SSRAA opposes this ACR and urges the Alaska Board of Fisheries to



take no action to place this on the agenda for the Statewide Finfish Meeting in March of 2019. This ACR is an issue that the Board has previously reviewed a number of times within the last several months. The Board is now weaware of the existence of a long-term scientific study examining the genetic makeup of pink and chum salmon in Alaska, along with the extent of their straying and the impact on productivity of wild pink and chum salmon due to the straying of hatchery reared salmon.

The outcome of this study will help the Board make decisions such as this... but it is not yet complete. It is critical to allow the management of fisheries to be based on accurate science and to wait for these conclusions, which is exactly how the RFM and MSC sustainability organizations are addressing the certification of salmon hatchery fisheries. To do otherwise is to lessen the distinguished standing of Alaska's fisheries management structure and practice.

In the realm of science as well, the Board has the Department's determination that there is NOT a fishery conservation purpose or reason for either ACR 1 or 2. The Department has determined that these ACRs do NOT correct errors in regulation. Finally, the Department's experts have determined that neither ACR addresses the effect of a regulation on a fishery that was unforeseen when that regulation was adopted. SSRAA respectfully requests that the Board use the information that its experts have provided, and not take up ACR 1 or ACR 2.

ACR 2, which is a bold challenge to the Board's open and democratic process, is quite frankly a disaster. This request should not be taken seriously for any number of reasons, but the damage that this ACR would cause if granted is truly astonishing. Among the damage: aquaculture associations have taken out infrastructure and operating loans from the Department of Commerce as well as from commercial lenders... loans that were contingent upon utilization of the permitted capacity for each organization. If the ability to produce over 37% these fish evaporates with the stroke of a pen, a catastrophic chain of events would cascade upon hatchery organizations and Alaska's commercial fishing industry. And then down upon fishermen, their families and their employees and suppliers.

To highlight the economic output of SSRAA, which of course is only one of the statewide group of hatchery associations, please note the following:

- Annual harvests of SSRAA salmon in common property fisheries in the period 2013 to 2017 averaged 22 million pounds, with an ex-vessel value of \$16.8 million. SSRAA's total economic impact in 2017 was estimated at 680 jobs and \$32 million in labor income tied to direct impacts in commercial fishing, seafood processing, nonresident sportfishing and SSRAA's own spending and employment.
- SSRAA's relative contribution to harvest values is influenced by year-to-year variations in the abundance of wild pink salmon. SSRAA's peak contributions - more than 40 percent of harvest value in 2017, for example - occur in years with



low pink salmon abundance. In 2013, a year with near-record pink salmon abundance, SSRAA contributed 13 percent of regional salmon harvest value.

- Total economic output associated with SSRAA and the salmon it produces was about \$70 million in 2017. Output is a measure of total economic activity, including all labor income, spending on supplies and services, and related multiplier effects.

These are all newly-generated figures from the respected economists at the McDowell Group, work which has also been compiled on a statewide basis and has been submitted by others as comments to the Board for this meeting. For our individual part, SSRAA is also submitting the entire *Economic Impacts of the Southern Southeast Regional Aquaculture Association* report which is included for your reference as an appendix to these on-time comments.

In addition to SSRAA's importance to Southeast Alaska's commercial fisheries, sport harvest of SSRAA salmon has a significant impact on the region's economy. Resident anglers who target SSRAA fish spend money on boats, fishing gear, fuel, and supplies, while non-resident anglers often hire local charter fishing companies that source many supplies locally and provide jobs to local residents.

SSRAA's current estimates for sport fishing is a harvest of 15,865 Chinook and 140,684 coho salmon produced between 2013 and 2017. The average annual Chinook and coho harvest was approximately 3,150 and 28,150 fish, respectively, during this time period.

Again, there have been statewide sport/charter/subsistence/personal use figures generated and included in the submitted PNP paper *Alaska Salmon Hatchery Contribution Estimates to Sport, Personal Use and Subsistence Harvests (1977-2017)*. SSRAA urges the Board to review this data and truly understand what a massive impact it would be for the economy and culture of Alaska to have a hatchery programs dismantled.

Thank you for your attention to these issues.

Again, SSRAA vigorously opposes ACR 1 and ACR 2.

Sincerely,

/s/

David Landis
SSRAA General Manager

Enc. *Economic Impacts of the Southern Southeast Regional Aquaculture Association*



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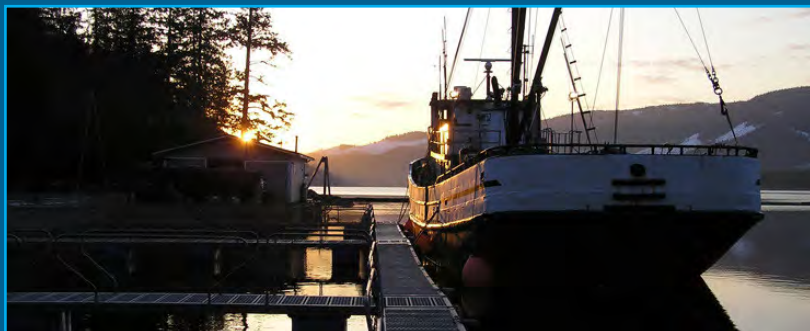
Economic Impacts of the Southern Southeast Regional Aquaculture Association



PREPARED FOR

SSRAA

August 2018



PREPARED BY

McDowell
GROUP

Economic Impacts of the Southern Southeast Regional Aquaculture Association (SSRAA)

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Executive Summary

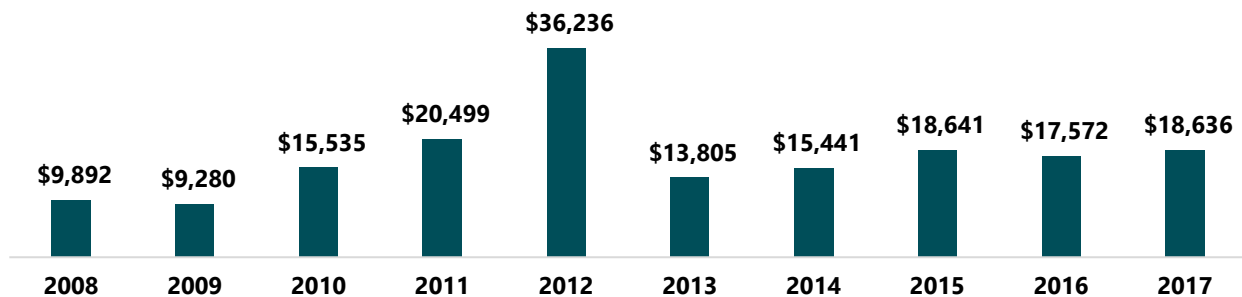
The Southern Southeast Regional Aquaculture Association (SSRAA) is a non-profit corporation headquartered in Ketchikan, Alaska working to enhance the salmon stocks in Southern Southeast Alaska (SSE). This study estimates and describes SSRAA's economic impacts on SSE's commercial fishing, seafood processing, and sportfishing industries. Unless stated otherwise, numbers presented reflect 2013 to 2017 averages.

SSRAA operates seven hatcheries and seven additional release sites throughout SSE, producing and releasing around 170 million salmon smolts annually. SSRAA's operations are primarily funded through cost recovery harvests and a three percent ex-vessel tax on landed salmon in SSE. Between sport harvests, commercial fisheries, and cost recovery activities, about 3.2 million SSRAA salmon are harvested annually.

Commercial Harvest

During the study period, annual harvests of SSRAA salmon in common property fisheries averaged 22 million pounds with an average ex-vessel value of \$16.8 million. Chum salmon accounted for 89 percent of the volume and 75 percent of the value of SSRAA's contribution to commercial fisheries during this period. Coho and Chinook production are also important to the region's troll, seine, and gillnet fleets.

SSRAA Salmon Harvest Value, Common Property Fisheries (\$000s), 2008-2017



| | 2013 | 2014 | 2015 | 2016 | 2017 | 2013 2017 Average | 2013 2017 Percent of Total |
|--------------|-----------------|---------------|---------------|---------------|---------------|----------------------|-------------------------------|
| Chum | \$8,971 | 8,917 | 15,940 | 13,010 | 15,887 | \$12,545 | 75 |
| Coho | 3,025 | 4,714 | 1,135 | 3,360 | 1,547 | 2,756 | 16 |
| Chinook | 1,792 | 1,808 | 1,567 | 1,202 | 1,202 | 1,514 | 9 |
| Total | \$13,805 | 15,441 | 18,641 | 17,572 | 18,636 | \$16,819 | |

As a portion of the overall catch in SSE commercial salmon fisheries, SSRAA is responsible for over half of chum harvests (57 percent from 2008 through 2017), 39 percent of Chinook harvests, and 31 percent of coho harvests.

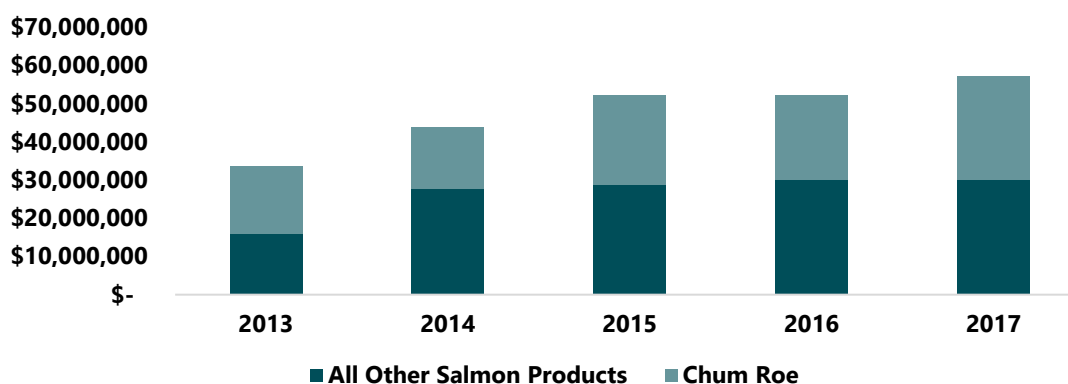
Seafood Processing

From 2013 to 2017, the cumulative wholesale value of SSRAA salmon was \$239 million, including \$49 million derived from sales of cost recovery salmon and \$190 million from common property salmon. Annually, first wholesale value averaged \$48 million during the study period.

By species, chum accounted for more than three-fourths (79 percent) of the wholesale value of SSRAA fish, followed by Chinook (14 percent) and coho (7 percent).

Chum roe is a major driver of the value of SSRAA production, typically representing just under half of SSRAA-generated wholesale value (see chart below).

First Wholesale Value of SSRAA Salmon, Chum Roe versus all other Products, 2013-2017



Sportfishing

Based on data provided by SSRAA, sport fishermen in SSE harvested 3,150 Chinook and 28,150 coho salmon, on average, in recent years. While chum are harvested by area sport fishermen, SSRAA's contributions to sport chum harvests are not tracked or estimated.

Southern Southeast Sport Harvest of SSRAA Salmon (number of fish), 2013-2017

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2013 2017 Average |
|---------|--------|--------|--------|-------|--------|----------------------|
| Chinook | 2,080 | 1,750 | 4,612 | 2,732 | 4,691 | 3,150 |
| Coho | 19,970 | 50,567 | 38,798 | 9,742 | 21,607 | 28,150 |

SSRAA's contribution to the overall SSE sport harvest averaged 11 percent of Chinook and 20 percent of coho harvests from 2013-2016. In 2014 (the most recent year for which data is available), more than half (58 percent) of the region's Chinook and coho sport harvest was caught by guided anglers.

SSRAA's role in the sport sector is especially prominent in the Ketchikan area. ADF&G creel survey data indicates that roughly a third of the Chinook salmon caught in the Ketchikan area are typically SSRAA-produced fish, along with about 13 percent of the sport coho harvest. In May and June, Ketchikan's full-day and half-day charter fleet (primarily serving cruise visitors) is largely dependent on SSRAA Chinook returning to nearby release sites including Whitman Lake and Neets Bay.



SSRAA Operations

In 2017, SSRAA employed an average of 60 workers who earned a total of \$3.3 million in wages. Additionally, the organization purchased supplies and services for its operations in Ketchikan (and at its various hatcheries and release sites) which contributed to the local economy. In state expenditures totaled \$3.6 million for 2017.

Multiplier effects result from subsequent spending by SSRAA's employees and operational spending with vendors in the region. Including these multiplier effects, economic impacts resulting from SSRAA's operations totaled 80 jobs and \$4.1 million in labor income in 2017.

Combined Economic Impact of SSRAA Production and Operations

SSRAA's total economic impact in 2017 is estimated at 680 jobs and \$32 million in labor income, including impacts related to commercial fishing, seafood processing, nonresident sportfishing, and from SSRAA's own spending and employment.

Output is a measure of total economic activity, including all labor income, spending on supplies and services, and all related multiplier effects. Economic output associated with SSRAA and the salmon it produces totaled approximately \$70 million in 2017.

Economic Impact of SSRAA Production and Operations, 2017

| | Direct Impacts | Indirect & Induced Impacts | Total Economic Impacts |
|---|-----------------------|-------------------------------|---------------------------|
| Commercial Fishing | | | |
| Employment | 140 | 90 | 230 |
| Labor Income | \$10.1 million | \$3.6 million | \$13.7 million |
| Seafood Processing | | | |
| Employment | 200 | 110 | 310 |
| Labor Income | \$7.4 million | \$4.2 million | \$11.6 million |
| Non-resident Sportfishing | | | |
| Employment | 45 | 15 | 60 |
| Labor Income | \$1.6 million | \$0.6 million | \$2.2 million |
| SSRAA Operations | | | |
| Employment | 60 | 20 | 80 |
| Labor Income | \$3.3 million | \$0.8 million | \$4.1 million |
| Total Economic Impact | | | |
| Employment | 445 | 235 | 680 |
| Labor Income (\$millions) | \$22.4 million | \$9.2 million | \$32 million |
| Economic Output (labor income, spending, and multiplier effects) | | | \$70 million |

Note: Totals may not sum due to rounding.

Source: McDowell Group estimates using IMPLAN, ADF&G, DOLWD, and SSRAA data.



Purpose and Methodology

Purpose and Scope

This study estimates and describes the economic impacts of the Southern Southeast Regional Aquaculture Association (SSRAA), with a focus on the five-year period from 2013 to 2017. This is an update of earlier economic impact reports produced by McDowell Group in 2001 and 2008. The report concentrates on five primary subjects:

1. **Commercial Harvest** – The overall economic benefits of commercially caught (common property) SSRAA salmon are presented using ex-vessel income – the gross value paid to fishermen for their catch. The geographic distribution of earnings from SSRAA salmon commercial harvest is also reported.
2. **Seafood Processing** – The overall economic impact resulting from processing SSRAA salmon (including common property and cost recovery harvests) is estimated using first wholesale value data from ADF&G. First wholesale value represents the first sale of fish by a processor to a buyer outside their affiliate network.
3. **Sport Harvest** – Contributions of SSRAA fish to the regional sport harvest are addressed, including impacts resulting from guided and unguided non-resident harvests.
4. **Economic Impacts** – This section summarizes the total economic impacts of SSRAA fish on the various sectors described above, along with the economic impacts resulting from SSRAA operations.
5. **Tax Revenue** – SSRAA fish support a variety of economic activities that are taxed, providing revenue to local governments throughout the SSE region.

For purposes of this report, Southern Southeast Alaska (SSE) is defined as the Ketchikan Gateway Borough, Prince of Wales (POW) Island-Hyder Census Area, City and Borough of Wrangell, and the Petersburg Borough. In terms of commercial fishing districts, SSE is defined as districts 1 through 8.

Methodology

The data used in this report comes from a variety of sources, including SSRAA, Alaska Commercial Fisheries Entry Commission (CFEC), Alaska Department of Fish and Game (ADF&G), Alaska Department of Labor and Workforce Development (DOLWD), and Alaska Department of Revenue (DOR). In addition, interviews were conducted with SSRAA staff, ADF&G employees, and other experts.

Estimates provided in this report are based on the best available data. SSRAA provided estimates of their contributions to common property, sport, and cost recovery fisheries in terms of number of fish. Average weights per fish and prices per pound were applied (based on ADF&G data for Southeast Alaska) to estimate the volume and value of SSRAA returns.



Several reports and other sources provided important sources of sportfishing data and related information, including the following:

- McDowell Group, 2010. *Impacts of Nonresident Sportfishing on the Ketchikan Economy*. Prepared for the Ketchikan Visitors Bureau.
- McDowell Group, 2008. *Economic Impacts of the Southern Southeast Regional Aquaculture Association*. Prepared for SSRAA.
- ADF&G, 2016. *Participation, Effort, and Harvest in the Sport Fish Business/Guide Licensing and Logbook Programs, 2014*. Fishery Data Series No. 16-02.
- Alaska Sport Fishing Survey database. 1996–2017. ADF&G, Division of Sport Fish (accessed May 2018): <http://www.adfg.alaska.gov/sf/sportfishingsurvey/>
- ADF&G, 2009. *An Evaluation of Estimates of Sport Fish Harvest from the Alaska Statewide Harvest Survey, 1996-2006*. Special Publication No. 09-12.

Economic Impact Modeling

McDowell Group developed an economic model to estimate the economic impacts related to SSRAA production and operations. The model linked ex-vessel volume and value data, DOWLD employment and payroll data, first wholesale value data, and other information to generate estimates of annual employment, income, and total economic output related to SSRAA salmon. Multipliers were drawn from IMPLAN, a widely used input-output model useful in measuring the direct, indirect, and induced economic impact of industry and infrastructure development. Along with experience from previous analyses, the study team used the model to estimate the economic impacts related to harvesting, processing, sportfishing, and to SSRAA operations in SSE.

In most cases, economic impact numbers presented in this report reflect 2013–2017 averages to smooth out year-to-year variations in salmon returns. The exception is impacts related to SSRAA's operations, which are based on 2017 data alone. For simplicity, total economic impacts are reported as representing 2017.



Introduction

The Southern Southeast Regional Aquaculture Association (SSRAA) is a non-profit corporation headquartered in Ketchikan, Alaska. Incorporated in 1976, the organization works to enhance the salmon stocks in Southern Southeast Alaska (SSE) from Dixon Entrance to Frederick Sound. SSRAA is guided by a 21-member Board of Directors representing a diverse group from the commercial, subsistence, sport, and fish processing sectors, as well as representatives from Native corporations, municipalities, the business community, and the general public. SSRAA employed an annual average of 61 staff in 2017 and a peak of 68 workers during the summer months.

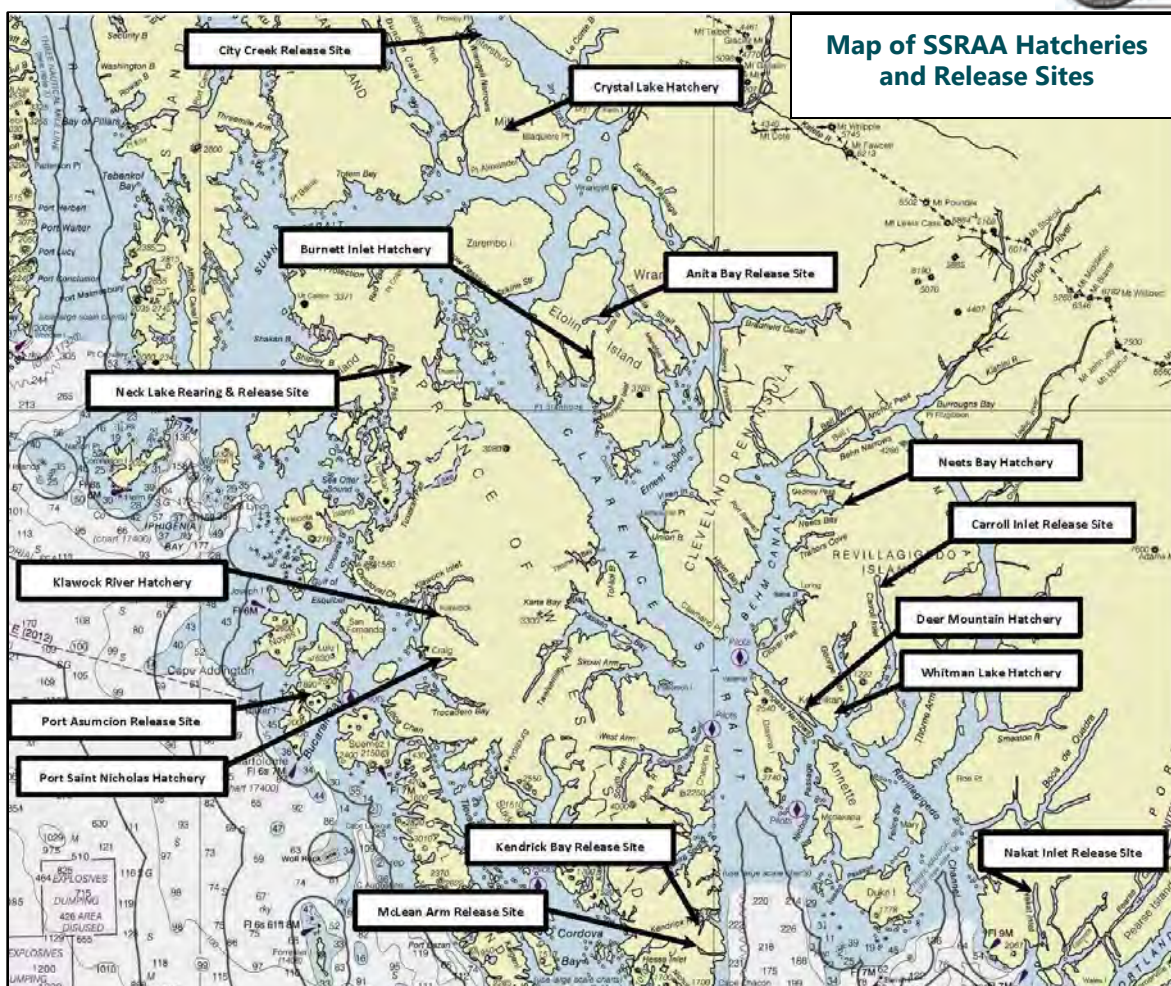
SSRAA is primarily funded through a combination of revenues from a 3 percent ex-vessel tax on landed salmon within its operating area, and cost recovery of adult salmon returns. After nearly two decades running its own cost recovery program, SSRAA transitioned to a more typical royalty model starting in 2014. Among other smaller revenue sources, SSRAA also receives funding from ADF&G's Division of Sport Fish to provide releases of Chinook salmon for Ketchikan, Wrangell, and Petersburg area fisheries.

Facilities and Production

SSRAA operates seven hatcheries and seven additional remote release sites throughout SSE (see map on following page). SSRAA's longest-running hatcheries are located at Whitman Lake in Ketchikan; in Neets Bay, roughly 40 miles north of Ketchikan; Burnett Inlet, 25 miles south of Wrangell; and Crystal Lake, 20 miles south of Petersburg. These facilities raise Chinook, coho, and chum salmon for on-site releases, as well as for transfer to remote release sites in Kendrick Bay/McLean Arm, Nakat Inlet, Anita Bay, City Creek, and Neck Lake.

SSRAA has absorbed additional hatcheries and release sites run by other organizations in recent years. In 2014, SSRAA took over the Deer Mountain Hatchery in Ketchikan formerly run by the Ketchikan Tribal Hatchery Corporation. Chinook salmon reared at Deer Mountain are released at a remote Carroll Inlet release site and in Ketchikan Creek near downtown Ketchikan. In 2016, SSRAA took over operations of the Klawock River and Port Saint Nicholas hatcheries previously run by the Prince of Wales Hatchery Association (POWHA). POWHA's system included a release site at Port Asumcion that SSRAA now operates and is targeting for additional releases.

As shown in Table 1 below, Neets Bay accounts for 50 percent of all SSRAA releases, and the largest releases of chum, Chinook, and coho. After Neets Bay, the most important release sites are Kendrick Bay/McLean Arm, Anita Bay, Nakat Inlet, and Burnett Inlet. Other release sites account for less than 5 percent of total releases.

**Table 1. Number of Smolts Released, by Release Site and Species, 2013-2017 Averages**

| Release Site | Chinook | Chum | Coho | Total | % of Total |
|-------------------------|------------------|--------------------|-------------------|--------------------|------------|
| Neets Bay | 728,760 | 79,251,800 | 3,995,340 | 83,975,900 | 50% |
| Kendrick Bay/McLean Arm | | 29,300,800 | | 29,300,800 | 17% |
| Anita Bay | 454,460 | 22,263,600 | 504,300 | 23,222,360 | 14% |
| Nakat Inlet | | 14,336,600 | 525,000 | 14,861,600 | 9% |
| Burnett Inlet | | 9,690,000 | 185,420 | 9,875,420 | 6% |
| Klawock | | | 4,480,000 | 4,480,000 | 3% |
| Neck Lake | | | 1,763,600 | 1,763,600 | 1% |
| Whitman Lake | 638,200 | | 352,500 | 990,700 | 1% |
| Crystal Lake | 635,830 | | 131,820 | 767,650 | 0% |
| Carroll Inlet | 365,000 | | | 365,000 | 0% |
| City Creek | 98,000 | | | 98,000 | 0% |
| Deer Mountain | 70,000 | | | 70,000 | 0% |
| Port St. Nicholas | 89,000 | | | 89,000 | 0% |
| Total | 3,079,250 | 154,842,800 | 11,937,980 | 169,860,030 | |

Source: SSRAA. Note: Releases from the Klawock and Port St. Nicholas hatcheries (new to SSRAA) reflect 2017 production. In addition, releases for newer programs from Deer Mountain/Carroll Inlet and City Creek reflect 2017 production.



Species Produced

Chum salmon constitute SSRAA's largest production effort and expected return. Chum fry are produced at the Whitman Lake, Burnett Inlet, and Neets Bay facilities. Chum are released on-site at the Neets Bay and Burnett Inlet hatcheries and at remote sites in Kendrick Bay/McLean Arm, Nakat Inlet, Anita Bay, and Port Asumcion (first release in 2018). Chum are primarily targeted by drift gillnet and purse seine fisheries in Clarence and Sumner Straits. A total of 169 million chum smolts were released by SSRAA in 2017.

Since 2013, SSRAA contributions to common property commercial chum harvests have ranged from 1.4 million fish in 2014 to 3.3 million fish in 2015, with a 2013-2017 average harvest of 2.1 million fish.

Coho salmon are produced primarily at the Whitman Lake hatchery, as well as at the Neets Bay and Klawock River hatcheries. In addition to hatchery releases, coho are released remotely from Anita Bay, Nakat Inlet, a large enhancement project at Neck Lake, and other sites. Coho are primarily targeted by trollers region-wide, and by drift gillnetters and sport fishermen in Sumner and Clarence Straits and the Ketchikan area. A total of 12.4 million coho smolts were released by SSRAA in 2017.

Recent commercial harvest of SSRAA coho has ranged from 190,000 fish in 2017 to 477,000 fish in 2014, with a 2013-2017 annual average of 304,600 fish.

Chinook salmon are mainly produced at SSRAA's Crystal Lake hatchery under contract with the ADF&G Sport Fish Division, as well as at the Whitman Lake, Neets Bay, and Port Saint Nicholas facilities. The fish are released on-site at the three facilities, from Neets Bay, and remotely from various sites. SSRAA Chinook are primarily targeted by troll and sport fleets near Ketchikan. A total of 2.9 million Chinook smolts were released in 2017.

Since 2013, SSRAA contributions to Chinook commercial harvests ranged from 22,700 fish in 2017 to 48,000 fish in 2015, with a 2013-2017 average harvest of 35,400.

SSRAA's **sockeye** salmon programs (primarily in support of restoration projects) have been phased out and the last SSRAA sockeye returns were seen in 2013 and 2014.



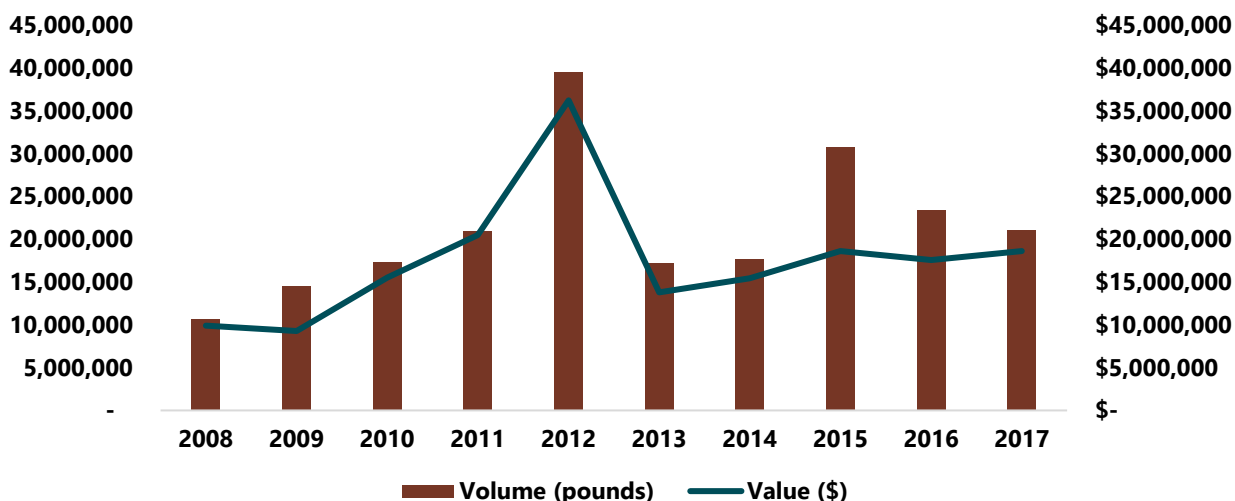
SSRAA Salmon in Commercial Fisheries

This section includes an overview of SSRAA's contributions to commercial salmon harvests in SSE, including harvest volume and harvest value. SSRAA-produced salmon that are caught outside of districts 1 through 8 are not included in these estimates. SSRAA fish are harvested outside of the SSRAA region, including other parts of Alaska and in British Columbia waters to the south, but not in sufficient numbers to warrant the additional sampling efforts that would be required to estimate SSRAA's contributions to harvests in these areas. The estimates presented below should be considered conservative.

Commercial Harvest of SSRAA Salmon

SSRAA-produced salmon contribute significantly to the commercial harvest of salmon in SSE. Since 2008, SSRAA contributed over 210 million pounds of salmon worth an ex-vessel value of \$175 million to common property fisheries. During the record year of 2012, SSRAA contributed nearly 40 million pounds in ex-vessel volume.

Figure 1. SSRAA Salmon Harvest Volume and Value, Common Property Fisheries, 2008-2017



Source: McDowell Group estimates. Data from ADF&G and SSRAA.

Between 2013 and 2017, SSRAA contributed an average of 22 million pounds annually and a total of 110 million pounds of salmon to common property fisheries. On average, chum made up 89 percent of the volume during this five-year period, averaging 19.5 million pounds per year.

Table 2. SSRAA Salmon Common Property Harvest Volume (000s of pounds), 2013-2017

| Species | 2013 | 2014 | 2015 | 2016 | 2017 | 2013 2017 Average | 2013 2017 Percent of Total |
|--------------|---------------|---------------|---------------|---------------|---------------|----------------------|-------------------------------|
| Chum | 14,695 | 13,627 | 28,833 | 20,728 | 19,826 | 19,542 | 89% |
| Coho | 2,044 | 3,530 | 1,379 | 2,343 | 993 | 2,058 | 9% |
| Chinook | 527 | 550 | 567 | 330 | 280 | 451 | 2% |
| Total | 17,266 | 17,708 | 30,779 | 23,400 | 21,098 | 22,050 | |

Source: McDowell Group estimates based on data from SSRAA and ADF&G.



The value of SSRAA salmon to the region's commercial fisheries has trended up over the last decade, due to higher prices – particularly for chum roe – and increased production and returns. Between 2013 and 2017, earnings of commercial fishermen attributable to SSRAA fish totaled \$84 million for an annual average of \$16.8 million. The high during this period was \$18.6 million in 2015 and 2017 and the low was \$13.8 million in 2013.

As mentioned previously, chum is the leading SSRAA-produced salmon. In 2017, chum salmon accounted for \$15.9 million in ex-vessel value, followed by coho (\$1.5 million), and Chinook (\$1.2 million).

By gear type, SSRAA salmon harvest value is typically dominated by the seine fleet. During the 2013-2017 period, an estimated 46 percent of the value of commercially-harvested SSRAA fish went to seiners, 32 percent to gillnetters, and 21 percent to trollers.

Table 3. Commercial Ex-Vessel Value of SSRAA Salmon (\$000s), 2013-2017

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2013 2017 Average | 2013 2017 Percent of Total |
|---------------------|---------------|---------------|---------------|---------------|---------------|----------------------|-------------------------------|
| By Species | | | | | | | |
| Chum | 8,971 | 8,917 | 15,940 | 13,010 | 15,887 | 12,545 | 75 |
| Coho | 3,025 | 4,714 | 1,135 | 3,360 | 1,547 | 2,756 | 16 |
| Chinook | 1,792 | 1,808 | 1,567 | 1,202 | 1,202 | 1,514 | 9 |
| By Gear Type | | | | | | | |
| Purse Seine | 5,498 | 5,859 | 10,206 | 8,567 | 8,886 | 7,803 | 46 |
| Gillnet | 4,703 | 5,367 | 6,176 | 5,089 | 5,882 | 5,443 | 32 |
| Troll | 3,604 | 4,215 | 2,260 | 3,917 | 3,868 | 3,573 | 21 |
| Total | 13,805 | 15,441 | 18,641 | 17,572 | 18,636 | 16,819 | |

Source: McDowell Group estimates based on data from SSRAA and ADF&G.

Note: 2013 and 2014 totals include a small amount of sockeye returns that are not specifically broken out. In addition, totals may not sum due to rounding.

SSRAA Harvest Value in Relation to Overall Southern Southeast Harvests

Over the last 10 years, SSRAA has contributed 19 percent of the volume and 28 percent of the value of SSE common property salmon harvests. SSRAA's relatively strong value role is attributed to the production focus on relatively low-volume, mid-value chum salmon, and on high-value Chinook and coho.

SSRAA's relative contribution is influenced by year to year variations in wild pink salmon abundance. Peak contributions – over 40 percent of the harvest value in 2017, for instance – occur in years with low pink salmon abundance. In years with near record pink salmon abundance, such as 2013, SSRAA contributed 13 percent of regional salmon harvest value.

By gear group, SSRAA's relative contribution is greatest for the SSE gillnet and troll fleets (43 percent of harvest value from 2008 through 2017), followed by the seine fleet (20 percent). By species, SSRAA is responsible for over half of chum harvests (57 percent from 2008 through 2017), 39 percent of Chinook harvests, and 31 percent of coho harvests.

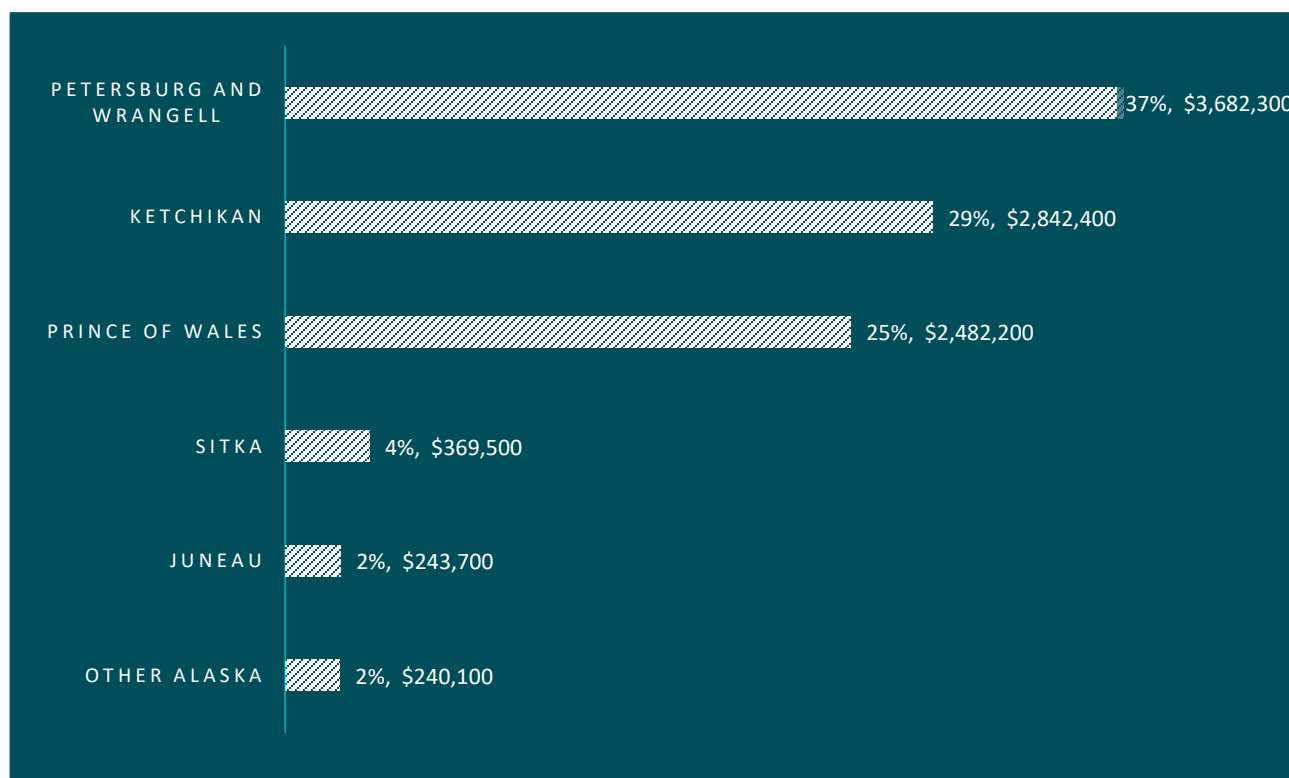


Geographic Distribution of Commercial Harvest Value

Among commercial fishermen, Alaska residents are the primary beneficiaries of SSRAA-produced salmon, earning three-fifths (\$9.9 million) of the average annual ex-vessel value from 2013 through 2017.

Among Alaskans, ex-vessel benefits of SSRAA salmon are concentrated in SSE. Permit holders residing in the Petersburg-Wrangell area earned \$3.7 million in ex-vessel value from SSRAA fish, accounting for 37 percentage of ex-vessel value to Alaska residents. They were followed by Ketchikan Gateway Borough residents, with 29 percent (\$2.9 million); Prince of Wales residents at 25 percent (\$2.5 million); Sitka area residents at 4 percent; and other Alaska residents, with approximately 4 percent of the total resident harvest value.

Figure 2. Geographic Distribution of SSRAA Ex-Vessel Value to Alaska Residents, 2013-2017 Average



Source: McDowell Group calculations based on data from CFEC and SSRAA. Note: Chart only shows income to Alaska residents.



SSRAA Salmon and the Processing Sector

The commercial harvest of SSRAA salmon generates significant benefits for Southeast Alaska's seafood processing industry, as indicated by its first wholesale value. First wholesale value is the most complete measure of economic activity associated with the salmon industry in Southeast Alaska. It is defined as the price received at sale of product by a processor to a buyer outside their affiliate network.

First wholesale value includes payments to commercial fishermen (ex-vessel value) and reflects the full spectrum of processor expenditures on goods and services associated with converting whole fish to a salable food product. This includes processing labor, local utilities, packaging and warehousing, and an array of support-sector activity associated with processing, such as tender vessel operations, expediting, maintenance and mechanical services, and processors' profit.

Estimates of the first wholesale value derived from SSRAA salmon in 2017 are based on preliminary data.

Role of SSRAA Fish in Seafood Processing Sector

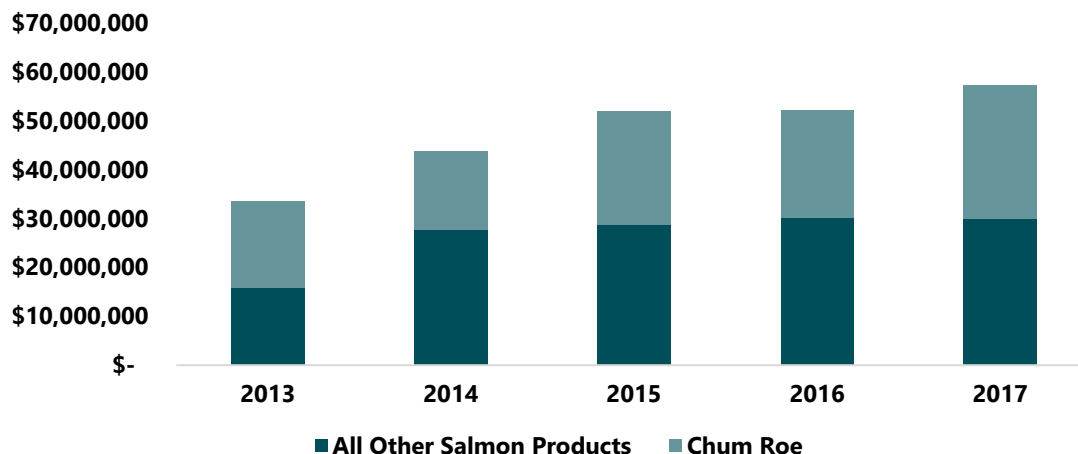
A key benefit of SSRAA fish is providing stable chum returns to processors to balance out volatility in other species, especially pink salmon. Together, chum and pink salmon account for over half of the first wholesale value of all seafood species caught and processed in Southeast Alaska (which species is most important varies from year to year). While wild-stock pink salmon returns fluctuate significantly from year to year, hatchery-bred chum salmon provide a stable source of income for processors and harvesters.

From 2013 to 2017, the cumulative wholesale value of SSRAA salmon was \$239 million, including \$49 million derived from sales of cost recovery salmon and \$190 million from common property salmon. Annually, first wholesale value averaged \$48 million during the study period. By species, chum accounted for more than three-fourths (79 percent) of the wholesale value of SSRAA fish, followed by Chinook (14 percent), and coho (7 percent).

Less the cost of fish, processors earned an estimated gross margin of \$134 million on SSRAA fish during the five-year study period. This amount reflects the total value added to SSRAA salmon by regional seafood processors.



Figure 3. First Wholesale Value of SSRAA Salmon, Chum Roe versus all other Products, 2013-2017



Source: McDowell Group estimates based on data from SSRAA, ADF&G, and DOR.

As evidenced by the data in Figure 3, chum roe is a major driver of the value of SSRAA production. Chum roe products represented close to half (45 percent) of the SSRAA-generated wholesale value between 2013 and 2017. More information on market trends for chum roe and other key products is provided in the last section of this report.



SSRAA Salmon in Sport Fisheries

In addition to SSRAA's importance to SSE commercial fisheries, sport harvest of SSRAA salmon has a significant impact on the region's economy. Resident anglers who target SSRAA fish spend money on boats, fishing gear, fuel, and supplies, while non-resident anglers often hire local charter fishing companies that source many supplies locally and provide jobs to local residents.

Based on data provided by SSRAA, sport fishermen harvested an estimated 15,865 Chinook and 140,684 coho salmon produced by the aquaculture association between 2013 and 2017. The average annual Chinook and coho harvest was approximately 3,150 and 28,150 fish, respectively, during this time period.

Table 4. Southern Southeast Sport Harvest of SSRAA Salmon (number of fish), by Species, 2013-2017

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2013 2017 Average |
|---------|--------|--------|--------|-------|--------|----------------------|
| Chinook | 2,080 | 1,750 | 4,612 | 2,732 | 4,691 | 3,150 |
| Coho | 19,970 | 50,567 | 38,798 | 9,742 | 21,607 | 28,150 |

Source: SSRAA estimates. Note: Averages rounded to the nearest 50.

Data from ADF&G's annual Statewide Harvest Survey for areas A (Ketchikan), B (POW), and C (Petersburg/Wrangell/Kake) indicate overall catches in the region averaged 28,300 Chinook and 144,200 coho annually from 2013-2016. Data for 2017 was not available at the time of this report.

Table 5. Total Chinook and Coho Salmon Sportfish Harvest by Statewide Harvest Survey Area, 2013-2016 Averages

| Area | Chinook | Coho |
|--|---------------|----------------|
| Ketchikan (A) | 10,200 | 50,850 |
| Prince of Wales Island (B) | 12,900 | 80,100 |
| Petersburg, Wrangell & Kake (C) | 5,200 | 13,250 |
| Southern Southeast (A, B & C) | 28,300 | 144,200 |

Source: ADF&G 2014 Statewide Harvest Survey.

SSRAA's contribution to the overall SSE sport harvest averaged 11 percent of Chinook and 20 percent of coho harvests, based on 2013-2016 data. As shown in Table 6, there is substantial variation year to year.

Table 6. SSRAA Salmon, as a Percent of Total Southern Southeast Sport Harvest, 2013-2016

| | 2013 | 2014 | 2015 | 2016 | 2013 2016 Average |
|---------|------|------|------|------|----------------------|
| Chinook | 9 | 5 | 15 | 10 | 11 |
| Coho | 12 | 33 | 25 | 10 | 20 |

Source: ADF&G and SSRAA.

SSRAA's role in the sportfishing sector is especially prominent in the Ketchikan area. ADF&G's creel survey data indicates that roughly a third of the Chinook salmon caught in the Ketchikan area are typically SSRAA-produced fish, along with about 13 percent of the sport coho harvest.¹

Similar data for the Petersburg/Wrangell/Kake area indicate roughly a quarter and a tenth of the sport harvest of Chinook and coho, respectively, near those communities was SSRAA fish. For the west coast of Prince of Wales Island (POW), creel data indicates roughly 2 to 5 percent of Chinook and coho harvests were SSRAA fish. These numbers were provided by ADF&G staff but are not regularly published and are presented as reference points to understand the relative importance of SSRAA fish in sport harvests throughout the region.²

Charter Fleet Harvest of SSRAA Salmon

ADF&G charter vessel logbook data indicates that approximately 324 charter vessels offloaded in SSE ports in 2014 (the most recent data available). Of these, 146 offloaded in the Ketchikan area, 145 in POW ports, 26 in Petersburg, and 7 in Wrangell.³ Vessels may operate out of multiple ports, and totals reflect an unknown, but likely minor, amount of double counting.

Table 7. Southern Southeast Charter Vessels, by Port of Offloading, 2014

| SWHS Area | Port of Offloading | # of Vessels |
|------------------|------------------------|--------------|
| A | Ketchikan | 146 |
| B | Prince of Wales Island | 145 |
| C | Petersburg | 26 |
| C | Wrangell | 7 |
| Total SSE | | 324 |

Source: ADF&G Saltwater Log Books, 2014 Note: Total may include some double counting.

Combined, charter vessels in SSE completed a total of 14,994 trips and supported 59,680 angler-days in 2014. Over 96 percent of angler days reflect non-residents. These fishermen harvested over 18,000 Chinook and 88,000 coho in 2014, representing 57 and 58 percent respectively, of the overall SSE sport harvest of these species that year.

The primary impact of SSRAA salmon for the Ketchikan charter industry occurs in the early Chinook season (May and June) and during the late coho run (late August through September). In May and June, the full-day and half-day charter fleet (primarily serving cruise visitors) is largely dependent on SSRAA Chinook returning to nearby release sites including Whitman Lake and Neets Bay. This is especially true in Summer 2018 due to low wild Chinook returns.

¹ The ADFG creel survey is based on a stratified random sampling at fishery landing locations. Not all times of day and landing locations are sampled each day. Surveys end in mid-September.

² Personal communication with Mike Jaenicke, ADF&G.

³ ADF&G, 2016. *Participation, Effort, and Harvest in the Sport Fish Business/Guide Licensing and Logbook Programs, 2014*. Fishery Data Series No. 16-02.



Economic Impacts of SSRAA Production and Operations

SSRAA has a wide array of economic impacts in Southeast Alaska through its contributions to commercial fishing, seafood processing, sportfishing, and its own operations. Commercial fishermen earn income from the harvest of SSRAA-produced fish and purchase fuel, food, gear, and many other supplies in support of their fishing efforts. Seafood processing companies employ hundreds of workers and purchase goods and services as they add value to SSRAA salmon. SSRAA operations directly generate additional economic impacts through wages for its own employees and through purchases of goods and services in Ketchikan and other SSE communities. This spending cycles through the regional and local economies, creating indirect and induced economic “multiplier” effects.

As described in more detail below, SSRAA’s 2017 production and operations spurred economic output in Southeast Alaska totaling \$65 million, an economic footprint that included 640 jobs and \$30 million in labor income, including all multiplier effects. Specific contributions from commercial fishing, seafood processing, sportfishing, and SSRAA operations are outlined in this chapter.

Commercial Fishing Economic Impacts

Over the 2013 to 2017 period, commercial fishermen harvested SSRAA salmon with an annual average ex-vessel value of \$16.8 million. A portion of this total ex-vessel value becomes pay for permit holders and crew, with the rest spent on the goods and services necessary to conduct commercial fishing operations. Both of these components of ex-vessel value fuel economic activity in the region’s support sector.

Commercial fishing-related labor income: Based on McDowell Group estimates, about 50 to 60 percent (depending on gear type) of commercial salmon fishing ex-vessel value becomes labor income or net pay for permit holders and crew. Based on these and other estimates, SSRAA-related labor income earned by skippers and crew averaged \$10.1 million over the 2013 to 2017 period.

As commercial fishermen spend their income in support of their households, “induced” employment and wages are generated.

Additional employment and labor income is created in the region as fishermen make purchases in support of their fishing business. An estimated \$3.8 million in in-region purchases are made annually in support of commercial fishing targeting SSRAA salmon, assuming roughly 60 percent of spending is in-region. Jobs and wages created by this spending are termed “indirect” economic impacts. This estimate factors in non-resident participation in the commercial harvest of SSRAA salmon.

McDowell Group modeling of indirect and induced effects indicates that commercial fishing for SSRAA salmon produced \$13.7 million in labor income, including direct, indirect, and induced impacts. This includes commercial fishing income earned in Southeast Alaska, and related multiplier effects in the regional economy.

Commercial fishing related employment: Measuring commercial salmon fishing employment in terms of full-time equivalents or monthly averages is difficult due to the highly seasonal nature of the fishery. However, it is useful to do so to provide a measure of relative importance. While several hundred skippers and crew harvest SSRAA-produced salmon, a measure of annual average equivalency places employment at 140 jobs. As described above, spending by fishermen in support of their fishing activity and households has multiplier effects, creating additional jobs and income. Including those multiplier effects, commercial harvest of SSRAA salmon accounted for an average of 230 jobs (including 140 direct jobs and 90 support sector jobs).

Table 8. Economic Impact of Commercial Harvest of SSRAA-Produced Salmon

| | Direct | Indirect/Induced | Total |
|--------------|----------------|------------------|----------------|
| Employment | 140 | 90 | 230 |
| Labor Income | \$10.1 million | \$3.6 million | \$13.7 million |

Source: McDowell Group estimates

Seafood Processing Economic Impacts

Over the 2013 to 2017 period, the total first wholesale value of all SSRAA salmon averaged \$47.9 million, including the value of cost recovery production. Components of that total value include \$24.6 million in payments to fishermen for their catch and payments to SSRAA for cost recovery fish, an estimated \$7.4 million in wages paid to processing employees, and \$5.6 million in local purchases of goods and services in support of processing operations.

Direct employment related to processing of SSRAA salmon is estimated at 200 jobs in the SSE region. This is an annualized figure. The number of individual workers who earn some income from processing SSRAA salmon is much higher. Processing employment data for Ketchikan illustrates the relationship between annualized employment and peak employment. In 2016, for example, seafood processing accounted for 341 jobs in Ketchikan, averaged over all 12 months of the year. Peak employment (in August) totaled 968 jobs.

Similar to commercial fishing, there are indirect and induced (multiplier) effects associated with processor spending and employee spending in the local economy. The analysis of multiplier effects requires adjustments for non-resident participation in the seafood processing workforce. Non-resident workers spend less in the local economy than their resident co-workers and therefore have a lower multiplier impact. In the SSE region, non-residents account for about 70 percent of the jobs and 65 percent of the wages in seafood processing.

Based on McDowell Group modeling, a total of 310 jobs and \$11.6 million in annual labor income are linked to processing of SSRAA salmon, including all direct, indirect, and induced effects.

Table 9. Economic Impact of Processing of SSRAA-Produced Salmon

| | Direct | Indirect/Induced | Total |
|--------------|---------------|------------------|----------------|
| Employment | 200 | 110 | 310 |
| Labor Income | \$7.4 million | \$4.2 million | \$11.6 million |

Source: McDowell Group estimates



Sportfishing Economic Impacts

Sport fish harvests of SSRAA Chinook and coho salmon also contribute significantly to the SSE economy. Direct economic impacts from the SSRAA sport fishery include non-resident spending in the region on guided fishing tours, boat rentals, fishing gear, bait, food, lodging, and transportation. Economic impacts resulting from resident sportfishing is not quantified for this report, as discussed in more detail below.

Based on the findings of previous McDowell Group studies and data from ADF&G and SSRAA, the study team estimated annual non-resident spending on sportfishing in the SSE region. SSRAA's percentage of the sport harvest, along with other data, was used to translate overall spending to spending attributable to SSRAA-produced salmon – estimated at \$3.3 million in 2014. That figure, adjusted for inflation, is assumed to be a reasonable estimate for 2017.

In 2017, the regional economic impact of non-resident sport harvest of SSRAA salmon included 60 annual equivalent jobs and \$2.2 million in labor income, including all direct and multiplier effects.

Resident sportfishing has a significant impact on the region's economy. Millions of dollars are spent each year on boats, fishing gear, fuel, bait, tackle, repairs and maintenance services, and harbor and ramp fees. Unfortunately, no reliable data is available on resident spending on sportfishing and an analysis of impacts resulting from resident sportfishing is outside the scope of this project.

Economic Impacts of SSRAA Operations

In 2017, SSRAA employed an average of 60 workers who earned a total of \$3.3 million in wages. Additionally, the organization purchased supplies and services for its operations in Ketchikan (and its various hatcheries and release sites) which contributed to the regional economy. In state expenditures totaled \$3.6 million for 2017. The indirect and induced economic impact of employee spending and SSRAA spending on supplies and services is estimated at 20 jobs and \$800,000 in labor income. Based on those estimates, SSRAA operations impact totaled 81 jobs and \$4.1 million in labor income, including direct, indirect, and induced impacts.

Table 10. Economic Impact of SSRAA Operations

| | Direct | Indirect/Induced | Total |
|--------------|---------------|------------------|---------------|
| Employment | 60 | 20 | 80 |
| Labor Income | \$3.3 million | \$0.8 million | \$4.1 million |

Source: McDowell Group estimates



Summary of Economic Impacts

The total economic impact of SSRAA, including jobs and income related to commercial fishing, seafood processing, non-resident sportfishing, and from SSRAA's own spending and employment, is estimated at 680 jobs and \$32 million in labor income.

Table 11. Economic Impact of SSRAA, Including Direct, Indirect, and Induced Impacts, 2017

| | Commercial Fishing | Seafood Processing | Nonresident Sportfishing | SSRAA Operations | Total Impacts |
|--------------|--------------------|--------------------|--------------------------|------------------|---------------|
| Employment | 230 | 310 | 60 | 80 | 680 |
| Labor Income | \$13.7 million | \$11.6 million | \$2.2 million | \$4.1 million | \$32 million |

Source: McDowell Group estimates

Output is a measure of total economic activity, including all labor income, spending on supplies and services, and all related multiplier effects. Economic output associated with SSRAA and the salmon it produces totaled approximately \$70 million in 2017.

Realized and Expected Production Increases

The economic impact analysis presented in this report is based on average SSRAA salmon returns (and resulting harvest volumes and values) over the 2013 to 2017 period. These returns are the result of releases three to six years earlier, depending on the species.

SSRAA has seen increased releases in the last few years due to increased chum production and the incorporation of the Klawock River Hatchery previously operated by the Prince of Wales Hatchery Association. These recent additional releases have not yet translated into increased harvests and are not reflected in the ex-vessel value and first wholesale value numbers presented in this report. (On the other hand, the operating expenses associated with running these additional programs *are* included in the economic impact calculations in this report, as the SSRAA operations analysis is based on 2017 financial statements and vendor data.)

In addition to recent increases, additional production has been planned and permitted and can be expected to be realized by 2020. Compared to the production years that resulted in the 2017 harvests, the following increases are expected by 2020:⁴

- 30 percent increase in summer chum production
- 16 percent increase in fall chum production
- 45 percent increase in fall coho production
- 12 percent increase in Chinook production.

⁴ Based on data provided by SSRAA.



To put these increases in perspective, summer chum is anticipated to constitute 79 percent of total releases in 2020, followed by fall chum (14 percent), fall coho (4 percent), summer coho (1 percent), and Chinook (1 percent).

Translating increased production into increased economic impacts is challenging due a variety of factors. A point of reference can be calculated based on assuming a conservative 25 percent increase in overall releases and a similar increase in average ex-vessel volumes and values by 2025. A roughly 25 percent increase over 2013-2017 averages would result in ex-vessel values to commercial fishermen of \$21 million by 2025 (an additional \$4.2 million). The economic output resulting from these additional increases would likely not increase at the same rate, but an increase of 20 percent would bring the total economic output associated with SSRAA to \$84 million.



Tax Revenue Associated with SSRAA Salmon

Fisheries Business Tax

All salmon commercially harvested and processed in Southeast Alaska, including SSRAA-produced common property and cost recovery fish, are subject to a 3 percent Fisheries Business Tax paid by commercial seafood processors. Revenue from the Fisheries Business Tax is shared equally between the State of Alaska and the city or borough where the fish were landed.

From 2013 through 2017, the estimated Fisheries Business tax receipts derived from SSRAA salmon totaled \$3 million, with an annual average of \$507,000. Half of these receipts are shared with local governments where the fish was landed. In SSE, most of the local government revenue impacts of the Fisheries Business Tax will be felt in Ketchikan, Wrangell, and Petersburg due to the location of major salmon processing plants.

Local Taxes

Regional spending resulting from SSRAA production and operations also leads to substantial tax revenue to local governments, including sales, property, and bed tax revenue. These revenues occur as a result of spending in all sectors directly and indirectly impacted by SSRAA. Estimating these local tax impacts is beyond the scope of this study.



Market Trends

Chum Market Trends

Market trends have significant implications for SSRAA and the commercial fleet harvesting SSRAA-sourced fish. Changes to the value of chum are particularly relevant as the species is the primary focus of the hatchery association and the species usually accounts for about 80 percent of the average first wholesale value of products made with SSRAA salmon.

Southeast Alaska chum salmon prices to fishermen averaged \$0.74 per pound from 2008 through 2017 – more than double the average over the preceding decade. Prices peaked at close to a dollar per pound in 2011, after which they dropped to \$0.59 a pound in 2015 and then rebounded to \$0.86 by 2017. Preliminary 2018 prices appear to be comparable or higher than 2017.

Roe value is a key driver of chum prices, generally contributing close to 50 percent or more of the total wholesale value of the species to processors. Prices reported to DOR and published in the department's Alaska Salmon Price Reports include all types of chum roe combined. Based on this dataset, chum roe prices in Southeast Alaska peaked at over \$20 a pound in Fall 2012. More recently, chum roe has been selling at wholesale prices in the \$15 to \$17 range.

Prices paid to Southeast Alaska processors for frozen headed and gutted (H&G) chum have also risen steadily – from around \$0.59 in 2004 to \$1.69 in 2017. Similar to chum roe, frozen H&G prices peaked in 2012 at \$2.01 a pound.

After frozen H&G and roe products – which each provide comparable total revenues to Southeast processors – the next most import product form is frozen fillets. In 2015 (the year with the most complete data), frozen fillets made up 7 percent of total chum product sales reported by Southeast processors. Prices reported for frozen fillets followed similar trends to other chum products, with a 2017 price of \$3.55.

Prices in 2018 are expected to be favorable due to lower than average production in Japan (a leading chum producer), relatively high farmed salmon prices, and lower run forecasts for 2018.

Coho Market Trends

Average Southeast Alaska coho salmon prices to fishermen rose above \$1 a pound starting in 2006, only dropping below that milestone in one subsequent year (2015 saw an average price of \$0.91 a pound). Over the last ten years, the ex-vessel price averaged \$1.34 a pound and has been as high as \$1.64 (2008). In 2017, Southeast Alaska fishermen received an average price of \$1.55 a pound, the second highest on record.

First wholesale prices also hit near record highs in 2017, continuing a steady trend of increasing prices. Frozen H&G coho prices hit \$3.45 a pound in 2017, the second highest on record (2013 saw prices of \$3.60 a pound).



Frozen Southeast Alaska coho fillets went for as much as \$6.39 a pound last year, also the second highest on record and up from \$3.58 in 2004.

Based on production data reported to the Alaska Department of Revenue (Alaska Salmon Price Reports), frozen H&G products made up 44 percent of revenue from coho salmon, followed by frozen fillets (27 percent), and fresh H&G (24 percent). Roe made up only 4 percent.

Chinook Market Trends

Chinook salmon ex-vessel prices to Southeast Alaska fishermen have climbed steadily over the last decade. Previously averaging around \$2 a pound (from 1984 through 2007), the last decade saw average ex-vessel prices of \$4.82. In 2017 – a year with low harvest volumes – fishermen received an all-time high of \$7.44 a pound. Due to strong demand and limited supply, preliminary 2018 ex-vessel prices are even higher than 2017.

Wholesale prices also hit peaks in 2017. Frozen filet prices averaged \$14.94 a pound in 2017, up from \$11.73 the previous year and \$8.45 in 2015. Fresh H&G Chinook prices averaged \$9.70 a pound in 2017, up 50 percent over 2016 prices and 25 percent over 2008. Roughly half of Chinook wholesale value derives from sales of frozen fillets (49 percent in 2017), followed by fresh H&G (28 percent), and frozen H&G (22 percent).



Submitted By
Stuart Deal
Submitted On
10/3/2018 3:25:50 PM
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I ask that the Board reject ACR 1, and ACR2 because they fail to meet the criteria for review as emergency matters. This is the finding of the assessment done by ADF&G. The authors of these proposals should be reminded to bring these subjects to the Board of Fish in it's normal cycle.

I am a commercial fisherman operating a seine boat in Prince William Sound. My fishing business depends substantially on hatchery fish. I believe it is fair to say that without hatchery fish there would not be a seine fishery for salmon in PWS. Concerns about the straying of hatchery salmon are not without merit. In Prince William Sound there is research being conducted in a scope greater than has ever been before. The results of this study should be helpful in consideration of proposals such as these in the future.

Submitted By
Thomas Nelson
Submitted On
9/24/2018 10:54:35 AM
Affiliation

Member of the Board of Fisheries, I am writing to express my strong OPPOSITION to ACR 1 and ACR 2 regarding limiting hatchery production. I am a PWS salmon seine permit holder and the hatchery programs around the state are a vital component to salmon fisheries and processors. The justification for these ACR's are pure propoganda with NO legitimate science supporting them. All data submitted is purely hypothetical and extemely biased. Papers and research designed to produce a specific result to serve a specific purpose while ignoring or omitting any data or suppositions that would be counter to their purpose. An example would be the characterization of pink salmon as a horde of predators overwhelming the food supply, pink salmon represent a micro % of YOY fish in the ocean. You couldnt even represent the amount of pink salmon in the gulf versus other fish in a pie chart, the graphic would be so small you couldnt see it with the naked eye, yet proponents asert they are responsible for the demise of any species suffering a downtrend. Pure propoganda and pure politics. These ACR's are in no way a emergency and have no place being taken up out of cycle. Thank you Tom Nelson



Submitted By
Timothy J Moore
Submitted On
10/3/2018 3:00:19 PM
Affiliation

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Alaska Board of Fisheries

John Jensen, Chair

Via email: dfg.bof.comments@alaska.gov

Dear Chairman Jensen,

My name is Timothy Moore and I reside in Homer, Alaska. My family and I have sport and commercially fished in Alaska as a resident since 1984. I have sport and commercially fished in many areas around the State and presently salmon seine in Prince William Sound (PWS) providing my family's livelihood. I have attended and participated in Board of Fish meetings since the late 1980's. I am presently serving as Chairman of the Prince William Sound Aquaculture (PWSAC) Board. I also serve on the PWS/CR regional planning team as a PWSAC representative.

The following comments will be in response to ACR #1 and ACR#2 being discussed in the Board Work-session in Anchorage on October 15 and 16.

ACR 1 Prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017 (5 AAC 24.366).

In essence, this ACR request duplicates the emergency petition requested by the same group and taken up this summer by the BOF. This is a redundant effort to revisit a perceived problem that has already been rejected as unwarranted. The BOF has received much information showing ADF&G's due diligence to evaluate and manage approved hatchery production plans. Potential production changes must go through ADF&G's scientists' evaluations, be approved by the Regional Planning Teams with public comment and then finally pass approval by the ADF&G Commissioner. I respectfully reference **5AAC 39.999. Policy for changing Board Agenda** and **RC2** staff comment recommendations to the BOF on this matter. Department comments indicate that this ACR does not meet criteria needed to place this on this winter's BOF meeting schedule. Currently, the scientists charged with managing the State Hatcheries are saying there are no conservation concerns or compelling reasons to accept this ACR. Additionally, considerable in-depth hatchery management information will be provided to the BOF at its October work session. The Prince William Sound regular cycled meeting occurred this past winter and there is no justification for the BOF to consider these unmerited ACR's out of the regular meeting cycle.

ACR 2 Cap statewide private non-profit salmon hatchery egg take capacity at 75% of the level permitted in 2000 (5 AAC 40.XXX).

This ACR request asks to dramatically decrease production of the Alaska salmon hatchery program which has been the work of many years of prudent cooperative management processes between the State's scientific management resources, Regional Hatchery Associations and all stakeholders. Again, I respectfully cite **RC2** which indicates that the ADFG staff reports state that ACR 2 does not meet any of the criteria required to be considered out of the regular cycle.

Furthermore, if the hatchery production decrease requested by ACR 2 were to be enacted it would cause great harm to the State's available salmon resources and decrease salmon abundance which would affect many salmon stakeholders negatively.

The Department of Fish and Game needs to remain true to its mission "To protect, maintain, and improve the fish, game, and aquatic plant resources of the state, and manage their use and development in the best interest of the economy and the well-being of the people of the state, consistent with the sustained yield principle." As a participant in this great process I see an overwhelming success story that has resulted in record breaking wild and enhanced salmon returns to Prince William Sound in recent years. ADFG management to sustain

wild salmon populations while managing hatchery salmon has been successful. Through projects like the Alaska Hatchery-Wild Interaction Study we will continue to gather valuable information to facilitate sound scientific-based management decisions. I would contend that ACR 1 and ACR 2 being considered by the BOF are reactionary, political and ill-founded on poor science and emotion.



For these justifications I respectfully ask the BOF to reject these ACR requests.

Submitted by

Timothy J. Moore

PO Box 1646

Homer, AK. 99603

Submitted By

Timothy J Moore

Submitted On

10/3/2018 3:13:23 PM

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Re: Joint Protocol on Salmon Enhancement #2002-FB-215 – Prohibitions

Dear Chairman Jensen and Board of Fish Members:

I respectfully submit additional comments opposing ACR 1 and ACR 2 based on the board's Joint Protocol on Salmon Enhancement #2002-FB-215. It states as follows in the Protocol subheading of the document, first paragraph, and fourth sentence:

"....These salmon enhancement meetings will not be open for regulatory actions and no hatchery-related petitions or agenda change requests (ACRs) will be considered as action items."

Submitted by Timothy J Moore

Submitted By
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Submitted On
10/3/2018 4:51:51 PM
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Mr Chairman and Board of Fisheries Members

I encourage the Board to not take action that would reduce hatchery production .

I share a concern regarding the effect of hatchery production and ocean carrying capacity and I support the current work ADF&G to try and understand this issue. The hatcheries in Alaska are an important contribution for all fishers in the state and I believe this is more of an effort to eliminate commercial fishermen than to address what may be a global concern. This is not an Alaskan friendly motion and is largely funded by out of state money in the misguided perception that it will provide anglers more opportunity.

I support and encourage the State of Alaska to continue to use the best science available to make these important decisions .

Tom Manos



Submitted By
Tom Meiners
Submitted On
10/3/2018 7:03:02 PM
Affiliation

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Chairmen Jensen and Members of the Board,

I would like to state my strong opposition to ACR 1, 2, and 10.

ACR 1 by the Kenai River Sport Fish Association to deny VFDA its previously permitted release of pink salmon, forcing VFDA to terminate live fish that have already been permitted for release. The permit process through the Dept of Fish and Game for new hatchery production is extensive, public, and overseen by the department. Allowing KRSA the ACR would circumvent and weaken that public process.

Furthermore, the 'threat to wild salmon' KRSA claims this release poses is imagined. Contrary to statements made by the petitioner, this release will have an immeasurably small effect on the carrying capacity of the pacific ocean for salmon and other species. Straying of pink salmon, both hatchery and wild, is a naturally occurring phenomenon and has not been proven to endanger the wild stock runs in neighboring systems. The straying rates quoted by the petitioner were produced without following proper sampling guidelines and are exaggerated. There is a multi year scientific study underway in PWS to study this naturally occurring phenomenon with the hopes of answering some of the questions that still remain about how hatchery and wild salmon interact. There is no imminent threat posed by VFDA's proposed pink salmon release, and therefore no action is necessary by the board. This ACR is simply an attack by a sport fishing group with an anti commercial fishing agenda on hatchery production and by extension on commercial salmon fishing and salmon fishermen.

ACR 2

ACR 2 is an attempt to put commercial fishermen across the state out of business, period. Speaking as a young SE seiner who recently entered the business, hatchery salmon are imperative to the success of new fishermen in every gear group in my region. Without hatchery fish, the boom and bust reality of mother nature's amazing wild stock runs would put fishermen and processors out of business. Hatcheries remove a small amount of the uncertainty and wrath that mother nature can bring onto our wild stock runs by allowing humans to oversee salmon at their most vulnerable and fragile moments of development. Hatchery returns, like all salmon, are still a gamble, but the hatchery process evens the spread between the booms and massive busts of purely wild fisheries and allow fishermen a surer to keep their business moving when wild runs fail due to any number of natural or unnatural issues.

While hatchery production is imperative to the success of commercial fishermen, it is not just commercial fishermen who benefit from hatcheries. Hatcheries provide strong jobs and exciting careers in hands on hard science for local residence, provide fish to the plant for shore based processing facilities in coastal communities, create sport opportunities for local residence, and provide educational opportunities for school children and tourists alike. In times like these, when wild stock king salmon stocks are not doing well, hatcheries maintain sport opportunities for local residents by releasing kings and cohos.

ACR 10

The board of fisheries heard extensively on this subject during the last board of fish cycle in January of this year. The Alaska Dept of Fish and Game has many safeguards in place to prevent the overharvest of herring and to protect the resource in times of low abundance. I support ADF&G's current management practices in the Sitka Sac Roe fishery, and feel that this ACR simply attempting to rehash the same conversations the board recently ruled on, with no new information present. I support strong science based management of the Sitka sac roe fishery by the Alaska Dept of Fish and Game and believe ADF&G to be excellent stewards of the resource.

Thankyou

Tom Meiners

F/V Admiral

SE Seiner

NSRAA board member

SEAS board member

805 Goldbelt Juneau AK 99801

Submitted By
Trae Lohse
Submitted On
10/3/2018 10:46:19 AM
Affiliation

Date: 10/3/18
Fisherman: Trae Lohse
Vessel: F/V Catalyst
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR1 and ACR2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the economic sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are heavily science-based and decisions regarding hatchery production rely heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks. During the last decade Prince William Sound and the Copper River have seen record breaking runs for the areas of both wild Pink Salmon and wild Sockeye salmon respectively, despite hatchery release numbers being largely unchanged from what they are today.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Trae Lohse



5303 Shilshole Ave. NW, Seattle, WA 98107-4000
(206) 783-3818 • Fax: (206) 782-7195

October 2, 2018

Alaska Board of Fisheries
John Jensen, Chair
Via email dfg.bof.comments@alaska.gov

RE: Comment on ACR 1 and 2 regarding hatchery permits

Chairman Jensen and Board Members:

Thank you for the opportunity to comment on ACRs 1 and 2 before the Alaska Board of Fisheries (Board) at the October work session. **Trident opposes both petitions and requests that the board not approve the agenda change requests.**

Trident is heavily invested in the sustainability of Alaska's wild salmon. We operate eleven facilities that process salmon throughout Alaska and employ more than 3,000 in salmon processing labor. We buy and process all five species of Pacific salmon and have made significant investments in our facilities to ensure that we remain competitive to the independent fishermen that we purchase from and in global markets where we sell Alaska salmon. Hatchery-origin pink and chum salmon provides important stability that allows us to maintain operations, support our independent fishermen and communities where we operate, and expand markets through investing in new product development and sales strategies, all of which benefits the State of Alaska.

The Precautionary Principle Should Not Be Abused

Since its inception, the hatchery program has been built upon science-based management, a transparent public process, and a regulatory framework that prioritizes protection of wild salmon populations.¹ Most importantly, the precautionary principle is embedded throughout the hatchery management framework. Adherence to this principle is a key factor in the program's success over the past forty years. This principle is only valuable, however, if it is part of a robust decision-making framework that can effectively evaluate risk and uncertainty regarding the best available science. Issues relating to ocean carrying capacity and hatchery/wild interactions are complex and require a more thorough analysis than what has been presented by the petitioners of ACRs 1 and 2. The petitioners make no conclusive,

¹ Key aspects of hatchery management in Alaska include: prioritization of wild salmon stocks; vigorous habitat protection; mitigation of pressure on wild stocks; annual review of all hatchery plans by ADF&G; comprehensive regional planning; conservative fish culture practices; a robust hatchery permitting process that includes genetics, pathology, and fishery management reviews; statewide genetics policy to protect wild stocks; regulations protecting against disease outbreaks; careful siting of hatchery locations; broodstock diversity and localization practices; mass otolith thermal marking in Prince William Sound and Southeast; and annual public reporting requirements.



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science-based claims that a reduction of twenty million eggs, or a twenty-five percent decrease in total hatchery production, will have a positive impact on Alaska wild salmon returns. Simply, they are exploiting the precautionary principle to achieve a desired policy outcome.

ACRs 1 and 2 Undermine the Existing Process

ACRs 1 and 2 further undermine the existing process by asking the Board to override ADF&G's expertise and experience with respect to the management of hatchery permitting and production levels. This precedent would create great uncertainty in the permitting process, as it effectively replaces the existing regulatory process with *ad hoc*, politicized management. It would also likely lead to the Board engaging in annual management of hatcheries throughout the state, which will reduce Board capacity and negatively affect the ability of the Board and ADF&G to carry out their respective missions. Moreover, the process already provides multiple avenues for public input and concern. Stakeholders that seek to alter existing permits have opportunity to participate in the existing process and should not be given opportunity to circumvent that process in hopes of getting a different result.

Comprehensive Research is Underway

The North Pacific Anadromous Fish Commission (Commission) —an international body made up of the five nations² with significant Pacific salmon populations—has been studying ocean carrying capacity for over two decades, looking at information including, but not limited to, global and regional oceanic and atmospheric effects, stock identification and genetic stock structure of salmon forage fish species, ecosystem monitoring and retrospective growth studies of salmon, and laboratory experiments on the behavioral and physiological ecology of salmon. Next year, the Commission is planning a study focused on the Gulf of Alaska that aims to better understand the ocean phase of the salmon life cycle,³ which will lead to improved understanding of salmon abundance and carrying capacity in the North Pacific. This work will help inform hatchery management in Alaska and can be utilized within existing process.

Similarly, ADF&G, in partnership with the Prince William Sound and Sitka Sound Science Centers, are in the process of completing an eleven-year study focused on evaluating the interactions of wild and hatchery chum and pink salmon in Prince William Sound and Southeast Alaska.⁴ The study, which spans over multiple salmon life cycles, analyzes the degree of hatchery pink and chum straying, the genetic structure of pink and chum salmon, and the impact on wild salmon productivity. This type comprehensive and long-term scientific information has, and will continue to, inform the hatchery permitting process.

² Commission member nations are the United States, Canada, Russia, the Republic of Korea, and Japan.

³ <https://npafc.org/iys/>

⁴ <http://www.adfg.alaska.gov/index.cfm?adfg=fishingHatcheriesResearch.main>



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Conclusion

We appreciate the opportunity to comment and appreciate the Board's responsibility of maintaining our State's world-class fishery resources. To that end, we ask that the Board consider the robustness of the existing hatchery permitting framework, as well as the destabilizing effect that acceptance of ACRs 1 and 2 would have on that framework and our State's fisheries as a whole. With its reliance on the best available data and the expertise of fisheries scientists and managers, Alaska's iterative and comprehensive approach to hatchery management is the best process through which to evaluate scientific uncertainty. Accordingly, we ask that the Board deny ACRs 1 and 2 and reject any other action that undermines the hatchery management framework.

Sincerely,

Shannon Carroll
Associate Director of Public Policy
Trident Seafoods Corporation

Submitted By
UCIDA
Submitted On
10/3/2018 12:20:46 PM
Affiliation

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907-260-9436

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Soldotna, Alaska 99669

UCIDA does not support ACRs 1 or 2. ACRs 1 and 2 do not comply with the ACR criteria, nor do they have reliable scientific data to support the allegations.

UCIDA supports ACR 6 because it shares the conservation burden amongst all users. After the management decisions of 2018, it is obvious we need Board direction for ADF&G to implement the sharing of the conservation burden. This ACR is warranted to avoid a repeat of the 2018 Cook Inlet disaster in 2019.



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October 3, 2018

Alaska Board of Fisheries
Alaska Department of Fish and Game, Boards Support Section
P.O. Box 115526
Juneau, Alaska 99811-5526

Dear Chairman Jensen and the Alaska Board of Fisheries,

United Fishermen of Alaska (UFA) is the statewide commercial fishing trade association, representing 36 commercial fishing organizations participating in fisheries throughout the state, and the federal fisheries off Alaska's coast.

In preparation for the upcoming Alaska Board of Fisheries Work Session October 15–16, 2018, UFA has comments on ACR 1, 2, 10, and 11.

ACRs 1 and 2 - OPPOSE

United Fishermen of Alaska is opposed to Agenda Change Requests (ACRs) 1 and 2 pertaining to hatchery production. We urge the board to reject these two ACRs because they do not meet the criteria for acceptance of an ACR.

The hatchery named in ACR 1 is managed through a collaborative, public process involving the Alaska Department of Fish and Game (ADF&G), the Regional Planning Team, and the Valdez Fishermen's Development Association; the rest of the state's hatcheries are managed similarly. This process is years in the making and undergoes strict scrutiny to determine hatchery production. The issue of ocean carrying capacity is not a statewide issue—it is an international issue which lacks scientifically tested empirical evidence.

The Alaska hatchery program is important to state, regional, and local economies; they help provide for stable communities by supporting sport fishing, tourism, personal use fishing, commercial fishing, seafood processing, along with other economic benefits that spread throughout the state.

We ask that the board follow its own *Joint Protocol on Salmon Enhancement* (Policy 2002-FB-215) which requests annual department/board meetings regarding hatcheries. "The hatchery meetings will provide an opportunity for the board and the public to receive reports from the department on hatcheries issues including: production trends, management issues, updates on hatchery planning efforts, wild hatchery stock interactions, biological considerations, and research."

By re-introducing the practice of these annual meetings, the board and public will be kept abreast of hatchery issues and we will not continue to be faced with repeated emergency petitions, ACRs, and proposals based on fear and misinformation.

Attached to this letter is UFA's Hatchery Resolution 2018-2, which was approved by the UFA board at its 2018 Annual Fall Meeting.



ACR 10 - OPPOSE

United Fishermen of Alaska opposes ACR 10, which seeks to close the Sitka Sound commercial sac roe herring fishery. ACR 10 does not meet the criteria for acceptance of ACRs. Similar proposals were just heard last year in the appropriate board cycle. UFA supports sustainable, science-based management of fisheries. Fishermen depend on ADF&G data analyses, sound management, and the ASA herring model for a healthy and sustainable herring stock in Sitka Sound. The department has initiated outside peer review of its ASA model by the University of Alaska and the leading University of Washington fishery modeler Andre Punt. UFA believes ADF&G's Sitka Sound herring stock assessment is based on fundamental scientific principles, good data, and peer review.

ADF&G's commitment to precise biomass estimates is further shown in its current research project to determine the maturity at age composition of the Pacific herring in Sitka Sound using scale samples. We ask the board to please put this issue to rest and vote no on ACR 10.

ACR 11 - SUPPORT

United Fishermen of Alaska supports ACR 11, which seeks to align regulations for sport fishing services and sport fishing guide services. ACR 11 is an ADF&G proposal that brings back the regulations previously in place before the legislature temporarily enacted legislation that superceded the regulations. It is essential for ADF&G to have a system of registration and communication with operators of fishing guide businesses in order to measure activity and harvest for effective fisheries management. Without such a system to accomplish the objectives regarding recreational fisheries in the Magnuson-Stevens Fishery Conservation and Management Act of 2005, it is our belief that the State of Alaska will be in jeopardy of losing management jurisdiction over marine fisheries to the federal government.

Thank you for this opportunity to comment on these matters that impact our members and thousands of Alaska commercial fishermen.

Matt Alward
President

Frances H. Leach
Executive Director

MEMBER ORGANIZATIONS

Alaska Bering Sea Crabbers • Alaska Independent Tendermen's Association • Alaska Longline Fishermen's Association • Alaska Scallop Association
Alaska Trollers Association • Alaska Whitefish Trawlers Association • Armstrong Keta • At-sea Processors Association • Bristol Bay Fishermen's Association
Bristol Bay Reserve • Cape Barnabas, Inc. • Concerned Area "M" Fishermen • Cook Inlet Aquaculture Association • Cordova District Fishermen United
Douglas Island Pink and Chum • Freezer Longline Coalition • Golden King Crab Coalition • Groundfish Forum • Kenai Peninsula Fishermen's Association
Kodiak Crab Alliance Cooperative • Kodiak Regional Aquaculture Association • Kodiak Seiners Association • North Pacific Fisheries Association
Northern Southeast Regional Aquaculture Association • Petersburg Vessel Owners Association • Prince William Sound Aquaculture Corporation
Purse Seine Vessel Owner Association • Seafood Producers Cooperative • Southeast Alaska Herring Conservation Alliance
Southeast Alaska Fisherman's Alliance • Southeast Alaska Regional Dive Fisheries Association • Southeast Alaska Seiners
Southern Southeast Regional Aquaculture Association • United Cook Inlet Drift Association • United Southeast Alaska Gillnetters
Valdez Fisheries Development Association



UNITED FISHERMEN OF ALASKA

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UFA Resolution 2018 – 02

A RESOLUTION IN SUPPORT OF THE ALASKA SALMON HATCHERY PROGRAM

WHEREAS, United Fishermen of Alaska (UFA) is the statewide commercial fishing trade association, representing 36 commercial fishing organizations participating in fisheries throughout the state, and the federal fisheries off Alaska's coast, with the mission *"To promote and protect the common interest of Alaska's commercial fishing industry, as a vital component of Alaska's social and economic well-being; and*

WHEREAS, the United Fishermen of Alaska benefits greatly from the State of Alaska Salmon Hatchery Program; and

WHEREAS, there has been a recent decline in some southeast Southeast Alaska Chinook stocks, there is no scientific literature suggesting the decline is due to hatchery chum or pink salmon production, and there have been many high Chinook abundance years in the past two decades with simultaneous record wild and enhanced pink salmon returns; and

WHEREAS, Pacific Rim hatchery programs from Japan, U.S., Russia, Korea, and Canada release approximately 5 billion fry annually, there is an estimated additional 20 billion wild salmon fry; of which the combined biomass represent only 3% of all nektonic feeders in the North Pacific Ocean. Squid alone represent another 4%; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments, which receive raw fish tax dollars; and

WHEREAS, Alaska's salmon hatchery program employs strong scientific methodology with rigorous critical review of hatchery-proposed operations including the genetics policy, origin of broodstock, scrutiny of rearing and release locations, and interactions with naturally occurring stocks with a priority on those natural stocks through the Regional Planning Team process; and

WHEREAS, Alaska's salmon hatchery program is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations; and

WHEREAS, the Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans; and



WHEREAS, returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980; and

WHEREAS, there are no Stocks of Concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time; and

WHEREAS, Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade; and

WHEREAS, Alaska hatcheries accounted for 22% of the total common property commercial catch and 43% of the total ex-vessel value in the Southeast region in 2016; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the State of Alaska by creating employment and economic opportunities throughout the state and in particular, in rural coastal communities; and

WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery program and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority; and

WHEREAS, Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, and

THEREFORE BE IT RESOLVED that the United Fishermen of Alaska affirms its support for Alaska's salmon hatchery programs; and

FURTHER BE IT RESOLVED that the United Fishermen of Alaska supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023; and

FURTHER BE IT RESOLVED that the United Fishermen of Alaska calls on the Alaska Board of Fisheries to work with the hatchery community, the Alaska Department of Fish and Game, and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

Approved and signed this the 2 day of Oct. 2018

By the UFA Board of Directors, September 27, 2018.

Matt Alward, President

Attest: Frances Leach
Executive Director

Submitted By
Jeff Stephan
Submitted On
10/3/2018 11:59:29 PM
Affiliation
United Fishermen's Marketing Association

Phone
907-350-2088
Email
jeff.stephan@me.com
Address
PO Box 2917
Kodiak, Alaska 99615

To: Members of the Alaska Board of Fisheries

From: Jeff Stephan, United Fishermen's Marketing Association

Date: October 3, 2018

Subject: Alaska Board of Fisheries Work Session; ACR 1 and ACR 2 (October 15 & 16, 2018)

The United Fishermen's Marketing Association (UFMA) respectfully requests that the Alaska Board of Fisheries (Board) reject further consideration of the following Agenda Change Requests (ACR):

[ACR 1: Prohibit VFDA from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity \(KRSA\)](#) (PDF 33 kB)

[ACR 2: Cap statewide private non-profit salmon hatchery egg take capacity \(Virgil Umphenour\)](#) (PDF 55 kB)

Neither ACR 1 nor ACR 2 conform to the criteria that the Board is required to utilize for considering an Agenda Change Request (i.e., 5 AAC 39.999).

The Board should not involve themselves in the manner and level of interference of hatchery operations that are requested in ACR 1 and ACR 2. This is especially true in light of the complexity of these operational procedures, that fact that they do not clearly fall within the authority and purview of the Board, and the important fact that the Alaska Department of Fish and Game (ADF&G) is given, and applies, the authority and responsibility to address the overall operation of hatchery operations, and, specifically, with respect to those that are suggested in ACR 1 and ACR 2.

We respectfully request that you reject ACR 1 and ACR 2, and take no further action to address these ACRs, or the concepts that they profess.

Thank you for your consideration of our comments with respect to your consideration of ACR 1 & ACR 2.

Sincerely,

Jeff Stephan

United Fishermen's Marketing Association

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Kodiak, AK 99615

tel/mobile: 907-350-2088

email: jeff.stephan@me.com

VALDEZ FISHERIES DEVELOPMENT ASSOCIATION, INC.
SOLOMON GULCH HATCHERY

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September 29, 2018

Alaska Dept. of Fish & Game
Alaska Board of Fisheries
PO Box 115526
1255 W. 8th Street
Juneau, AK 99811-5526

via email: dfg.bof.comments@alaska.gov

RE: ACR1-Prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017(5 AAC 24.366)

RE: ACR2 – Cap statewide private non-profit hatchery egg take capacity at 75% of the level permitted in 2000 (5 AAC 40.XXX)

Chairman Jensen, Members of the Alaska Board of Fisheries:

Thank you for the opportunity to provide written comments on the Alaska Hatchery Program and the Agenda Change Requests submitted by the Kenai River Sportfishing Association and Mr. Virgil Umphenour for consideration by the Board of Fisheries. The Valdez Fisheries Development Assoc. Inc., provides the following comments on ACR 1&2, as they effect the production of the Solomon Gulch Hatchery operated by the VFDA specifically, and affect Alaska's salmon enhancement programs and those that depend on them as a whole.

ACR1 - Prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017(5 AAC 24.366)

The history surrounding the basis of ACR1 is long and well documented before the Board of Fisheries. The proposers requested the BOF take action on their concerns through the emergency petition process beginning in January 2018 with the submittal of RC027 by Nancy Hillstrand. Later, on May 14th and again on July 17th, formal petitions for emergency finding were submitted. Each time the board found that the proposers concerns did not constitute an emergency under 5 AAC 96.625(f). The Commissioner of ADF&G concluded in letters submitted to the BOF on June 14th that the permitting of an additional 20 million pink salmon eggs at Solomon Gulch hatchery did not constitute an emergency because; “ *it is not unforeseen that some level of straying occurs in pink salmon stocks and concerns over straying effects and potential fishery management complications arising from increased pink salmon production levels were discussed by the RPT and department when the 2014 SGH PAR was considered and approved.*” In fact, the concerns of the proposers were considered by the department at the inception of Alaska's hatchery program, and policies and regulations were adopted to mitigate concerns associated with straying.

ACR1 is a further attempt to subvert ADF&G's regulatory process and authority, which is based on science and applies a precautionary principle in setting hatchery policy. It undermines the well-practiced and long standing authority given the Commissioner by the Alaska Legislature in 1979. The proposer of ACR1 continues to demand intervention in a settled matter. Even now after the fact, and having failed to participate in an open public permitting process, the proposers seek to interject themselves and reverse an approved and reasonable hatchery production increase which underwent a rigorous internal ADF&G and public review.

ACR1 makes several broad and unsubstantiated claims in its justification a fishery conservation purpose or reason exists for its request for hearing. The proposers also provide a contradictory statement that hatchery pink salmon are



causing adverse impacts on wild salmon through food competition, yet acknowledge there is record high salmon abundance in the North Pacific Ocean.

ACR1 tries to link the justification of a fishery conservation purpose or reason to *“an unacceptable level of straying of pink salmon produced by PWS hatcheries to areas outside of PWS, in particular Lower Cook Inlet.”* These are the proposer’s assertions, not the departments. ADF&G Central Regional Supervisor Bert Lewis, when questioned by member Payton on July 17th provided the following response, *“I don’t believe we have a set stray rate, and you can find various references to numbers either in comprehensive management plans or the genetic policy, but there’s not a set number in the hatchery policy I do not believe.”* Although research on this topic continues, the state has not determined a rate of straying that is unacceptable. Until one is established through credible scientific analysis and with department consensus, taking regulatory action on the demands of a small group is premature. VFDA supports the research being conducted by the Hatchery/Wild Interaction Study to determine if, and to what extent, harm by hatchery strays pose to wild salmon stocks. VFDA has submitted relevant comments in July (PC178) which further challenge the petitioner’s argument that hatchery strays are at an unacceptable level or cause harm to LCI wild stocks.

ACR1 states that *“The magnitude of releases of hatchery produced pink salmon in PWS poses a threat to wild stocks of salmon in the Gulf of Alaska.”* The proposer’s further state, *“Massive releases of pink salmon from hatcheries located in PWS appear to be jeopardizing marine survival of wild stocks of Sockeye and Chinook salmon bound for the rivers and streams flowing into the North Gulf Coast.”* There is no empirical evidence that concludes that PWS hatchery production, which has been in existence for 40 years, poses a threat to wild stocks in the Gulf of Alaska or to any other species in the North Pacific marine environment. There is even less evidence to conclude that PWS hatchery production is directly linked to a decline in marine survival of Cook Inlet Sockeye and Chinook salmon, or has led to any decline of statewide salmon returns. These appearances were refuted by analysis of the proposers cited studies submitted in July (PC003) by the hatchery groups.

Claims that pink salmon catches for 2018 in LCI are above forecast due to PWS hatchery strays is supposition and may be caused by several factors, including increased returns to LCI hatcheries. Examining the ADFG Pink Salmon Otolith Sampling Summary 2017, show estimated PWS hatchery contributions to the LCI seine and set net fisheries were between 2-12% that year. This is not new information to support the petitioner’s conservation purpose or reason, and both the BOF and ADF&G are aware of this fact.

This ACR is most certainly allocative and affects access to and the harvest of hatchery produced pink salmon in PWS. The proposers fail to address this sufficiently, nor provide any new information for the board to consider. The authors of ACR1 have no involvement in the salmon fisheries of PWS, yet seek to reduce production of one of the most successful fishery enhancement programs in Alaska. This summer, VFDA produced an estimated 42% of all PWS pink salmon catches and 21% of the pink salmon harvest of the entire state of Alaska. The ACR would clearly allocate the benefit of this production away from the commercial fishers of PWS. The sport, personal use, and subsistence fisherman of the sound may also feel these impacts.

To be clear, if ACR1 is passed the BOF would be approving the killing and waste of 19 million live salmon. VFDA completed its approved 20 million increased egg take goal in August. Denying our ability to incubate, rear, or release these additional fish is unacceptable and a radical departure from the responsible operation of Alaska’s hatcheries. This request is unprecedented and we believe has never been required of a hatchery operator by the BOF or ADF&G in the history of the enhancement program. It will have far reaching consequences on the marketability of Alaska’s salmon resources, creates financial uncertainty for fishermen and those that loan to them, and the hatchery operators. It sets precedence that long established tenets of Alaska’s hatchery permitting process are now unreliable and subject to the whims and the politics of the Board of Fish. If approved the news headlines would certainly be a dark day for Alaska.

VFDA objects in the strongest possible manner to the board accepting Agenda Change Request 1 for hearing because it does not establish a credible fishery conservation purpose or reason and is predominantly allocative.



ACR2 - Cap statewide private non-profit hatchery egg take capacity at 75% of the level permitted in 2000 (5 AAC 40.XXX)

ACR2 fails to define any fishery conservation purpose or reason and simply relies on the unsubstantiated claims stated in ACR1. The ACR is allocative for reasons stated in ACR1 because it will eliminate opportunity to Alaska's fishermen and businesses who benefit from hatchery production. For these reasons ACR2 does not meet the guidelines required in 5 AAC 39.999. VFDA provides these examples of actual impacts to the common property harvesters of PWS resulting from the proposal:

- ACR2 will require the immediate reduction of 97.5 million pink salmon eggs (36%) from VFDA's current hatchery program. This will result in the loss of an average harvest of 6.8 million adult pink salmon worth an estimated ex vessel value of \$8.7 million annually to the PWS seine fleet. In addition, millions in revenue will be lost to the seafood industry in first wholesale value and lost tax revenue to the state and its municipalities.
- ACR2 would require the reduction of 500,000 coho salmon eggs (25%) from VFDA's sport fish program. The loss of VFDA sport fish opportunity to Southcentral and Interior Alaska fisherman is estimated to be 24,000 fish per year, creating far reaching impacts to businesses in Valdez and elsewhere. On a statewide level it will be far more devastating, requiring the elimination of an estimated 37% of all hatchery produced species from current levels. The loss of prized sport fish such as Coho and Chinook salmon to the lodge and charter industries of coastal Alaska will be significant. Hatchery stock contributions to the Copper River dip net and subsistence fisheries may be reduced as well.
- ACR2 will force the BOF to reopen painstakingly crafted allocation plans between gear groups that rely heavily on the contributions of hatchery salmon.
- ACR2 will further increase pressure on natural stocks as users seek to find fishing opportunity from other sources due to lost hatchery production.

VFDA objects in the strongest possible manner to the board accepting Agenda Change Request 2 for hearing because it fails to qualify under the guidelines of 5 AAC 39.999.

The Board of Fisheries must consider requests to amend production or reduce Alaska's hatchery programs very carefully. Its actions have significant consequences to the state's fishermen, the hatcheries themselves, markets, and the public perception of resource sustainability. Taking any regulatory action is premature at this time given the status of ongoing research. In addition, ambiguity of board authority exists, that if acted upon as desired by the proposers may be found to be contrary to legislative intent which clearly separated the roles of the board and department years ago. This separation, which has been practiced by the board for the last four decades, has served the state well.

VFDA would suggest that the board take no action on ACR's 1 & 2 or any other request to amend hatchery production. VFDA supports re visiting the process outlined in the Joint Protocol on Salmon Enhancement #2002-215-FB, which the board has long ignored. The aquaculture groups have attended nearly all BOF meetings since the Protocol was adopted and are always available for discussion in the process. This October work session forum will provide opportunity for the board and the department to address the public's concerns and bring the scientific community together to assess potential impacts of hatchery production. The current process of ADF&G and BOF regulatory oversight was developed from a scientifically based set of protocols and policies. The system isn't broken, although ongoing research and knowledge should be considered before making changes to an important program to all Alaskans. Thank you for your consideration.

Sincerely

Mike H. Wells
Executive Director



October 2018

ECONOMIC IMPACT OF THE

Valdez Fisheries Development Association Inc.



Prepared for
**Valdez Fisheries
Development Association Inc.**

Prepared by
**McDowell
GROUP**





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Summary of Key Findings

This report describes the economic impact of the Valdez Fisheries Development Association (VFDA) on the Alaska economy. VFDA is a nonprofit salmon hatchery located in Valdez. In addition to supporting significant commercial and sport harvest of salmon, the organization contributes to the development of Prince William Sound (PWS) fisheries through operation of a Fisheries Business Incubator. VFDA also processes and sells salmon products for retail and wholesale purchase. A summary of key findings are detailed below

Commercial Fishing

- VFDA salmon are harvested primarily by PWS seiners. Between 2012 and 2017, seiners harvested an annual average of 55 million pounds of VFDA-produced salmon worth \$19 million annually. The VFDA-related salmon harvest had a cumulative six-year total volume of 329 million pounds worth \$116 million.
- VFDA accounted for 33 percent of the total PWS seine common property harvest between 2012 and 2017. Over the six-year period seiners harvested an average of 166 million pounds of common property salmon, totaling 996 million pounds. This harvest had an annual average ex-vessel value of \$58 million and total six-year value of \$347 million.
- PWS seine permit holders earned an annual average of \$265,000 over the 2012-2017 period. VFDA salmon accounted for about \$88,000 per year for each permit holder, on average.
- The economic benefits of the PWS seine fisheries are broadly distributed. In 2017, 174 permit holders from 22 different Alaska communities harvested VFDA salmon.



Seafood Processing

- Over the 2012-2017 period, the first wholesale value of VFDA pink salmon — including both common property and cost recovery fish — averaged \$63 million annually and totaled \$375 million.
- VFDA salmon accounts for nearly a quarter (23 percent) of the total value of all seafood processed in PWS. Between 2012 and 2017, PWS processors sold an annual average of \$272 million worth of seafood products, about \$1.63 billion in the six-year period.
- According to Silver Bay Seafoods, large volumes of available VFDA-produced salmon is a primary factor underpinning its decision to invest more than \$40 million into a new seafood processing plant in Valdez.
- VFDA salmon are processed into fresh, frozen, and canned salmon products, in addition to roe products.



Sport Harvest

- Salmon produced by VFDA are vital to Valdez-area sportfishing. Without VFDA salmon, the Valdez sportfishing sector would not be able to attract the annual influx of Alaska residents and non-residents who pursue coho and pink salmon on guided and unguided trips.
- More than 80 percent of all coho harvested in the Valdez Arm come from VFDA and nearly all pink salmon originated at the hatchery. Due to VFDA production, pink and coho salmon returns have increased significantly over the past decade.
- Valdez's annual salmon derbies rely on VFDA-produced salmon. These derbies attract participants from all over Alaska and the United States to harvest pink and coho salmon. The main Silver Salmon Derby sold more than 3,350 tickets in 2018. More than 500 individuals fished in a one-day women's event and more than 350 children participated in the Kid's Pink Salmon Derby.





- Many of the nearly 100,000 annual visitors (including residents and non-residents) to Valdez harvest salmon produced by VFDA. The opportunity to catch these fish is an important aspect in the quality of visitors' experience in Valdez, prompting visitors to return year-after-year.

Economic Impact

VFDA is credited with supporting an annual average of 760 jobs (including direct, indirect, and induced effects) between 2012 and 2017. VFDA's hatchery operations contributed 70 jobs to this total, along with employment in the seafood processing (345 jobs), commercial fishing (240 jobs), and sport fishing (100 jobs) sectors. Total labor income (wages and salaries) averaged nearly \$34 million each year, including all multiplier effects. Total output of VFDA averaged \$112 million annually, a 40 percent increase from a previous economic impact analysis of the organization. ¹

Table 1. Summary of Economic Impacts from VFDA, Annual Average 2012-2017

| | Direct Impacts | Indirect and Induced Impacts | Total Impacts |
|---------------------------|----------------|------------------------------|---------------|
| Commercial Fishing | | | |
| Employment | 165 | 75 | 240 |
| Labor Income (\$Million) | \$11.0 | \$3.6 | \$14.5 |
| Output (\$Million) | \$19.3 | \$12.5 | \$31.8 |
| Seafood Processing | | | |
| Employment | 200 | 145 | 345 |
| Labor Income (\$Million) | \$7.9 | \$4.6 | \$12.6 |
| Output (\$Million) | \$39.3 | \$26.9 | \$66.2 |
| Sport Fishing | | | |
| Employment | 75 | 25 | 100 |
| Labor Income (\$Million) | \$2.8 | \$1.5 | \$4.3 |
| Output (\$Million) | \$6.7 | \$2.3 | \$9.0 |
| VFDA Operations | | | |
| Employment | 40 | 30 | 70 |
| Labor Income (\$Million) | \$1.5 | \$0.9 | \$2.5 |
| Output (\$Million) | \$3.4 | \$1.5 | \$5.0 |
| Total Impacts | | | |
| Employment | 490 | 270 | 760 |
| Labor Income (\$Million) | \$23.3 | \$10.7 | \$33.9 |
| Output (\$Million) | \$72.2 | \$39.9 | \$112.0 |

Note: Figures have been rounded and may not add to total.
Source: McDowell Group estimates.

¹ Economic Impact of Valdez Fisheries Development Association, Prepared by McDowell Group, December 2013.



Purpose and Methodology

Valdez Fisheries Development Association, Inc. (VFDA) contracted with McDowell Group to quantify its economic impact on the Alaska economy. This report describes VFDA's impact throughout Alaska, including employment and wages in the commercial fishing, seafood processing, and sportfishing sectors. Additional indirect and induced (multiplier) effects are also considered. The study period for this report is 2012-2017.

Methodology

Data used and presented in this report come from a variety of sources, including VFDA, the Alaska Department of Fish and Game (ADF&G), Alaska Commercial Fisheries Entry Commission (CFEC), Alaska Department of Labor and Workforce Development (DOLWD), National Marine Fisheries Service (NMFS) and the Alaska Department of Revenue (DOR). Additionally, McDowell Group conducted interviews with key industry representatives.

McDowell Group used primary data, information from public sources, and a proprietary input-output model based on IMPLAN to estimate direct, indirect, and induced impacts of VFDA. Though IMPLAN is widely used for economic impact modeling in Alaska and elsewhere, it requires modification for analyses of some Alaska industries, including commercial fishing and seafood processing.

All photos in the report are from Franklyn Dunbar, Neil Gotschall, Jordan Nelson, the Alaska Seafood Marketing Institute, and McDowell Group.



Overview of VFDA Operations

VFDA is a non-profit organization incorporated in 1980 by a group of local residents. The organization's mission is to produce salmon for the benefit of all user groups and support development of local fisheries.

VFDA's board includes representatives of commercial fishing, sport fishing, and visitor industry sectors. The organization is not a regional aquaculture association and collects no tax revenues from local fishermen. VFDA's primary revenue source is sales of pink salmon to processors from cost recovery fisheries. To use all salmon returning to the hatchery, VFDA began processing and selling a portion of its annual cost recovery operations in 2000.

VFDA salmon are harvested primarily in the Valdez Arm by commercial seine vessels, sport anglers trolling from small vessels, and anglers fishing from shore.

Solomon Gulch Hatchery

The Solomon Gulch Hatchery was completed in 1982; VFDA's first release of smolt from the facility occurred the same year. The hatchery is located on Dayville Road south of Valdez.

ADF&G has permitted VFDA to collect and incubate 270 million pink salmon eggs, 2 million coho salmon eggs, and 300,000 Chinook eggs (the hatchery does not currently collect Chinook eggs). In 2017, VFDA released 242 million pink salmon smolt and 1.8 million coho smolt. In the same year, an estimated 14.7 million pink salmon from VFDA returned along with 72,000 coho salmon.

Between 2008 and 2017, the Solomon Gulch Hatchery supported returns of more than 160 million pink salmon and about a million coho salmon.

Salmon hatcheries require significant amounts of freshwater. VFDA receives discharge water from the nearby Solomon Gulch hydroelectric plant owned by the Copper Valley Electric Association. Water used by the hydroelectric plant comes from Solomon Lake which is not populated by salmon due to steep geography.

A portion of returning salmon come directly to the VFDA hatchery and are harvested in a raceway.

VFDA Fisheries Business Incubator

VFDA manages a small educational processing plant that was built in 2003 with funding from VFDA and a U.S. Department of Commerce Economic Development Administration grant. The primary goal of the facility is to assist direct marketers. Commercial fishermen can bring product to market without having to invest significant capital into their own facility.

The incubator can produce a wide variety of products including fresh, frozen, smoked, and cured seafood. The plant's processing equipment includes heading and gutting (H&G) equipment, fillet machines, a smoker, blast freezer, packaging equipment, and other items.



VFDA is the primary user of the facility, processing salmon for its Solomon Falls product line. Two direct marketers also currently use the facility to glaze and freeze spot prawns, among other periodic users.

Solomon Falls Seafood

VFDA produces smoked salmon and caviar products from surplus raceway coho and pink salmon at the Fisheries Business Incubator.

These products have met with success. In 2009, VFDA's smoked pink salmon won the Symphony of Seafood Award for best smoked product. VFDA has developed techniques and markets for several value-added salmon products, including hot smoked coho, black pepper coho, teriyaki coho fillets, and ikura-style salmon caviar, among others. Solomon Falls products can be purchased online and in stores around Alaska.



VFDA Cold Storage Facility

VFDA maintains and operates a modular cold storage facility which can store about 300,000 pounds of product at temperatures to -10 degrees. Supported in part by funding from the U.S. Department of Commerce Economic Development Administration, the facility was completed in 2012.

The cold storage facility supplements the capacity and scope of VFDA's Fisheries Business Incubator. Space in the facility is leased by local businesses. Users include local seafood processors, non-profits, sportfish custom processors, shippers handling perishable packages, and local outfitters storing bait.

VFDA Administrative Offices

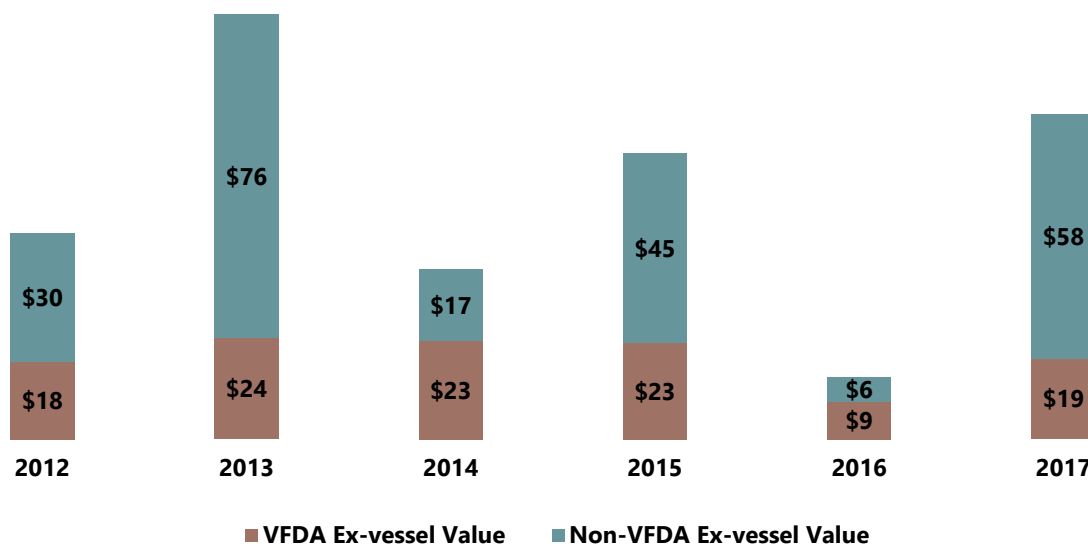
VFDA's administrative offices are located at 1815 Mineral Creek Loop Road in Valdez, in the same facility as the processing plant.



VFDA Salmon in Commercial Fisheries

VFDA salmon are harvested primarily by the Prince William Sound (PWS) seine fleet. Between 2012 and 2017, PWS seiners harvested 996 million pounds of common property salmon worth \$347 million – an annual average of 166 million pounds worth \$58 million. Of this total, VFDA salmon contributed an estimated \$116 million in value or 33 percent of total earnings, averaging \$19 million per year.

Figure 1. Value of Prince William Sound Common Property Salmon Harvest by Source (\$Million), 2012-2017



Note: Non-VFDA sources include wild and hatchery salmon from Prince William Sound Aquaculture Association.
Source: ADF&G, McDowell Group estimates.

Throughout this period, the number of permits/vessels participating in the PWS seine fishery ranged from 210 in 2013 and 2016 to 230 in 2017, or between 79 and 86 percent of the 267 available permits. Participation has trended higher in recent years: in 2005, just 101 vessels participated.

A captain (often the permit holder) and three to four crew members work on the typical PWS seine vessel. The maximum length for a seine vessel in Alaska is 58 feet.



Earnings of PWS seine vessels totaled \$1.6 million on average over the 2012-2017 period, or \$265,000 annually. Harvest of VFDA salmon contributed 33 percent of this amount, totaling \$529,000 over the period or about \$88,000 per year.



PWS seine permit prices ranged from a high of \$204,600 in 2014 to a low of \$147,900 in 2016. Permit prices generally track the recent harvest value of the fishery, rising during or after a strong season and declining during or after a poor season.

Table 2. Prince William Seine Common Property Fishery, 2012-2017

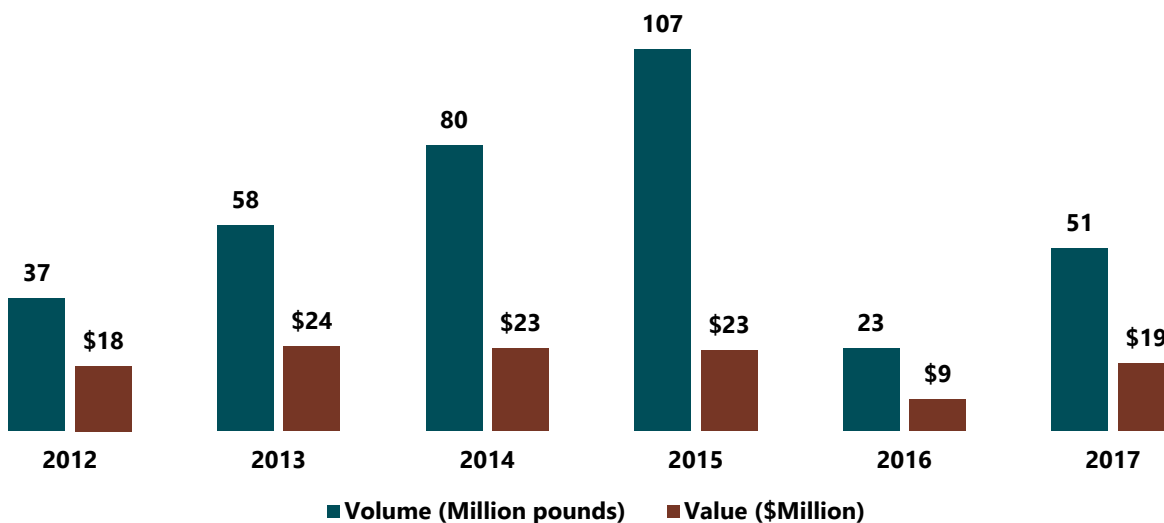
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|
| Ex-vessel Value (\$Million) | \$48.6 | \$100.1 | \$40.0 | \$67.4 | \$14.5 | \$76.6 |
| Ex-vessel Volume (millions of lbs.) | 95.5 | 243.8 | 130.8 | 306.1 | 36.1 | 183.2 |
| Permits Fished | 224 | 210 | 222 | 216 | 210 | 230 |
| Percent of Permits Fished | 84% | 79% | 83% | 81% | 79% | 86% |
| Average Earnings Per Permit | \$216,742 | \$476,738 | \$179,982 | \$311,815 | \$69,272 | \$332,975 |
| Percent of Ex-vessel Earnings from VFDA | 38% | 24% | 58% | 34% | 61% | 25% |
| Average Earnings per Permit from VFDA | \$81,303 | \$113,281 | \$104,457 | \$104,723 | \$42,000 | \$82,744 |
| Average Permit Prices | \$168,700 | \$168,000 | \$204,600 | \$186,700 | \$147,900 | \$154,500 |

Note: Reflects data for S 01E fishery; 2017 data is preliminary.
Source ADF&G, CFEC, PWSAC, and McDowell Group estimates.

Commercial Harvest of VFDA Salmon

Between 2012 and 2017, an annual average of 59 million pounds of VFDA-produced pink and coho salmon were harvested in common property harvests. The largest annual return of VFDA salmon was 2015's 107-million-pound harvest; the most valuable harvest (\$24 million) took place in 2013.

Figure 2. Ex-vessel Volume and Value of VFDA Common Property Harvest, 2012-2017



Source: ADF&G, McDowell Group estimates.



Pink Salmon

The PWS seine fleet is the sole gear type commercially targeting VFDA pink salmon. During the 2012-2017 period, 354 million pounds of VFDA-produced pink salmon were harvested in common property fisheries, worth \$114 million. The annual VFDA pink salmon harvest averaged 59 million pounds worth \$19 million. Seine-harvested pinks in PWS averaged 3.6 pounds over the study period; ex-vessel prices fluctuated between \$0.20 and about \$0.50 per pound.



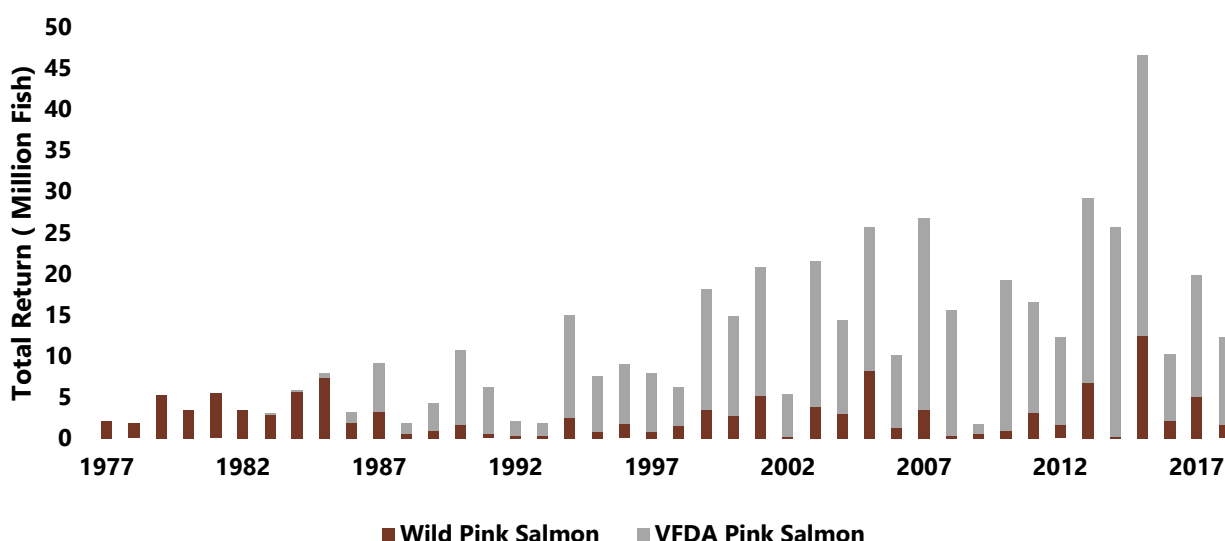
PWS typically produces about 40 percent of the annual Alaska pink salmon harvest. After PWS, Southeast usually produces about a third and Kodiak is the next largest contributor. Areas outside these three regions usually account for less than 10 percent of the annual pink production.

Alaska pink salmon have a two-year life-cycle with even-year populations and harvests generally smaller than those in odd years. This dynamic is observed statewide and is usually the case for VFDA pink salmon. However, the 2014 VFDA pink salmon harvest was about 17 percent larger than the prior, odd year.

VFDA hatchery operations have significantly increased the annual return of pink salmon to the Eastern District of PWS. Prior to VFDA production in the early 1980s, the annual return was generally less than 10 million fish; the 2008-2017 average return of pink salmon was nearly 18 million fish.

In 2015, more than 45 million pink salmon returned to the Eastern District, including a record-breaking 34 million VFDA salmon along with a record-breaking wild return of more than 12 million pinks.

Figure 3. Historical Pink Salmon Returns to PWS Eastern District, 1977-2017



Note: Data presented are best available information. Includes sport and commercial harvest, brood stock and other hatchery harvest, and stream escapements.
Source: ADF&G.



Coho Salmon

While VFDA produces coho primarily for sport harvest, a small commercial harvest occurs. Between 2012 and 2017, a cumulative total of 1.6 million pounds of VFDA-produced coho were harvested worth \$1.6 million. The largest harvest occurred in 2013 when 1.2 million pounds of coho were harvested worth \$1.2 million.

Geographic Distribution of Commercial Harvest

In 2017, 174 permit holders from 22 different Alaska communities harvested common property salmon worth \$58 million in the PWS seine fishery. VFDA-sourced fish contributed about \$19 million to this total, or 33 percent.

- Kenai Peninsula Borough residents harvested more than \$22 million, including \$7.4 million in VFDA salmon. Homer residents earned \$16 million and Seward residents harvested \$3.0 million worth of salmon. Ten permit holders from seven other Kenai Peninsula communities also generated earnings from the fishery.
- Residents of Cordova were the most active of any Alaska community, with 65 residents earning \$18 million. Valdez residents earned \$3.9 million. VFDA salmon harvested by residents of these two communities were valued at \$7.3 million.
- Residents of the Municipality of Anchorage earned a total of \$9.9 million, including an estimated \$3.3 million from VFDA fish. Girdwood was represented by 10 residents who earned \$6.2 million; nine Anchorage residents earned \$2.4 million. Five residents of Chugiak and Eagle River also participated.

Table 3. Residency of PWS Salmon Seine Fleet with Ex-vessel Earnings, 2017

| Location | Permits Fished | Total Common Property Earnings |
|-----------------------------------|----------------|--------------------------------|
| Kenai Peninsula Borough | 55 | \$22,283,155 |
| Homer | 36 | \$16,000,502 |
| Seward | 9 | \$2,960,571 |
| Kasilof | 3 | - |
| Kenai | 2 | - |
| Anchor Point | 1 | - |
| Nikolaevsk | 1 | - |
| Ninilchik | 1 | - |
| Soldotna | 1 | - |
| Sterling | 1 | - |
| Valdez/Cordova Census Area | 78 | \$22,203,966 |
| Cordova | 65 | \$18,310,197 |
| Valdez | 13 | \$3,893,769 |
| Municipality of Anchorage | 24 | \$9,901,634 |
| Girdwood | 10 | \$6,224,356 |
| Anchorage | 9 | \$2,394,606 |
| Chugiak | 3 | - |
| Eagle River | 2 | - |
| Mat-Su | 5 | \$1,039,610 |
| Wasilla | 4 | - |
| Sutton | 1 | - |
| Other Alaska | 12 | \$1,964,499* |
| Kodiak | 7 | \$1,964,499 |
| Juneau | 2 | - |
| Dillingham | 1 | - |
| Hoonah | 1 | - |
| Petersburg | 1 | - |
| Alaska Resident Total | 174 | \$58,402,372 |

*Subtotal excludes confidential values. (-) indicates values are withheld.

Note: Figures reflect S 01E PWS purse seine fishery.

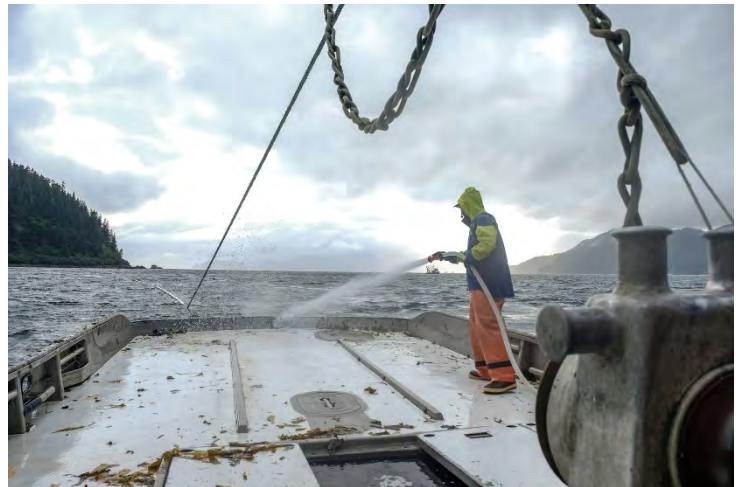
Source: ADF&G.

- Five residents of the Matanuska-Susitna Borough earned slightly more than a million dollars.
- Residents from other Alaska communities generated earnings from the PWS seine fishery, including Kodiak (7 permit holders), Juneau (2), Dillingham (1), Hoonah (1), and Petersburg (1).

Residents of other states participate in the PWS seine fishery. Washington is home to the largest group of non-Alaska commercial fishermen: in 2017, 35 residents earned slightly more than \$11 million. Nearly 20 residents from California, Oregon, and other states earned more than \$5.0 million.

Fisheries Business Tax Revenue

VFDA salmon are subject to the State of Alaska Fisheries Business Tax — a 3.0 percent levy on the ex-vessel value of the fish. Half of revenue generated from this tax is retained by the State and the other half is shared with the community and/or borough where the salmon are landed.



Between 2012 and 2017, an estimated \$3.5 million was generated from taxation of VFDA salmon. The state received \$1.7 million and local government received an equal amount.

Cordova, Valdez, and Whittier received most of the local component. VFDA salmon landed in Seward results in tax revenue to both the City of Seward and the Kenai Peninsula Borough.

Because Fisheries Business Tax revenue is based on ex-vessel value, tax receipts can fluctuate significantly year-to-year. VFDA-supported revenue totaled \$678,000 in 2015; the following year it declined to \$264,000 and rebounded to \$570,000 in 2017.

Table 4. Estimated Fisheries Business Tax Revenue from VFDA Salmon by Component, 2012-2017

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Total | Average |
|--------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|------------------|
| State | \$273,000 | \$357,000 | \$348,000 | \$339,000 | \$132,000 | \$285,000 | \$1,734,000 | \$289,000 |
| Local | \$273,000 | \$357,000 | \$348,000 | \$339,000 | \$132,000 | \$285,000 | \$1,734,000 | \$289,000 |
| Total | \$546,000 | \$714,000 | \$696,000 | \$678,000 | \$264,000 | \$570,000 | \$3,468,000 | \$578,000 |

Source: McDowell Group estimates based on ADF&G and DOR data and information.



VFDA Salmon in Seafood Processing

Salmon produced by VFDA and harvested commercially are processed into a variety of products. This processing activity adds significant value to VFDA salmon and supports additional employment and associated economic activity. Hatchery-produced salmon supplement wild-stock returns and helps stabilize the annual harvest. VFDA salmon are processed primarily in Valdez and Cordova; some volume is landed in Seward, Whittier, and other Alaska ports.

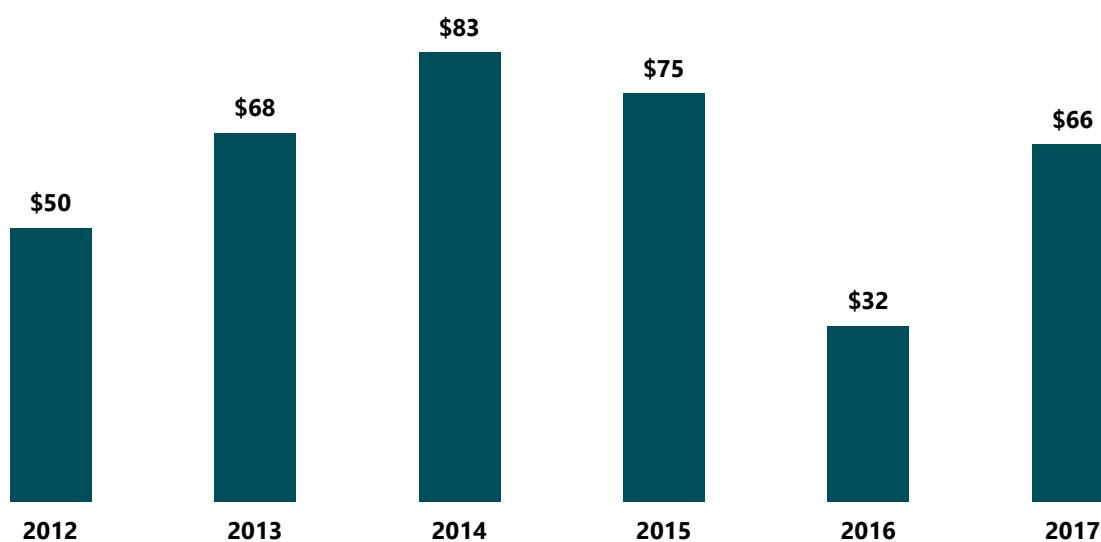
The primary product form for pink salmon is frozen headed and gutted (H&G), which is shipped out of Alaska to undergo additional reprocessing. A declining portion of pink salmon are canned. In 2012, about half of all Alaska pink salmon were canned; in 2017, this proportion had declined to about a quarter. Coho generally receive additional value-add processing such as filleting before being frozen for shipment. A material portion of Alaska's annual coho production goes to market in a fresh form.

Over the 2012-2017 period, the first wholesale value of VFDA pink salmon — including both common property and cost recovery fish — averaged \$63 million annually and totaled \$375 million. First wholesale value describes the value of seafood products after processing activity such as H&G, filleting, canning, or other processes. The highest value (\$83 million) over this period was observed in 2014.

The first wholesale value of VFDA-produced coho totaled \$5.9 million during this six-year period.

Another way to consider VFDA's contribution to the Alaska processing sector is to examine the gross margin provided by the organization's fish, or the value remaining after payment to fishermen. After paying harvesters \$116 million for salmon, PWS processors earned an estimated gross margin of \$265 million from VFDA salmon. This figure is not to be confused with profit margin as processors incur significant costs handling and producing salmon products.

Figure 4. First Wholesale Value of VFDA Pink Salmon Products (\$Million), 2012-2017



Note: The cumulative first wholesale value of VFDA-produced coho products over this period was about \$5.9 million. Figures include cost recovery volume. Values have been rounded.
Source: ADF&G, McDowell Group estimates.



Seafood Processing in Prince William Sound

PWS processors sold \$1.63 billion worth of seafood products between 2012 and 2017. In addition to a relatively small amount of halibut, sablefish, Pacific cod, and other species, salmon was the largest component by far, contributing \$1.58 billion or 97 percent of the total. VFDA-sourced salmon contributed an estimated 23 percent to the total PWS first wholesale value over the study period.



Seward, Valdez, and Cordova have onshore private seafood processing facilities run by the following companies: Copper River Seafoods, Silver Bay Seafoods, Whittier Seafood, Ocean Beauty Seafoods, Peter Pan Seafoods, Prime Select Seafoods, Trident Seafoods, and Wild by Nature. These facilities produce fresh, frozen, and canned salmon products, in addition to roe products. Additionally, VFDA processes limited amounts of raceway surplus salmon for cost recovery, producing H&G and roe for its Solomon Falls label.

Due to the compressed season of salmon harvesting activity, most processing workers are seasonal. A significant number of these workers are not Alaska residents. However, local residents employed in the region's processing sector tend to be employed year-round and earn substantially more than seasonal workers.

Seafood processing plants also contribute to the property tax base in PWS communities. Silver Bay Seafoods and Peter Pan Seafoods are among the largest non-oil property tax payers in Valdez. Nearly \$250,000 in Cordova property taxes were paid to the City of Cordova in 2018 by Trident Seafoods, Ocean Beauty Seafoods, and Copper River Seafoods.

Silver Bay Seafoods

VFDA salmon production contributed in-part to attracting Silver Bay Seafoods to PWS. In 2010, Silver Bay Seafoods purchased an aging seafood processing plant in Valdez. After significant investment in land, new buildings, and manufacturing machinery, the company now operates one of the most modern and capable seafood processing facilities in Alaska. The plant is valued at more than \$40 million, can process 2.7 million pounds of salmon per day, and employs a peak workforce of 450 individuals.²

² Personal Communication, Tommy Sheridan, External Affairs Officer, Silver Bay Seafoods, 9/28/2018.



VFDA Salmon in Sport Fishing

Salmon produced by VFDA are vital to Valdez-area sportfishing. Without VFDA salmon, the Valdez sportfishing sector would not attract the annual influx of Alaska residents and non-residents who pursue coho and pink salmon on guided and unguided trips.

VFDA's sportfish program is funded by sales of pink salmon (through cost recovery harvest) and operations grants from the City of Valdez.

Sport fishing activity in Valdez supports many seasonal and year-round businesses. These businesses include hotels, outfitters, charter operators, fishing gear retailers, and boat rental companies. They also include businesses that process, pack, and ship sport-caught fish. Visiting anglers also support local restaurants, gift shops, coffee shops, grocery stores, accommodations, and gas stations.

During the summer of 2016, 71,000 non-Alaska resident visitors traveled to Valdez, according to the Alaska Visitors Statistics Program (AVSP).³ AVSP indicates about 15 percent of these travelers sport fished while in Valdez. Of these 10,650 non-resident anglers, about half report engaging in a guided trip. Other research conducted by McDowell Group estimates that about 26,500 Alaska residents traveled to Valdez in the summer of 2016.⁴ About two-thirds of these Alaska residents reported sport fishing; most did not use a guide.

North Gulf Coast/PWS Sport Salmon Fishery

Between 2012 and 2016 (data are not yet available for 2017), sport fishermen harvested an annual average of 123,000 coho and pink salmon in the North Gulf Coast/PWS (NGC/PWS) region which included Seward, Whittier, Valdez, Cordova, and other communities. The average annual coho harvest of 104,000 coho was the largest component; 18,000 pink salmon were harvested annually.

Table 5. Sport-caught Harvest in North Gulf Coast/PWS, 2012-2016

| | Coho | Pink | Combined Total |
|-----------------------|----------------|---------------|----------------|
| 2012 | 63,000 | 21,000 | 84,000 |
| 2013 | 157,000 | 15,000 | 172,000 |
| 2014 | 97,000 | 15,000 | 113,000 |
| 2015 | 164,000 | 22,000 | 186,000 |
| 2016 | 41,000 | 17,000 | 58,000 |
| Annual Average | 104,000 | 18,000 | 123,000 |
| Total | 522,000 | 91,000 | 613,000 |

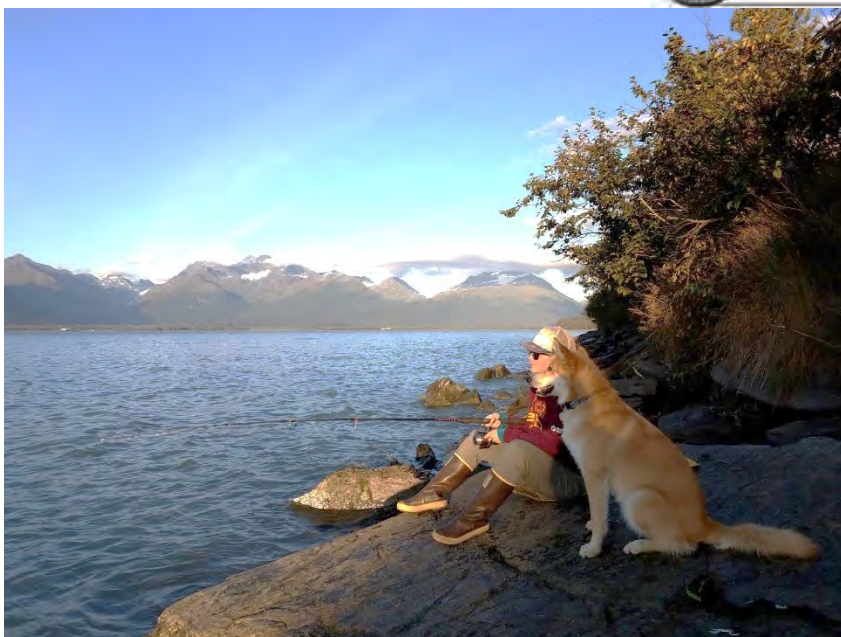
Note: Values have been rounded and may not add to total.
Source: ADF&G.

³ Alaska Visitor Statistics Program 7, prepared by McDowell Group for Alaska Department of Commerce, Community, & Economic Development, 2017; <http://www.alaskatourism.org/marketing/alaska-visitors-statistics-program-avsp-vii>

⁴ Valdez Visitor Market Profile, prepared for the City of Valdez by McDowell Group, 2017.

Salmon harvested in the NGC/PWS region include both hatchery and wild salmon. Between 2012 and 2016, it is estimated that VFDA salmon accounted for about one-in-four coho harvested in the region and nearly nine-of-ten pink salmon.

For sport fishermen harvesting fish in the Valdez Arm, including shoreside at Allison Point or in the City of Valdez and trolling in the area, VFDA salmon is the primary source of salmon.



Between 2012 and 2016, an annual average of 28,000 coho were caught within or near the Valdez Arm.⁵ Assuming nearly all VFDA coho are harvested in the same area, more than 80 percent of these coho came from VFDA. Similarly, it is assumed that VFDA is the source for nearly all pink salmon harvested in this area.

Sport Harvest of VFDA Salmon

Over the 2012-2017 period, anglers harvested 240,500 coho and pink salmon produced by VFDA, or about 40,100 fish annually. Nearly all VFDA salmon harvested by the sportfishing sector occurs in the Valdez Arm.

Coho are the largest component of the annual VFDA-supported sport harvest. Over the study period, an annual average of 24,600 were harvested, or 147,700 total fish. Even-year returns in 2012, 2014, and 2016 were significantly below the long-term average.

Compared to other salmon species, coho are one of the largest, often weighing 8-12 pounds. VFDA pink salmon harvested by anglers totaled 92,800 fish between 2012 and 2017, or 15,500 fish annually. Pink salmon is the smallest salmon species, averaging about four pounds per salmon.

Table 6. Sport-caught VFDA Salmon, 2012-2017

| | Coho | Pink | Combined Total |
|------------------|---------|--------|----------------|
| Annual Average | 24,600 | 15,500 | 40,100 |
| Cumulative Total | 147,700 | 92,800 | 240,500 |

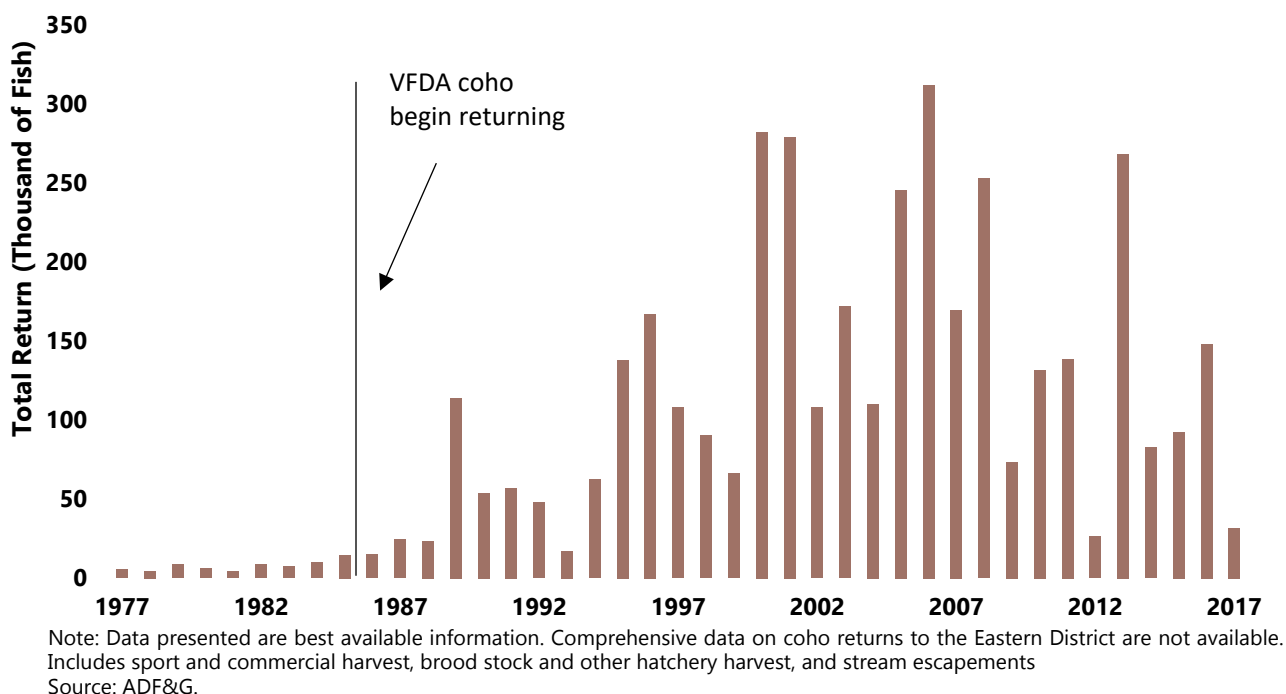
Source: ADF&G.

⁵ Alaska Sport Fishing Survey, Alaska department of Fish & Game, <http://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?ADFG=area.home>.



Prior to VFDA supplementing PWS wild coho production with hatchery fish, few returned to the area. While total coho returns totaled less than 10,000 fish before VFDA began releasing coho in the early 1980s, recent returns have regularly exceeded 100,000 fish.

Figure 5. Historical Coho Salmon Returns to PWS Eastern District, 1977-2017



Charter Fleet Harvest of VFDA Salmon

Charter fishing is an important part of the Valdez visitor industry and VFDA is a key source of fish harvested by the fleet. In 2014 (the most recent data available), 27 charter businesses operated 31 vessels out of Valdez. These vessels made 732 trips with 4,060 anglers. Valdez charter fishing operators generally charge approximately \$190-225 per client for a half-day (4-hour) trip, and \$250-\$400 for a full-day trip. Pricing does not include purchase of a fishing license, tips, or other charges. In addition to salmon, Valdez charter vessels target halibut, ling cod, and rockfish.

Limited and sporadic data prevent a robust understanding of the number of salmon harvested by charter boat vessels. In 2011, ADF&G logbook data show 10,850 coho were landed on charter vessels in Valdez.⁶ The most recent data from 2014 show less than 1,000 coho were landed. However, Valdez charter operators report that there can be significant year-to-year variation for coho harvest. Additionally, operators report coho salmon — as a component of their business — has maintained its importance over the years. Some operators indicate the importance of salmon has increased as restrictions limit halibut harvest.

⁶ Participation, Effort, and Harvest in the Sport Fish Business/Guide Licensing and Logbook Programs, 2014; Alaska Fish & Game; <http://www.adfg.alaska.gov/FedAidPDFs/FDS16-02.pdf>



Non-Alaska residents typically are the most valuable customer of the Valdez charter fishing fleet. In 2014, 55 percent of angler days for the fleet were credited to non-Alaska residents.

An estimated \$1.8 million was spent annually to fish for salmon (primarily coho) from charter vessels in Valdez. This amount was spent primarily with charter operators, but also includes expenditures on meals, tips, gear, and other supplies. VFDA coho is credited with supporting 80 percent (\$1.4 million) of this spending.

Valdez Salmon Derbies

After the VFDA hatchery was opened in 1982 and large numbers of salmon started returning to the waters around Valdez, city leaders saw an opportunity to market Valdez as a destination for world-class sport fishing.

Three salmon derbies are held annually in Valdez: the Silver Salmon Derby, the Kid's Pink Salmon Derby, and Women's Silver Salmon Derby. Anglers compete to catch the largest fish and prizes are awarded for catching the heaviest silver (coho) or pink salmon. Thousands of Alaskans and non-Alaska residents participate annually in these derbies.

The Valdez Silver Salmon Derby has occurred annually since 1952 and typically runs from late July to early September. In 2018, 3,355 tickets and 523 season passes were sold for the derby. Derby tickets are sold for \$10 per day or \$50 for the season per species. First prize was \$10,000, with thousands of dollars in additional daily and other prizes awarded during the tournament.



The all-women, one-day Women's Silver Salmon Derby was added in 2005 and happens annually in August. In 2018, 501 women participated from all over Alaska and the nation—the winner was from Utah.

A Kids' Pink Salmon Derby was launched in 2008. It's a free one-day tournament for children ages 5 through 16. More than 350 kids participated in 2018.

The VFDA hatchery provides most of the salmon caught in these derbies and therefore, accounts for much of the economic activity generated by the derbies.

Shoreside harvest of VFDA Salmon

Many residents and non-residents come to Valdez to fish coho and pink salmon from the shore, including Allison Point and nearby shoreline, from the City Dock, and even at the harbor. The availability of salmon from VFDA helps maintain Valdez as a multi-activity destination for both Alaskans and other travelers. Anecdotal sources indicate these anglers spend money in Valdez with the visitor and hospitality industry, outfitters, and other businesses. Many shoreside anglers traveling to Valdez come each year; some bring motor homes for extended vacations in the area.



Economic Impact

VFDA has a broad economic impact in Alaska and the PWS region, supporting employment and wages in the commercial fishing, processing, and sport fishing sectors. Additional economic activity is supported when employees from these sectors, as well as businesses that supply VFDA, circulate money in the Alaska economy.

Many individuals and businesses are impacted by economic activity generated and supported by VFDA. For example, the mechanic hired to fix a commercial fishing vessel that harvests VFDA salmon is supported indirectly by VFDA. The city worker paid in part by tax revenue generated when VFDA salmon are landed in Valdez owes a portion of her employment to VFDA, and the waiter who serves breakfast to anglers on their way to catch VFDA salmon can be economically connected to the organization.

The economic impact estimates reported below reflect the total amount of employment and labor income related to VFDA — summing up direct impacts as well as indirect and induced jobs and labor income. It is important to note that the total number of workers earning some part of their income from VFDA salmon is far larger than the annualized employment figures shown in this section. Employment figures in this section are presented in fulltime equivalent (FTE) terms.

Commercial Fishing

Between 2012 and 2017, commercial fishermen generated average gross revenues (ex-vessel income) of \$19 million per year harvesting VFDA salmon in common property fisheries. Labor income (gross revenues less expenses) for permit holders and crew derived from harvesting VFDA salmon is estimated to be \$11.0 million per year. VFDA salmon directly generated the annual equivalent of 165 commercial fishing jobs for permit holders and crew, on average, per year during the six-year study period. Income earned from harvest of VFDA salmon was earned predominantly by Alaska residents living in Prince William Sound, the Kenai Peninsula, or the Anchorage/Mat-Su area.

In addition to this direct employment, an annual average of 75 jobs in the support sector are dependent on VFDA salmon. These jobs accounted for \$3.6 million in annual wages.

Combining direct and indirect impacts, the harvest of VFDA salmon supported an annual average of 240 jobs with \$14.5 million in wages between 2012 and 2017.

Table 7. Economic Impact on Alaska's Economy from Harvesting VFDA Salmon, Annual Average 2012-2017

| | Direct | Indirect and Induced | Total |
|-------------------|--------|----------------------|--------|
| Employment | 165 | 75 | 240 |
| Wages (\$Million) | \$11.0 | \$3.6 | \$14.5 |

Note: Figures have been rounded.
Source: McDowell Group estimates.

Economic Impact from Processing VFDA Salmon



Between 2012 and 2017, regional processors earned estimated average gross margins of \$44 million per year from the sale of VFDA salmon. For the purposes of this study, gross margin is equal to sales revenue (payments received for selling processed fish) less the cost of that fish (payments to fishermen for their catch or hatcheries for cost recovery fish).

Over the study period, processing of VFDA salmon helped directly accounted for 200 annual-average jobs with total wages of \$7.9

million per year. Additional impacts occur when these wages are spent locally, and as processors purchase goods and services locally. These multiplier effects total an additional 145 jobs and \$4.6 million in wages.

Combined, processing of VFDA salmon supported a total of 345 jobs with \$12.6 million in annual wages.

**Table 8. Economic Impact on Alaska's Economy
from Processing VFDA Salmon, Annual Average 2012-2017**

| | Direct | Indirect and Induced | Total |
|-------------------|--------|----------------------|--------|
| Employment | 200 | 145 | 345 |
| Wages (\$Million) | \$7.9 | \$4.6 | \$12.6 |

Note: Figures have been rounded.
Source: McDowell Group estimates.

Economic Impact from Non-Resident Sport Fishing

Both quantitative and qualitative information show that VFDA supports significant sportfishing activity in Valdez. Of the nearly 100,000 Alaska resident and non-resident visitors to Valdez each year, about one-in-four go sport fishing; many of these anglers end up catching salmon from VFDA.

The total amount of sport fishing-related spending in Valdez is unknown; however, a reasonable estimate would place total spending by non-resident sport anglers at approximately \$10 million. This includes spending on charters, lodging, fishing gear, food, fuel and other miscellaneous expenditures. VFDA is conservatively credited with about two-thirds of this spending activity as the organization provides significant amounts of fish harvested by these anglers.

Based on McDowell Group modeling, this spending supports approximately 100 jobs and \$4.3 million in labor income annually, including direct, indirect and induced effects.

**Table 9. Economic Impact on Alaska's Economy
from Sport Harvest of VFDA Salmon, Annual Average 2012-2017**

| | Direct | Indirect and Induced | Total |
|-------------------|--------|----------------------|-------|
| Employment | 75 | 25 | 100 |
| Wages (\$Million) | \$2.8 | \$1.5 | \$4.3 |

Note: figures have been rounded.
Source: McDowell Group estimates.

Economic Impact of VFDA Business Operations

Significant economic impact is supported by VFDA operations. Each year, the organization employs about 50 people, spends millions of dollars on goods and services in Alaska communities, and periodically invests in large capital projects. Over three-quarters of VFDA's budget is spent within the state of Alaska and the majority of that spending occurs within Valdez and Anchorage.

In a typical year, VFDA employs a core group of about 19 year-round employees. During the summer months, up to 40 additional seasonal workers are hired. Jobs at VFDA include hatchery staff, maintenance workers, administration personnel, and seafood processing workers.

In 2017, VFDA's spending in Alaska totaled about \$3.4 million, including about \$1.9 million in spending with Alaska organizations and \$1.5 million in wages to Alaska residents. VFDA purchases a wide variety of supplies and services from organizations located in Valdez, Anchorage, and other Alaska communities. In a typical year, wages and salaries, medical insurance, fish food, and utilities are among VFDA's largest expenses. Other operating expenses include packaging, fuel, insurance, and maintenance. Alaska resident VFDA employees live primarily in Valdez.

Over the study period, VFDA accounted for an annualized average of 40 jobs with wages of about \$1.54 million. Indirect and induced employment associated with VFDA totaled 30 additional workers with wages of \$0.93 million — the result of VFDA employees and suppliers of goods and services to the hatchery circulating money in the Alaska economy.

In sum (including direct, indirect, and induced impacts), VFDA operations supported an annual average of 70 jobs with total annual wages of about \$2.5 million.

**Table 10. Economic Impact on Alaska's Economy
VFDA Operations, Annual Average 2012-2017**

| | Direct | Indirect and Induced | Total |
|-------------------|--------|----------------------|-------|
| Employment | 40 | 30 | 70 |
| Wages (\$Million) | \$1.5 | \$0.9 | \$2.5 |

Note: Figures have been rounded.
Source: McDowell Group estimates.



Summary of VFDA Economic Impacts

Between 2012 and 2017, VFDA hatchery operations supported the annual equivalent of 760 jobs with \$33.9 million in annual labor income. VFDA directly supported 490 jobs with \$23.3 million in labor income. Additional indirect and induced (multiplier effects) employment of 270 workers and \$10.7 million in labor income also resulted from VFDA activities and production. Total economic output, including direct, indirect, and induced effects, averaged \$112 million annually.



While the figures represented in these estimates include jobs located around the state, most of these impacts are concentrated in Valdez, Cordova, Anchorage, Homer, and Seward.

Table 11. Summary of Economic Impacts from VFDA, Annual Average 2012-2017

| | Direct | Indirect and Induced | Total |
|---------------------------|--------|----------------------|---------|
| Commercial Fishing | | | |
| Employment | 165 | 75 | 240 |
| Labor Income (\$Million) | \$11.0 | \$3.6 | \$14.5 |
| Output (\$Million) | \$19.3 | \$12.5 | \$31.8 |
| Seafood Processing | | | |
| Employment | 200 | 145 | 345 |
| Labor Income (\$Million) | \$7.9 | \$4.6 | \$12.6 |
| Output (\$Million) | \$39.3 | \$26.9 | \$66.2 |
| Sport Fishing | | | |
| Employment | 75 | 25 | 100 |
| Labor Income (\$Million) | \$2.8 | \$1.5 | \$4.3 |
| Output (\$Million) | \$6.7 | \$2.3 | \$9.0 |
| VFDA Operations | | | |
| Employment | 40 | 30 | 70 |
| Labor Income (\$Million) | \$1.5 | \$0.9 | \$2.5 |
| Output (\$Million) | \$3.4 | \$1.5 | \$5.0 |
| Total Impacts | | | |
| Employment | 490 | 270 | 760 |
| Labor Income (\$Million) | \$23.3 | \$10.7 | \$33.9 |
| Output (\$Million) | \$72.2 | \$39.9 | \$112.0 |

Note: Figures have been rounded.
Source: McDowell Group estimates.



Salmon Market Summary

A primary source of funding for VFDA are cost recovery sales of pink salmon. This market summary focuses on historical trends for Alaska pink salmon values and factors impacting these values for both fishermen and processors. A brief overview of smoked salmon trends is also included.

Trends in Pink Salmon Markets

Myriad issues impact pink salmon markets including key factors described below.

Russian Supply of Pink Salmon

Russia is the world's largest producer of pink salmon with an annual average harvest of 570 million pounds between 2008 and 2012, including 937 million pounds in 2009.⁷ Russia government press releases indicate a record-breaking 1.4 billion pounds of salmon have been harvested in 2018 — with pink salmon accounting for much of the volume, in addition to chum salmon. The United States (primarily Alaska) is the second largest producer of pink salmon, followed by Canada and Japan.

Because Russia supplies such a large proportion of pink salmon to the world market, a weak or strong harvest in the country can impact values for Alaska and PWS pink salmon.

Growth in World Population and Wealth

World population is expected to grow to 8.6 billion by 2030 and 9.8 billion by 2050.⁸ As population and per capita wealth increases, so too will the demand for protein, including salmon.

Asian countries (China in particular) are expected to contribute heavily to future seafood demand. A presentation on the future of aquaculture given by Rabobank (a Dutch financial services company) states (referring to Asia), "The most rapidly expanding middle class in the world also has the highest preference for seafood consumption."⁹

In a scenario of slowly increasing demand for food, Alaska pink salmon is well positioned as an affordable high-quality source of protein.

Aquaculture

Researchers at the World Bank and United Nations have forecasted an expansion of global aquaculture production in the coming decades. The volume of seafood (including all species) produced from the global

⁷ NPAFC Catch Statistics: North Pacific Anadromous Fish Commission (NPAFC). 2018. NPAFC Pacific salmonid catch statistics (updated 31 July 2018). North Pacific Anadromous Fish Commission, Accessed 9/26/2018.

⁸ <https://www.un.org/development/desa/publications/world-population-prospects-the-2017-revision.html>

⁹ http://2018.intrafishevents.com/sif_may_2016/pres/3_KEYNOTE-RABOBANK.pdf



aquaculture industry is projected to roughly double by 2030.¹⁰ Over the same period, volume from wild capture fisheries is anticipated to increase slightly.

There is evidence these projections may be accurate. The U.S. Department of Commerce's strategic plan includes increased aquaculture production as a strategic objective. Their Strategic Plan for 2018 to 2022 states:

"Aquaculture is the fastest growing form of food production in the world. Marine aquaculture in the United States contributes to seafood supply, supports commercial fisheries, and has great growth potential. We will help it grow faster by reducing regulatory burden and driving aquaculture research. A strong U.S. marine aquaculture industry will serve a key role in U.S. food security and improve our trade balance with other nations."¹¹

Concurrently, interest surrounding land-based farming of salmon is increasing. Atlantic Sapphire, an aquaculture company, is building a facility in Florida with a planned annual production capacity of nearly 200 million pounds of Atlantic salmon.¹² Another land-based salmon-producing facility is in the planning phase.¹³ Owned by Nordic Aquafarms, trade press is reporting the facility will have annual production of about 60 million pounds.¹⁴

Wild-harvest pink salmon are typically priced less on world markets than farmed Atlantic salmon. While most pink salmon are frozen or canned, farmed salmon is often able to serve a fresh market. Although the two species are not often directly competing, significant increases in farmed salmon production (accompanied by a reduction in farmed salmon prices) would likely contribute to lower pink salmon prices. However, pink salmon could benefit from its position as a low-cost alternative, especially for consumers with a preference for wild fish over farmed fish.

Trade Disruptions

Ongoing trade disputes between the U.S. and China (and other countries) have the potential to disrupt established supply chains or markets for Alaska pink salmon.

In 2017, nearly 220 million pounds of Alaska pink salmon worth \$290 million was exported to countries around the world.¹⁵ China is the largest trading partner for pink salmon, accounting for about 135 million pounds of exports worth more than \$170 million in the same year. Most pink salmon exported from Alaska to China is reprocessed and re-exported.

In summer 2018 China enacted additional import tariffs on domestic seafood from the United States, including pink salmon originating in Alaska. However, U.S. product brought into China for purposes of reprocessing and reexport are currently excluded from additional tariffs.

¹⁰ <http://www.fao.org/docrep/019/i3640e/i3640e.pdf>

¹¹ https://www.commerce.gov/sites/commerce.gov/files/us_department_of_commerce_2018-2022_strategic_plan.pdf

¹² <http://atlanticsapphire.com/about-us>

¹³ <https://www.cityofbelfast.org/DocumentCenter/View/2138>

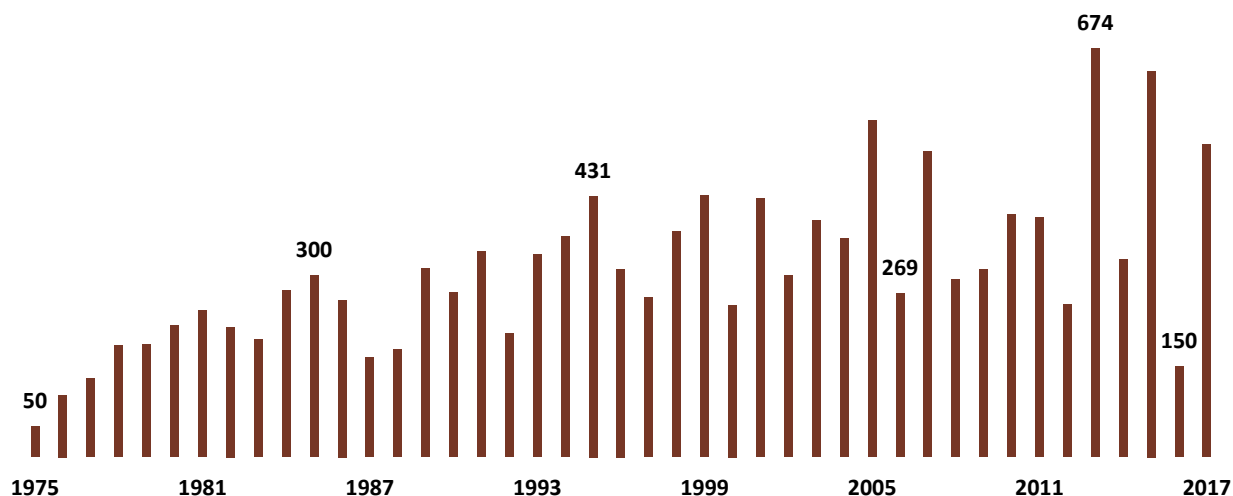
¹⁴ <https://www.undercurrentnews.com/2018/02/22/us-aquaculture-industry-still-buzzing-about-nordics-maine-salmon-farm/>

¹⁵ McDowell Group estimate based on NMFS trade data.

Historical Alaska Pink Salmon Production

The Alaska pink salmon harvest is increasing, along with its volatility. Between 1975 and 2007, the annual harvest of pink salmon averaged 284 million pounds. This averaged increased to 395 million pounds between 2008 and 2017, including the record-breaking harvest of 674 million pounds in 2013.

Figure 6. Alaska Commercial Pink Salmon Harvest Volume (Million Pounds), 1975-2017



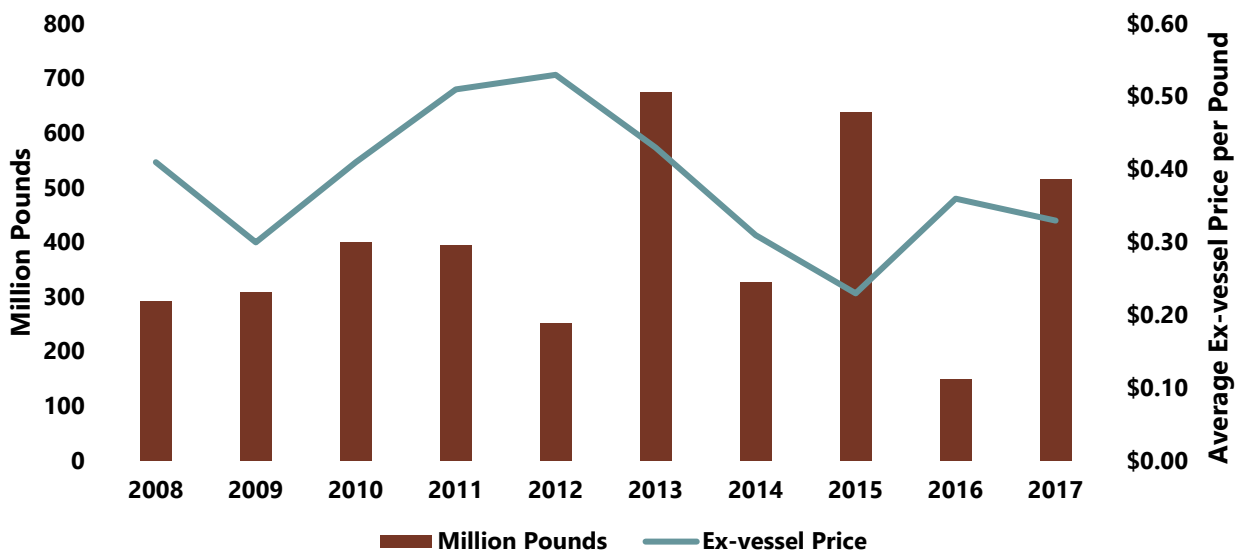
Source: ADF&G.

Pink salmon harvests are larger in odd-years because of the species' two-year life cycle. Due to the strength of odd year harvests, the year to year difference has increased compared to historical averages. Between 1977 and 2007, odd year harvests were 27 percent larger than the previous even year. This percentage has expanded to 102 percent over the last decade (2008-2017) due primarily to record setting runs in 2013, 2015, and 2017.

The overall increase in supply of Alaska pink salmon has benefited harvesters and processors alike, but significant variation year-to-year makes planning difficult for both sectors. Harvesters need to be diligent in saving during large years to offset weak years. For processors, it can be difficult balancing capacity for large years with having that capacity sitting unused in low-volume years.

Harvest volume and ex-vessel prices over the last decade were connected, but loosely. In a strict supply and demand model, increased supply would cause prices to decline and vice versa. This was not the case in 2009 and 2010 when prices rose along with volume. However, record harvests in 2013 likely depressed prices in 2014 and possibly 2015.

(see figure on following page)

**Figure 7. Alaska Commercial Pink Salmon Harvest Volume and Value, 2008-2017**

Note: Prices are adjusted for inflation.
Source: ADF&G.

Pink Salmon First Wholesale Product Values

Between 2008 and 2017, the price of all pink salmon products averaged \$1.86 per pound in real first wholesale value. A peak of \$2.41 per pound was observed in 2012, when a relatively small harvest (and other market factors) supported a high price. The lowest average first wholesale price of \$1.37 per pound was observed in 2015 which saw the second-largest pink salmon harvest on record.

The largest annual first wholesale volume and value observed during this ten-year period was in 2013 when Alaska processors produced 446 million pounds of pink salmon products worth \$834 million. Production in 2016 was the lowest of this period, measured by value and volume.

Table 12. First Wholesale Volume and Value of Alaska Pink Salmon, 2008-2017

| Year | Value (\$Million) | Volume (Million Pounds) | Average Price per Pound |
|------|-------------------|-------------------------|-------------------------|
| 2008 | \$369 | 174 | \$2.12 |
| 2009 | \$319 | 183 | \$1.75 |
| 2010 | \$519 | 260 | \$2.00 |
| 2011 | \$521 | 261 | \$1.99 |
| 2012 | \$400 | 166 | \$2.41 |
| 2013 | \$834 | 446 | \$1.87 |
| 2014 | \$386 | 229 | \$1.68 |
| 2015 | \$561 | 410 | \$1.37 |
| 2016 | \$179 | 112 | \$1.60 |
| 2017 | \$583 | 329 | \$1.77 |

Note: Monetary values are inflation-adjusted.
Source: ADF&G.



Between 2008 and 2017, H&G pink salmon products from Alaska increased in value; roe values fluctuated significantly; and canned values peaked mid-period before returning the 2008-price level.

H&G prices averaged \$1.27 per pound, peaking in 2011 (\$1.57 per pound), with a low of \$1.03 per pound in 2009. Roe prices averaged \$7.09 per pound, starting the period with a high of \$10.56 and registering a period-low of \$3.44 in 2015.

Canned prices peaked in 2012 at \$2.62 per pound, averaging \$2.16 for the period; the 2015 value of \$1.80 per pound marking the low-point.

Table 13. First Wholesale Value of Key Alaska Pink Salmon Products per Pound, 2008-2017

| Year | H&G | Roe | Canned |
|----------------|---------------|---------------|---------------|
| 2008 | \$1.10 | \$10.56 | \$2.02 |
| 2009 | \$1.03 | \$5.12 | \$2.05 |
| 2010 | \$1.45 | \$5.41 | \$2.16 |
| 2011 | \$1.57 | \$4.73 | \$2.22 |
| 2012 | \$1.31 | \$9.86 | \$2.62 |
| 2013 | \$1.07 | \$8.44 | \$2.23 |
| 2014 | \$1.30 | \$7.83 | \$2.30 |
| 2015 | \$1.15 | \$3.44 | \$1.80 |
| 2016 | \$1.34 | \$6.62 | \$2.22 |
| 2017 | \$1.41 | \$8.91 | \$2.03 |
| Average | \$1.27 | \$7.09 | \$2.16 |

Note: Values are inflation-adjusted.

Source: ADF&G; DOR (Alaska Salmon Price Report).

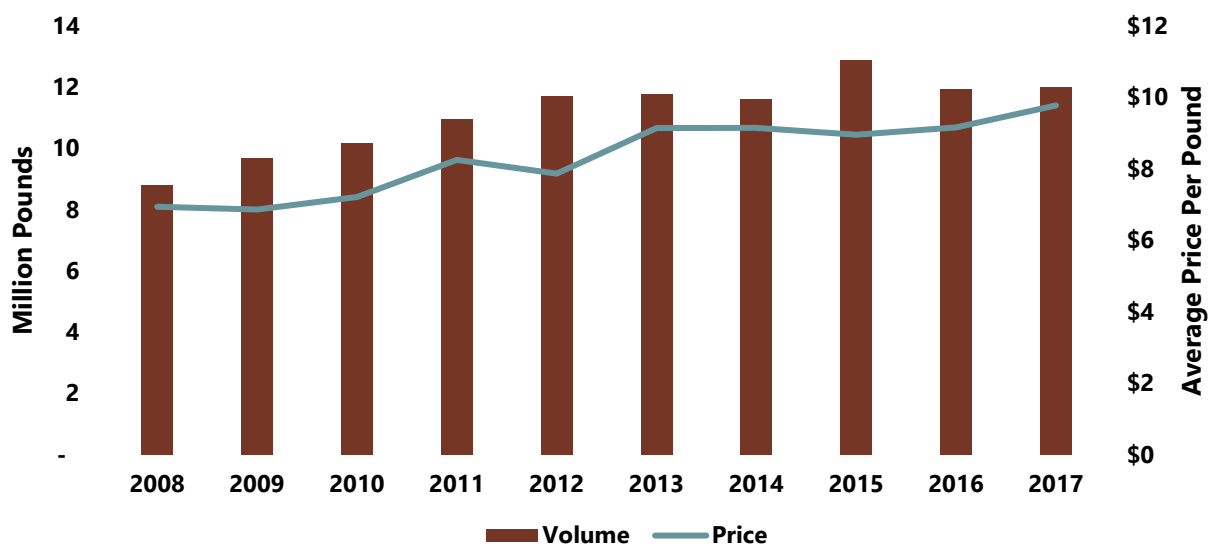
Smoked Salmon

VFDA has successfully produced and marketed smoked salmon products on a modest scale in recent years. This production is somewhat unique as little salmon is commercially smoked in Alaska. Instead, processors including Ocean Beauty Seafoods and Trident Seafoods smoke salmon in facilities located outside Alaska. Smoked Alaska salmon is also produced by outside companies who purchase salmon from processors.

Minimal data is available on the volume or value of smoked salmon products in the United States. However, the value of imported smoked salmon products offers some perspective on price trends. Since 2008, the average (inflation adjusted) imported value of these products has steadily increased, from about \$7.00 per pound to near \$10.00 per pound in 2017. This trend suggests demand for smoked salmon has increased in the U.S. – and is likely a positive market factor impacting Alaska smoked salmon.



Figure 8. Import Value and Volume of Smoked Salmon Products, 2008-2017



Note: Price adjusted for inflation.
Source: NMFS.



Appendix

Table 14. VFDA Pink Salmon Egg Take, Juveniles Released, and Total Returns, 1981-2019

| Brood Year | Egg Take | Release Year | Juveniles Released | Return Year | Total Returns |
|------------|-------------|--------------|--------------------|-------------|---------------|
| 1981 | 9,976,112 | 1982 | 7,400,000 | 1983 | 95,137 |
| 1982 | 8,410,837 | 1983 | 5,600,000 | 1984 | 170,633 |
| 1983 | 12,930,976 | 1984 | 8,390,000 | 1985 | 566,112 |
| 1984 | 66,652,369 | 1985 | 51,263,063 | 1986 | 1,239,901 |
| 1985 | 96,850,000 | 1986 | 54,630,942 | 1987 | 5,744,564 |
| 1986 | 64,102,894 | 1987 | 59,739,413 | 1988 | 1,126,998 |
| 1987 | 161,444,846 | 1988 | 130,990,000 | 1989 | 3,438,764 |
| 1988 | 152,448,556 | 1989 | 128,414,000 | 1990 | 11,019,426 |
| 1989 | 142,826,728 | 1990 | 122,243,663 | 1991 | 6,121,820 |
| 1990 | 159,448,601 | 1991 | 131,295,094 | 1992 | 2,223,766 |
| 1991 | 202,964,624 | 1992 | 86,902,414 | 1993 | 1,732,416 |
| 1992 | 208,785,744 | 1993 | 141,868,041 | 1994 | 13,349,529 |
| 1993 | 231,689,083 | 1994 | 149,369,505 | 1995 | 6,826,714 |
| 1994 | 219,246,433 | 1995 | 205,371,130 | 1996 | 7,475,945 |
| 1995 | 239,905,524 | 1996 | 223,088,327 | 1997 | 7,255,673 |
| 1996 | 208,516,783 | 1997 | 188,862,094 | 1998 | 4,631,811 |
| 1997 | 237,873,766 | 1998 | 195,162,063 | 1999 | 14,924,284 |
| 1998 | 231,898,941 | 1999 | 213,906,642 | 2000 | 12,350,666 |
| 1999 | 238,669,980 | 2000 | 195,763,690 | 2001 | 16,126,545 |
| 2000 | 235,296,253 | 2001 | 203,897,201 | 2002 | 5,265,239 |
| 2001 | 227,602,657 | 2002 | 202,573,328 | 2003 | 17,344,831 |
| 2002 | 236,394,947 | 2003 | 206,397,607 | 2004 | 11,139,932 |
| 2003 | 236,959,373 | 2004 | 222,457,568 | 2005 | 18,108,491 |
| 2004 | 233,816,098 | 2005 | 222,218,569 | 2006 | 9,059,582 |
| 2005 | 239,049,159 | 2006 | 216,921,213 | 2007 | 23,907,806 |
| 2006 | 235,082,985 | 2007 | 220,408,302 | 2008 | 14,853,852 |
| 2007 | 233,033,709 | 2008 | 199,639,850 | 2009 | 1,292,305 |
| 2008 | 237,013,056 | 2009 | 226,202,598 | 2010 | 18,377,038 |
| 2009 | 236,027,724 | 2010 | 223,083,753 | 2011 | 13,357,040 |
| 2010 | 236,161,533 | 2011 | 222,603,439 | 2012 | 10,628,608 |
| 2011 | 236,705,144 | 2012 | 214,526,737 | 2013 | 22,482,149 |
| 2012 | 232,324,195 | 2013 | 218,276,748 | 2014 | 25,399,252 |
| 2013 | 231,495,782 | 2014 | 219,936,541 | 2015 | 34,094,094 |
| 2014 | 231,647,939 | 2015 | 223,410,919 | 2016 | 8,046,516 |
| 2015 | 236,199,755 | 2016 | 226,063,710 | 2017 | 14,723,649 |
| 2016 | 251,908,491 | 2017 | 241,542,706 | 2018 | n/a |
| 2017 | 253,331,519 | 2018 | n/a | 2019 | n/a |

Source: VFDA.

Submitted By
Victor Jones
Submitted On
10/2/2018 12:19:02 PM
Affiliation

To Board of Fisheries,

I am opposed to ACR 10, 2, 1. I don't believe any of these ACRs meet the criteria set forth in the BOF Policy and should not have been accepted. All of the ACRs are allocative in nature and would have a detrimental impact on all the fisheries involved. These are long established fisheries with proven track records.

Thank,

Victor E. Jones

Submitted By
Zachary Nelson
Submitted On
10/2/2018 4:30:14 PM
Affiliation

Members of the board of fish, I am strongly opposed to acrs 1&2. The hatchery programs in Alaska are necessary and truly invaluable to the states commercial industry and revenue generating. The claims against it are simply conjecture and have no scientific backing. Thank you.

Zachary Nelson- Alaska Commercial Fisherman



ALASKA CHARTER ASSOCIATION

P.O. Box 478 Homer, Alaska 99603

info@alaskacharter.org

www.alaskacharter.org

Wednesday, September 26, 2018

AK Board of Fish
Boards Support Section,
P.O. Box 115526, Juneau, AK 99811-5526

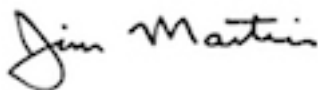
RE: ACR #1 and ACR #2; SUPPORT

Dear Members of the Board of Fish,

The Alaska Charter Association represents recreational charter fishing operators, associated businesses and guided anglers in Alaska with the mission to “protect the rights and conserve the resources of Alaska’s recreational anglers.” Our member businesses operate more than 200 permitted vessels in the Recreational Charter Halibut fishery in Alaska, and our industry contributes millions of dollars to the economy of Alaska every year.

Our Board of Directors discussed the proposals on your agenda regarding pink salmon hatchery production. According to the biologists we talked to, the historical data shows a high degree of correlation between high abundance of pink salmon and low king salmon production. The ACA Board strongly agrees with ACR proposals #1 and #2 and is concerned that any expansion of pink salmon hatchery production should not go forward until we understand the negative impacts to other species of salmon. The proposals before you lay out common-sense arguments and we share these concerns.

Respectfully,



Jim Martin
Executive Director



From: Erin McKittrick
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: comments on hatcheries
Date: Wednesday, October 3, 2018 9:22:29 PM

I am concerned about the ecological impacts of hatcheries, and I support the proposal to reduce hatchery production by 25%

Hatchery salmon stray significantly into wild salmon creeks. Sampling has shown that many creeks are actually dominated by escaped hatchery fish, and this can be true even very far from the originating hatchery (such as PWS hatchery salmon ending up in Barabara Creek in Kachemak Bay).

Hatchery salmon in large numbers impact the balance of the ocean ecosystem. Pink salmon, in particular, have been shown to outcompete and depress other species in the ocean, from red salmon to sea birds.

--

Erin McKittrick

Ground Truth Trekking (www.groundtruthtrekking.org)

Author of [Mud Flats and Fish Camps](#), [A Long Trek Home](#), [Small Feet, Big Land](#), [My Coyote Nose and Ptarmigan Toes](#), and a freelancer for the [Alaska Dispatch News](#)

907-290-6994

PO Box 164, Seldovia AK 99663



Submitted By
Jacob Hoppen
Submitted On
10/1/2018 4:05:04 PM
Affiliation
Commercial Fisherman

Re: Support for Hatchery Committee 5 AAC 39.222 Sustainable Salmon Fishery Policy

Dear Board of Fisheries,

I support your work on hatcheries. Favoring hatchery economic potential over wild salmon run health is putting the cart before the horse. This is what has happened, and now various Alaska salmon fisheries are stuck in the pickle of having become economically dependent on hatched fish, and would seek to protect them at all costs. New hatchery runs continue to be made, both in the public and private sector. Take the new 2018 "Crawfish Inlet" hatchery in Southeast that almost turned into an environmental disaster this fall. When 10 million fish arrived at the Sitka hatchery doorstep and they were scrapping carcasses off the beach, it is time to seriously think about the ecological impacts that large scale ocean ranging is having on our delicate eco-system.

Legitimate science regarding hatchery and wild salmon interactions must be performed by a party with no affiliations to the State of Alaska. It is a conflict of interest for ADFG to be involved, as they can't upset the golden goose.

I support ACR 1 and ACR 2 for the following reasons:

1. To ensure the wild fish priority and statues regulation and policy mandates are being upheld.
2. That risk to wild fish from hatchery interaction is kept to a minimum.
3. This hatchery committee needs an external scientific review to gain the best available scientific information and ensure the environmental impact of these hatchery activities does not damage the public trust wild fish resources of the state.
4. The grave uncertainty of effects to the food web from the sheer magnitude of introduced fish into the marine ecosystems requires the BOF to assess these effects and interactions as per the Sustainable Salmon Fisheries Policy For The State Of Alaska 5 AAC 39.222.
5. The joint protocol on hatchery enhancement of 2002 needs to become an institutional regulatory document that also allows public noticed Call for Proposals on hatchery issues, identical to the way regulatory proposals are submitted now in an open transparent public forum.

Thank you,

Jacob Hoppen



Submitted By
Jeffrey T Lee
Submitted On
10/3/2018 1:31:58 PM
Affiliation

Support for BOF hatchery Committee!

Absolutely support ACR 1 and 2. These are essential to help hold the epidemic and begin focusing on the BOF committee to investigate hatchery issues.

Hatchery issues must be investigated by the BOF

Since 2012, when CIAA ramped up the pink salmon production plant in the fox river critical habitat and state park in kachemak bay, there has been an incredibly long and costly conflict with ever increasing proportions and expense as CIAA refuses to budge from their business plan of turning whatever part of the park they want into a terminal fishery comprised of invasive artificially produced fish at the expense of the rest of the eco-system and other park users. But it is not just CIAA. The CIAA and Parks conflict has shown me the problem is much bigger.

I am relieved beyond words to have this board and place to write to with these concerns where I feel they might be heeded and not just used against me and the wild fish.

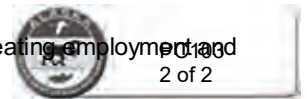
The frenzy to make pinks appears to have no ability to slow itself down in Alaska. Hatchery high production industrial pink processing cannot stop itself and appears to be running out of control.

This UFA letter is a prime example of how the lack of words is so easily manipulated to hide real meaning. These points made in this "completed" letter shows truths behind the half completed UFA statements, I respectfully request the BOF hatchery committee to investigate these points. The BOF committee needs to protect itself from the bias of people who are or have been in positions of gain from hatchery production on the hatchery review board. The task of keeping our wild fish a priority needs to be upheld before it gets any worse. Hatchery Bias is rampant in Fish and Game and needs to be admitted and mitigated.

Here is a UFA letter, (with completed sentences-)

- Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests **while replacing and out-competing wild salmon** throughout the state
- Alaska's salmon hatchery program is an example of **very fluctuating boom and bust** economic development that directly **asks for millions of dollars in disaster funds when the hatcheries fail**. benefits **limited numbers of** subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, **but most of all the international** seafood processors, **who in 11 years made 1.8 billion as compared to the 18 million (1%) for the state and local governments, in the same time period** which receive raw fish tax dollars.
- Alaska's salmon hatchery program employs strong scientific methodology **that they create themselves without any back up data or meaningful design protocols** and is built **without** precautionary principles and
- sustainable fisheries policies that **degrade** wild salmon populations **and contaminate the integrity of their genetics**.
- Alaska Department of Fish and Game **does not have enough money or manpower to regulate or monitor** hatchery operations, production, and permitting through a **nontransparent** public process and **closed**-stakeholder development of annual management plans
- Returns of hatchery and wild salmon stocks follow similar survival trends over time **because ocean conditions dictate survival** and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980
- There are no stocks of concern where most hatchery production occurs, **because SEG's are dominated by hatchery fish without adequate baselines or monitoring giving the illusion** indicating that adequate escapements to wild stock systems **are masked and are not** being met in these areas over time
- Alaska hatcheries contributed an annual average of nearly 67 million **predator** fish to Alaska's commercial fisheries in the past decade **that eat 5,000,000 pounds of seafood removed from wild pastures each day or 300,000,000 pounds in the last couple of months of their lives**
- Alaska hatcheries accounted for 22% of the total common property commercial catch in Alaska **less that 4% of the x-vessel value in Alaska yet cost the ADFG an enormous % of there budget of time and money that should be devoted to wild fish priority**
- Alaska's salmon **sportfish** hatchery program is .007% of the industrial corporate fish releases into wild ocean pastures and has

proven to be significant and vital to Alaska's seafood and sportfish industries and the state of Alaska by creating employment and economic opportunities throughout the state and in particular in rural coastal communities



- Alaska's salmon hatchery program **pretends to be** non-profit and self-funded through cost recovery and enhancement taxes **as well as free ADFG assessments, and free management taken from the public trust, 10s of millions of dollars in disaster funding, and 10s of millions in state of Alaska capital budgets that would be better spent on the citizens of the state of Alaska** on the resource and is a model partnership between **a closed very corrupt** private and public entities
- The State of Alaska has significantly invested in Alaska's salmon hatchery program **getting out in the early 1990's when it was realized it was not sustainable for state general funds** and associated research **is hidden that shows hatcheries** to provide for unstable salmon harvests and to bolster the economies of coastal communities while **not adequately or accurately** maintaining a wild stock escapement priority
- Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) **that does not have accurate data or assessment or monitoring to be honest** and Marine Stewardship Council (MSC) **that replaced all assessors that demanded hatchery condition standards be upheld**

Thank you for forming an oversight board and please continue

Sincerely,

Jeffrey Lee



Submitted By
Josiah Johnson
Submitted On
10/3/2018 12:14:56 AM
Affiliation
None

Alaska's salmon hatcheries have many factors to consider to be operated in a responsible manner. Large volumes of hatchery raised salmon can have tremendous effects on the environment. Some them know and understood and others that are unforeseen.

If the Board of Fish continues to allow the operation of these hatcheries, we need to explore as much of the science surrounding the issue as possible. Introducing large volumes of non-native fish into the ecosystem is of concern to me as a fisherman. Hatchery raised salmon must compete with wild salmon for a limited amount of food that is available. How do we know from year to year what the ocean can handle in terms of available food and habitat? Interrupting the natural cycle must have some effects. To err on the side of sustainability, hatcheries should only be operated on a limited scale, so as to reduce the chance of effects on our fisheries that cannot be reversed. No more than 10-15 percent of an areas wild stocks should be added as hatchery raised salmon.

Aside from the environmental aspect is economic factor. Producing large volumes of hatchery raised salmon must have some effect on the market price for other fisherman around the state. The focus should be on obtaining the highest price for a quality product at a lower volume, rather than a higher volume at a lower price. Fisherman in some areas only have wild stocks to fish on. There is more expense involved for the fisherman out on the capes with a bigger boat, more experienced crew, burning more fuel, than fisherman in the bay in front of the net pens. The fish then have to be sold on the same market that is flooded with hatchery raised fish at a reduced price. This system creates an unfair advantage. I do believe that hatcheries can play a roll in leveling out the boom and bust cycles that are inherent in paticular areas.

For these reasons I support the reduction in volume of the Prince William Sound hatcheries. To protect the abundant natural resource that we have in Alaska's wild salmon for the benifit of future generations and to be cautious of altering the natural cycle of the wild salmon returning to spawn.



Submitted By
Kenai Area Fisherman's Coalition
Submitted On
10/2/2018 8:05:01 AM
Affiliation

Phone
907-395-7558
Email
dwimar@gci.net
Address
PO Box 375
Kenai, Alaska 99611

Kenai Area Fisherman's Coalition would like to submit the following comments regarding ACR1 and ACR2. We Support both of these ACR's and share many of the same concerns regarding density dependent diet composition and competition between hatchery produced Pink salmon and Alaska's Chinook salmon.

In the 2013 Arctic-Yukon-Kuskokwim Chinook Salmon Research Action Plan, an expert panel of fisheries scientists identified various concerns with hatchery produced Pink, Chum and Sockeye with regard to their food competition with Western Alaska Chinook salmon in the Bering Sea. They estimated that the current biomass of Pink, Chum and Sockeye hatchery produced fish is at historically high levels which are 3 - 4 times the production of the 1970s. In part, they estimate that currently 38% of the biomass in the North Pacific Ocean is made up from hatchery production.

They also cited a 2009 study of reviewed evidence that competition at sea can lead to reduced Chinook salmon growth and survival, that can also potentially lower the reproductive potential of survivors. They also reviewed evidence from high seas field research on interspecific diet overlap and interannual density-dependent shifts in diet composition of Chinook salmon in the Bering Sea. Scale growth studies indicated that Norton Sound Chinook Salmon growth and survival was influenced by competition with Pink salmon in alternating years when Russian produced Pink salmon were in abundance. Additionally, scale samples from Yukon and Kuskokwim Chinook showed alternating year growth patterns in their second year at sea consistent with the time period when Asian produced Pink salmon and immature AYK Chinook salmon overlapped in the Aleutian Basin.

Because of this research evidence and other ocean factors we have yet to identify, combined with the expansion of warming waters we are experiencing, we believe it is prudent to hold off on any increase in hatchery production until more research can be accomplished.

Kenai Area Fisherman's Coalition



KRSA comments on Agenda Change Requests to be considered by the Alaska Board of Fisheries at the 2018 Work Session, October 15-16, Anchorage, Alaska.

5 AAC 39.999. Policy for changing board agenda

(a) The Board of Fisheries (board) will, in its discretion, change its schedule for consideration of a proposed regulatory change in response to an agenda change request, submitted on a form provided by the board, in accordance with the following guidelines:

(1) the board will accept an agenda change request only

(A) for a fishery conservation purpose or reason;

(B) to correct an error in a regulation; or

(C) to correct an effect on a fishery that was unforeseen when a regulation was adopted;

(2) the board will not accept an agenda change request that is predominantly allocative in nature in the absence of new information that is found by the board to be compelling;

Kenai River Sportfishing Association (KRSA) recommends that the Alaska Board of Fisheries (BOF) accept the following four Agenda Change Requests (ACRs) as they address important issues and meet criteria for accepting ACRs.

ACR 1 seeks to prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017 (5 AAC 24.366). This ACR was submitted by Kenai River Sportfishing Association (KRSA). See ACR 1 for justification.



ACR 2 seeks to cap statewide private non-profit salmon hatchery egg take capacity at 75% of the level permitted in 2000 (5 AAC 40.XXX). This ACR was submitted by Virgil Umphenour. ACR 2 addresses an important fishery conservation purpose or reason and as such should be accepted.

ACR 9 Align regulations within the Southeast Alaska King Salmon Management Plan with provisions of the Pacific Salmon Treaty annex (5 AAC 47.055). This ACR was submitted by the Alaska Department of Fish and Game. ACR seeks to address what will be an error in regulation for the 2019 season if not corrected.

ACR 11 seeks to align regulations for sport fishing services and sport fishing guide services in fresh and salt water and update guide registration and reporting regulations (5 AAC 75.075, 5 AAC 75.076, 5 AAC 75.085, 5 AAC 75.995). This ACR was submitted by the Alaska Department of Fish and Game. ACR 11 seeks to correct what will be an error in regulation and as such should be accepted.

Kenai River Sportfishing Association (KRSA) strongly recommends that the Alaska Board of Fisheries (BOF) fail, in each case, the following four Agenda Change Requests (ACRs) as they fail to meet any criteria for accepting ACRs and/or would be much more appropriately discussed within the regular Board cycle.

ACR 5 seeks to prohibit fishing in the waters of the Homer Spit Marine Terminal barge basin (5 AAC 58.022). This ACR was submitted by Homer Spit Properties LLC. Although this ACR appears to address an effect on a fishery that was unforeseen when a regulation was adopted KRSA is in opposition. KRSA's is opposed to acceptance of this ACR for two reasons. First there are numerous land owners in the State who would welcome situations where the State is responsible for policing trespass on private land by individuals participating in the taking of fish and wildlife. Second this type of issue is best discussed within the regularly scheduled Board cycle.

ACR 6 seeks to provide the department emergency order authority to utilize time, area, methods and means or possession limits to restrict Kenai and Kasilof river personal use fisheries and require daily reporting of harvest in these fisheries (5



AAC 77.540, 5 AAC 21.360). This ACR meets none of the criteria and in addition is predominantly allocative in nature. The issue addressed by this ACR is more appropriately address within the regularly scheduled Board cycle.

ACR 7 seeks to open and close the commercial set gillnet fishery within 600 feet of the North Kalifornsky Beach area independent of fishing time restrictions described in various management plans (5 AAC 21.310). This ACR was submitted by Gary Hollier. This ACR meets none of the criteria and in addition is predominantly allocative in nature. The issue addressed by this ACR is more appropriately addressed within the regularly scheduled Board cycle.

ACR 8 Prohibit operation of dipnet gear from a boat to harvest salmon for subsistence purposes in the Glennallen Subdistrict (5 AAC 01.620). This ACR was submitted by Ahtna Tene Nene'. This ACR fails to meet any of the criteria, addresses issues that were discussed at length at the previous (December 2017) meeting of the BOF on PWS and Copper River and in addition if the solution suggested by the author was to be adopted it is predominantly allocative in nature. The issue addressed by this ACR is more appropriately addressed within the regularly scheduled Board cycle.

Submitted By
Monique Couture
Submitted On
10/1/2018 4:00:51 PM
Affiliation
Commercial Fisherman

Phone
805-689-0923
Email
couturesb@gmail.com
Address
2058 Elise Way
Santa Barbara, California 93109

October 1st, 2018

Re: Support for Hatchery Committee 5 AAC 39.222 Sustainable Salmon Fishery Policy

Dear Board of Fisheries,

I applaud the Board of Fisheries to continue proceeding with an open and transparent public process sorely needed to address the hatchery issues in the State of Alaska.

Sufficient science is needed examining hatched fish impacts on wild salmon runs and what a sustainable co-existing wild and hatched salmon fishery would look like. Perhaps the Board of Fisheries could recommend the State of Alaska to pursue criteria for what constitutes a "sustainable" hatchery. It is a great opportunity for Alaska to lead the way in doing hatcheries in an environmentally conscious way, and to set an example in the North Pacific.

Alaska can choose to meet this hatchery issue head on, avoiding blowback that will ultimately undermine Alaska's Wild salmon marketing efforts. This is important because it is unethical for Alaska to continue selling "hatchery" fish as "wild" in the marketplace. Conscious consumers will not stand for this when they catch wind of it.

I support ACR 1 and ACR 2 for the following reasons:

1. To ensure the wild fish priority and statues regulation and policy mandates are being upheld.
2. That risk to wild fish from hatchery interaction is kept to a minimum.
3. This hatchery committee needs an external scientific review to gain the best available scientific information and ensure the environmental impact of these hatchery activities does not damage the public trust wild fish resources of the state.
4. The grave uncertainty of effects to the food web from the sheer magnitude of introduced fish into the marine ecosystems requires the BOF to assess these effects and interactions as per the Sustainable Salmon Fisheries Policy For The State Of Alaska 5 AAC 39.222.
5. The joint protocol on hatchery enhancement of 2002 needs to become an institutional regulatory document that also allows public noticed 'Call for Proposals' on hatchery issues, identical to the way regulatory proposals are submitted now in an open transparent public forum.

Thank-you for fulfilling your responsibility at your critical level of oversight to hatchery activities as per your regulatory authority.

Sincerely,

Monique Couture

Nancy Hillstrand
Pioneer Alaskan Fisheries Inc.
Box 674
Homer, Alaska 99603

10/2/18

SUPPORT for BOF hatchery committee to:

Dear BOF Members,

Thank -you for creating a hatchery committee to begin peeling back the layers of complexity. We need to begin understanding that “sustainability” is more than a marketing term.

Hatchery proponents would be better served to become part of the solution and come to the table instead of reverting to denial or knee jerk reaction throwing darts as a strategy for diversion.

Yes, hatcheries are under the microscope.

The Policy for the Management of Sustainable fisheries 5 AAC 39.222 requires periodic review, assessment, monitoring and the best available scientific information. These and the precautionary principle are regulatory responsibilities of the BOF.

If the goal is sustainability for wild salmon, our state priority, please consider:

- **institutionalize in regulation, a public forum** to bring a statewide perspective to issues associated with hatcheries affecting wild fisheries production.
- **public notice proposals** allowing wild fisheries, fisherman, and citizens affected by hatchery interactions to have a public forum identical to the way regulatory proposals are submitted by region in the call for proposals.
- **coordinate and balance** department and BOF, with special understanding of regional planning teams, and Comprehensive Salmon Plans (CSP);
 - to institute a wild fisheries ecosystem approach to planning and management
 - provisions for wild fish priority is lost at this regional planning team level.
 - Remove impediments to wild fish production in CSP's,
 - Allow transparent accessible hatchery planning be brought to this public forum before actions are taken,
- **create an external scientific review panel** to remove impediments to incorporate comprehensive best available defensible science:
 - request accessibility from independent scientists; state and federal agencies; professional societies; tribal entities; wild fisheries associations or knowledgeable individuals to verify and ground-truth answers to questions as a precaution from uncertainty or narrow ideology.
- **consider comprehensive** biological considerations; hatchery/ wild interactions of all species, food web and carrying capacity, hatchery location issues, straying, genetics, all life stage histories in fresh estuarine, marine, nearshore and off shore migrations, assess and verify wild salmon spawning escapements, and anticipate climatic shifts or weather patterns affecting wild fisheries production.



PLEASE SUPPORT ACR 1 and forward to March meeting

Over one third of the hatchery strays in Cook Inlet were from the VFDA. Hatchery strays are not wild salmon. Straying of inter-regional hatchery fish is trespass and invasive. This is not acceptable and must cease. Production should be restricted in all hatcheries that ignore compliance of straying. ADFG does not have the funds not time to continually wrangle with this straying issue as documented in the 2010 Internal Review. The many ignored recommendations made by the ADFG need revised. Last years straying attests to the continuing stance of the hatchery industry being above the law.

This is a very unhealthy situation for the state of Alaska.

PLEASE SUPPORT ACR 2 and forward to March meeting

Most hatcheries are already at full capacity so this ACR will cause little change. Capping hatcheries will allow time to gather critical information about the complexities of the massive introductions discharged into wild marine and estuarine pastures.

Until the Hatchery industry begins consideration and serious acknowledgement of wild fisheries belonging to the public trust of 700,000 citizens of the State of Alaska, the ecosystem function to support diverse wild fisheries and the repercussions caused to those fishermen who utilize these wild fisheries, there needs to be a cap.

Marketing, processor capacity, prices, tender displacement away from wild fisheries, over escapement from less diverse genetic straying causing suffocation in wild streams has very real effects on wild fisheries and the marine ecosystem.

Knowing there is a cap will give hatchery industry corporations the opportunity to reassess and reevaluate business plans and marketing strategies just like all businesses. An unbridled industry of this magnitude using obsolete science without updated scientific inquiry, scanty monitoring or documented assessment does not serve sustainable wild salmon populations.

(3)(J) Proposals for salmon fisheries development or expansion and artificial propagation and enhancement should include assessments required for sustainable management of existing salmon fisheries and wild salmon stocks

(3)(K) Plans and proposals for development or expansion of salmon fisheries and enhancement should document resource assessments, potential impacts, and other information needed to assure sustainable management of wild salmon stocks;

The conceptual foundation of the 45-year-old salmon ranching culture at the magnitudes of discharge they have grown into, have not been subjected to adequate critical review and evaluation. They are based in outdated or inadequate science buried deep within the institutions using shifted baselines.

The Salmon Ranching industry need capped due to gross uncertainty. Guesswork is not legal. The Best available information on biological, environmental, economic, social, and resource use factors and the heavy weight of science urging caution and showing risk needs to be synthesized and incorporated. We can not feed the world while breaking our wild fisheries.



THE KEY PRINCIPLES OF ALASKA POLICIES...IS TO PROTECT OUR WILD NATURALLY SPAWNING SALMON INTO PERPETUITY

Please consider the starvation indicators between 2013-2018 food in the GOA:

2013 -Record run of introduced hatchery pinks, then again in 2015 a wall of introduced predators.

2014 epidemic unprecedented proportions of hatchery straying up to 93% in LCI significant stocks of limited genetic diversity with no science to protect wild populations? ADFG thought it must be a fluke.

2015 another record run of 450,000,000 pounds predators - hatchery pinks eating **10 million pounds (10,000,000) of food each day**. 300 million pounds (300,000,000) each month. Is this sustainable

2015 While this barricade of record hatchery returns are eating at their peak thousands of emaciated Thick-billed Murres, Common Murres, Fork-tailed Petrels, Short-tailed Shearwaters, Black-legged Kittiwakes, and Northern Fulmars washed up on the Alaskan coasts. Their cause of death? Starvation.

2015 Indicators showing stress in the marine ecosystems become prevalent; Another factor. The Blob increasing salmon metabolism and narrowing feeding corridors.

2015 Whales are found up on beaches Cause of death? Starvation

2015 Wild Sockeye salmon up to a pound less. Loss to wild fisheries fisherman \$40,000,000. Is this a statewide perspective? Is this inherent rights for all fisherman?

2016 Cod Crash

2016 the year after the 2015 record hatchery return to PWS? A disaster declaration for the hatchery ranchers? spurring millions of dollars in disaster relief diverted from true disaster victims who have lost their homes boats and complete livelihood from hurricanes...?

2016 2017, 2018 Chinook depletions smaller size

2018 Tiny Sockeye, year classes missing in GOA

2018 sockeye not materializing in GOA affecting thousands of fishermen.

There is more than economic considerations involved in hatchery production. It is time to reassess hatcheries on multiple levels. Magnitudes of extra mouths to feed in wild fish pastures are having impacts on wild fisheries and the fisherman who fish on them.

The BOF Hatchery Committee is purposely delegated with the critical responsibility designed by the constitution, statute, regulation and policies of the State of Alaska to use the best available scientific information, not hatchery generated science, as the critical additional oversight and assessment to ensure the PNP Hatchery ***“program shall be operated without adversely affecting natural stocks of fish...”***

The intent of this hatchery act was for “the rehabilitation of the states depleted and depressed salmon fishery.”

Pink salmon are neither depleted nor depressed.

**Alaska Hatchery Research Program****Technical
Document:¹
#****Title:** Potential Issues and Solutions for Estimating Unbiased Area-Wide Hatchery
Salmon Straying Proportions**Version:** 1.0**Authors:** R. Brenner, A. Munro, and S. Moffitt**Date:** October 3, 2018**Abstract**

The second priority question of the Alaska Hatchery Research Program aims to elucidate the extent and annual variability in straying of hatchery pink salmon in Prince William Sound (PWS) and chum salmon in PWS and Southeast Alaska (SEAK). The purpose of this technical document is to discuss factors that influence estimates of hatchery straying proportions, given the study design, and explore methods that might account for these drivers and reduce bias in estimates. This technical document follows a review of methods and draft estimates of hatchery pink salmon straying to PWS and SEAK streams for the ongoing hatchery salmon evaluation (2013–2015) and comparisons with previous hatchery salmon straying studies in these areas (1995–2011). Based on results from previous studies, the proportion of hatchery salmon strays in streams is influenced by a variety of factors, including: distance to a hatchery release location, the number of salmon within the sampled stream (spawning escapement), and run timing of hatchery and wild components. Other factors, including the location of release sites in relation to migratory pathways, harvest, environmental conditions, and broodstock characteristics may also influence hatchery straying. We present several considerations and possible solutions for estimating the mean hatchery fraction of the spawning population across all streams given the design of the current study.

Background of AHRP

Extensive ocean-ranching salmon aquaculture is practiced in Alaska by private non-profit corporations (PNP) to enhance common property fisheries. Most of the approximately 1.7B juvenile salmon that PNP hatcheries release annually are pink salmon in Prince William Sound (PWS) and chum salmon in Southeast Alaska (SEAK; Vercessi 2014). The large scale of these hatchery programs has raised concerns among some that hatchery fish may have a detrimental impact on the productivity and sustainability of natural stocks. Others maintain that the potential for positive effects exists. To address these concerns ADF&G convened a Science Panel for the Alaska Hatchery Research Program (AHRP) whose members have broad experience in salmon enhancement, management, and natural and hatchery fish interactions. The AHRP was tasked with answering three priority questions:

¹ This document serves as a record of communication between the Alaska Department of Fish and Game Commercial Fisheries Division and other members of the Science Panel of the Alaska Hatchery Research Program. As such, these documents serve diverse ad hoc information purposes and may contain basic, uninterpreted data. The contents of this document have not been subjected to review and should not be cited or distributed without the permission of the authors or the Commercial Fisheries Division



- I. *What is the genetic stock structure of pink and chum salmon in each region (PWS and SEAK)?;*
- II. *What is the extent and annual variability in straying of hatchery pink salmon in PWS and chum salmon in PWS and SEAK?; and*
- III. *What is the impact on fitness (productivity) of natural pink and chum salmon stocks due to straying of hatchery pink and chum salmon?*

Goal

The goal of this technical document is to describe some of the factors that contribute to hatchery salmon straying and recommend possible strategies to account for these factors when estimating the extent and annual variability of hatchery salmon straying for this program.

Introduction

This technical document focuses on the second priority question of the AHRP: *What is the extent and annual variability in straying of hatchery pink salmon in PWS and chum salmon in PWS and SEAK?* We make the assumption that **extent** and **annual variability**, collectively, refer to: proportions of hatchery salmon strays within streams; the temporal variability of hatchery straying across- and within years; and the spatial variability of straying. Previous studies in PWS and SEAK suggest that the proportion of hatchery pink and chum salmon in streams is influenced by a variety of factors including: distance to hatchery release location, the number of salmon within the sampled stream (i.e. spawning escapement), and run timing of hatchery and wild components. Other factors, including the location of release sites in relation to migratory pathways, harvest pressure, within-year environmental conditions, and broodstock characteristics may also influence hatchery straying; however, the singular effects of these factors are difficult to measure and are not addressed in this document. Given this, sampling and analysis protocols capable of accounting for spatial, temporal, and other gradients of hatchery salmon straying are necessary for producing an unbiased estimate of the mean fraction of hatchery fish across all streams for management units (e.g., for district or area). In this document, we describe some of the trends and types of variability observed in hatchery salmon straying in PWS and SEAK and recommend possible strategies to account for these patterns when estimating the extent and annual variability of hatchery salmon straying for the AHRP. Our suggestions should also be broadly applicable to other areas for which hatchery salmon straying is assessed.



Trends and Types of Variability of Hatchery Salmon Straying

Relation between percent hatchery strays and escapement

Streams sampled for the current AHRP studies conducted in PWS and SEAK were selected from aerial index streams (AIS) flown by ADF&G biologists to assess populations of pink and chum salmon, "...with probabilities proportional to their size, based on the 25-year average of spawning abundance indices..." (Knudsen et al. 2015). Thus, the sampling design was done in a manner that favored the inclusion of streams with larger spawning escapements. Furthermore, aerial index streams themselves were not selected randomly, and may not have spawning populations or locations that are representative of the ~1,000 streams listed in the Anadromous Waters Catalog (AWC) for PWS pink and chum salmon (Fried et al. 1998), or the approximately 1,200 streams listed for SEAK chum salmon (Geiger and McPherson 2004). Rather, AIS for PWS were chosen for the management objective of surveying a large portion of the overall spawning population (escapement) and have substantially larger escapements of pink and chum salmon compared to non-index streams (Fried et al. 1998). For SEAK, aerial survey streams for chum salmon were chosen based on several criteria, including the long-term consistency of survey data, but streams selected as AIS in SEAK are also thought to be the more productive chum salmon systems in this region (Geiger and McPherson 2004). Therefore, streams selected for the present AHRP study are skewed towards those with large spawning escapements, because only AIS were considered for the initial selection, and then the larger of these were favored for being chosen for sampling. This selection process presents a challenge for producing an unbiased estimate of straying proportions across all streams because escapement size is a significant covariate in determining straying proportions (Figures 1 and 2): streams with larger escapements tend to have a lower percentage of hatchery strays due to the dilution of hatchery strays by natural spawners. Accordingly, these data suggest that it would not be appropriate to apply straying proportions for streams with large escapements to those containing substantially smaller escapements, or vice versa.

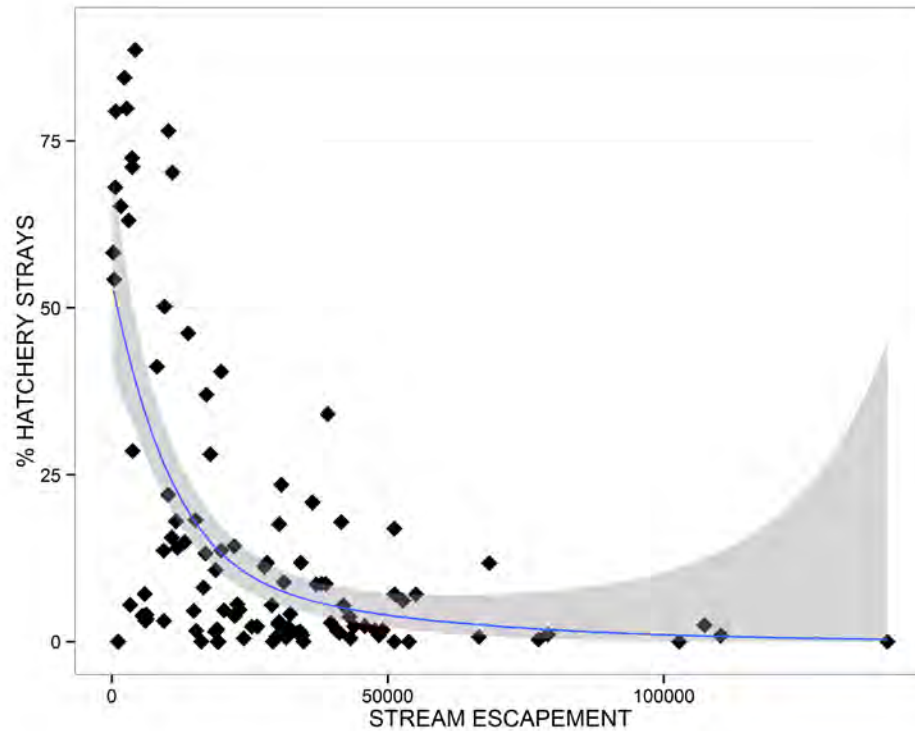


Figure 1. Percentage of stray hatchery pink salmon in PWS streams (2008–2010) versus estimated total annual escapement to that stream (data from Brenner et al. 2012). The blue line is a general additive model (GAM) fit and the shaded area is 95% confidence intervals. The model assumes a quasi-Poisson distribution.

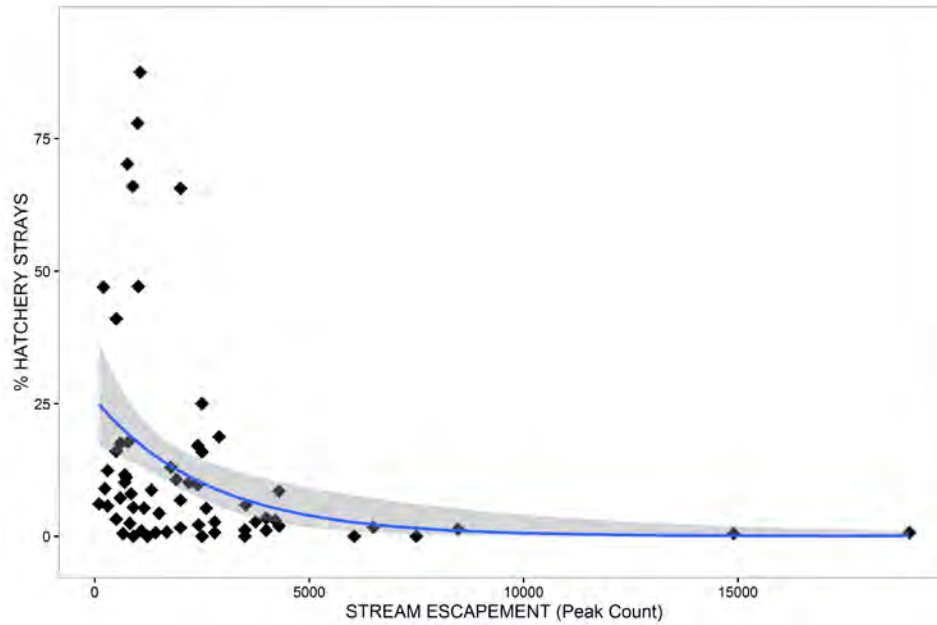


Figure 2. Percentage of stray hatchery chum salmon in SEAK streams (2008–2010) versus estimated peak counts for that stream (data from Piston and Heintz 2012). The blue line is a general additive model (GAM) fit and the shaded area is 95% confidence intervals. The model assumes a quasi-Poisson distribution.

To illustrate differences in escapements between streams surveyed for the current study and the overall AIS, in Figure 3 we show boxplots of pink salmon escapements for PWS streams. As would be expected from a study that selected streams in proportion to escapement size, median pink salmon escapement is always larger for the streams selected for the AHRP study compared to overall AIS, such that: hatchery-wild study streams > AIS > overall streams.

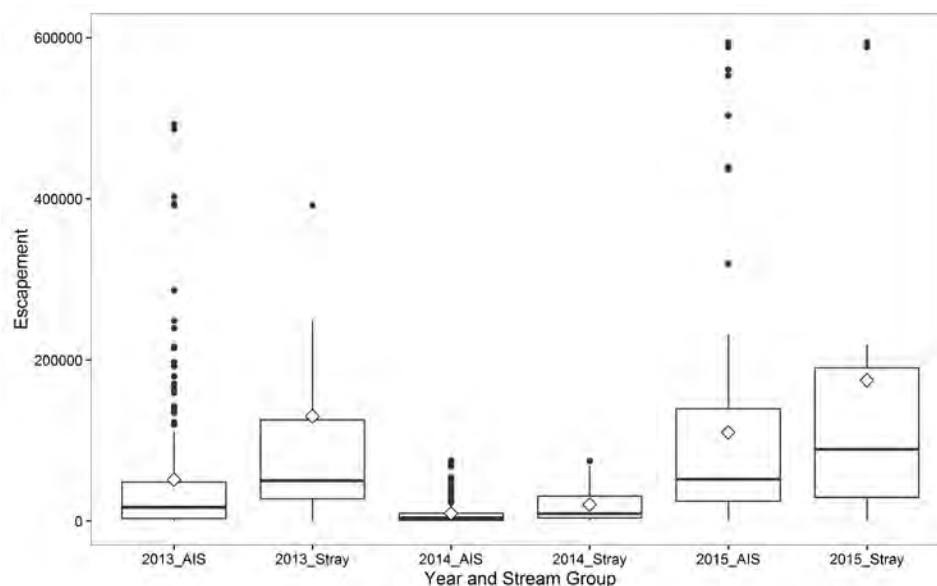


Figure 3. Box plots of estimated stream escapements for aerial index streams (AIS) and those selected for the AHRP straying project (Stray) for PWS. Median escapements for each group are indicated by black horizontal lines and correspond to: 16,924 (2013 AIS) vs. 50,059 (2013 Stray), 3,862 (2014 AIS) vs. 9,099 (2014 Stray), and 51,792 (2015 AIS) vs. 89,133 (2015 Stray). Mean escapement is indicated by diamonds. Escapement estimates have been adjusted for stream life and observer efficiency.

In addition, the mean *number* of hatchery pink salmon in wild-stock streams appears to be relatively fixed (but with a high variance) across streams with low and average escapements (Figure 4), and then declines slightly in streams with the highest escapements. This may provide an avenue for estimating total numbers of stray hatchery fish in streams across a region. Figures 1, 2 and 4 also illustrate why the possible ecological and genetic consequences of straying could be more pronounced in systems with relatively smaller escapements, as these systems tend to have higher proportions of hatchery fish. Hatchery escapements into streams (Figure 5) do not appear to be normally distributed. Rather, as would be expected for count data, the number of hatchery salmon likely follows a Poisson or negative binomial distribution and is right skewed. This is an important consideration if using this relationship for estimating the overall numbers and variance of hatchery fish across a district or region.

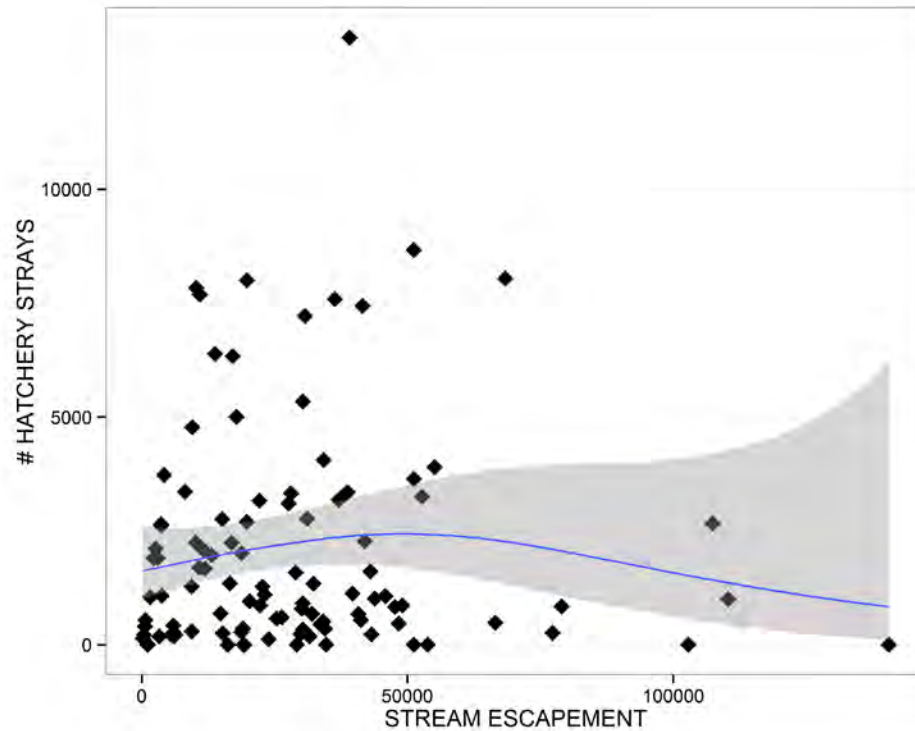


Figure 4. Estimated hatchery pink salmon escapement in streams versus estimated total annual escapement (2008-2010) from area-under-the-curve estimates (data from Brenner et al. 2012). The blue line is a GAM fit and the shaded area 95% confidence intervals. In this case we assumed that the number of hatchery strays in streams followed a quasi-Poisson distribution.

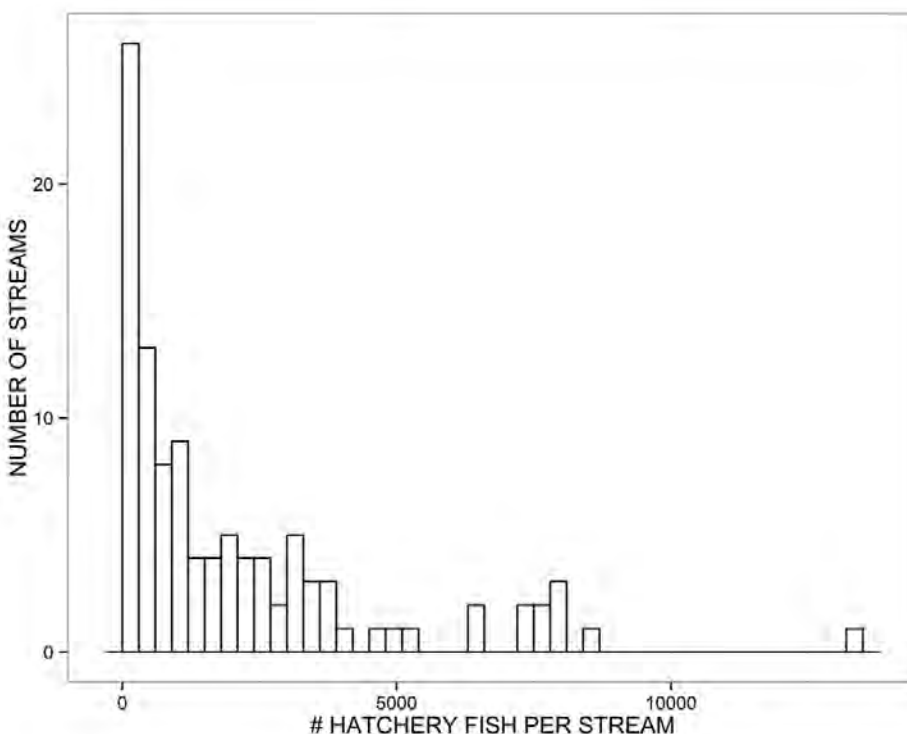


Figure 5. Estimated number of hatchery pink salmon per stream in PWS, for 37 streams sampled 2008–2010 (Data from Brenner et al. 2012).

Spatial Trends in Straying

There is a long history of aerial surveys in PWS and SEAK (Fried et al. 1998, Geiger and McPherson 2004), and, over the years, streams have been added or removed for various reasons from the suite of streams used to estimate the escapement index. Some of the streams removed from the AIS in PWS have been those in areas surrounding hatcheries. For example, Cannery Creek was formerly an aerial index stream (flown 1963–1982) that contained as many as 35,000 pink salmon during individual surveys (AUC estimates would be considerably greater than this), but was removed following the advent of the Cannery Creek Hatchery. All AIS were also removed from within the Port of Valdez and Valdez Arm north of Sawmill Bay, mostly because of airspace restrictions near the pipeline terminal and Valdez airport; flown 1963–1997. In addition, there are no aerial index streams within the immediate area (~13 km radius) surrounding the Wally Noerenberg Hatchery (WNH) on Esther Island. Streams adjacent to WNH were listed within the



1968 AWC (J. Johnson *pers. comm.*), and remained listed as recently as 1977 (Pirtle 1977), but were removed sometime after this; possibly due to the establishment of that hatchery in 1985. As places lacking AIS, these areas were not represented within the sample-space considered for the current AHRP study, even though some of them had substantial escapements prior to the advent of the hatchery program (e.g., Pirtle et al. 1972). The paucity of sampled streams close to some hatcheries may be somewhat problematic for achieving the stated goals of this study because straying proportions are, to a large extent, a function of distance from release facilities (Figures 6 and 7; Brenner et al. 2012, Joyce and Evans 2000, Knudsen et al. 2015, Piston and Heintz 2012).

Estimation of the hatchery fraction of the overall spawning population should, ideally, account for the strong spatial trend of straying (Figures 6 and 7). The goal of estimating the extent and annual variability of straying could be partially achieved by using non-linear models to estimate straying proportions or numbers as a function of distances from release locations (e.g., Figure 6). Data to parameterize such models could be obtained from previous studies of hatchery salmon straying (Brenner et al. 2012, Joyce and Evans 2000, Piston and Heintz 2012). After choosing the most parsimonious model for a given broodline (even years and odd years for pink salmon) and hatchery, these models could then be fit to the data for the existing study. In this way, mean values of stream straying proportions could be pulled from the estimated proportions of strays across all AIS. This method would not address the issue of using larger AIS for the study design, but—in the absence of additional sampling—corrections for non-AIS in PWS could come from methods within Fried et al. (1998), which estimated overall escapement into non-AIS. Such an exercise may also help to resolve discrepancies in estimated wild salmon escapements using extrapolations from aerial surveys and those provided within the AHRP draft reports.

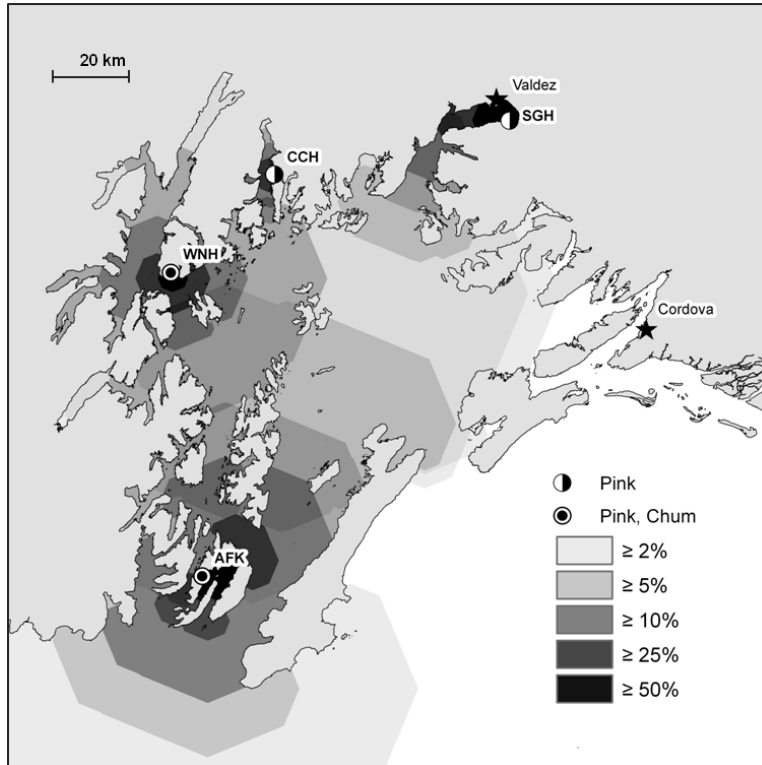


Figure 6. Spatial trends in hatchery pink salmon straying in PWS in 2009. The density of strays was generated in GIS from four separate models used to estimate the proportion of hatchery fish in streams as a function of distance from each release facility (from Brenner et al. 2012).

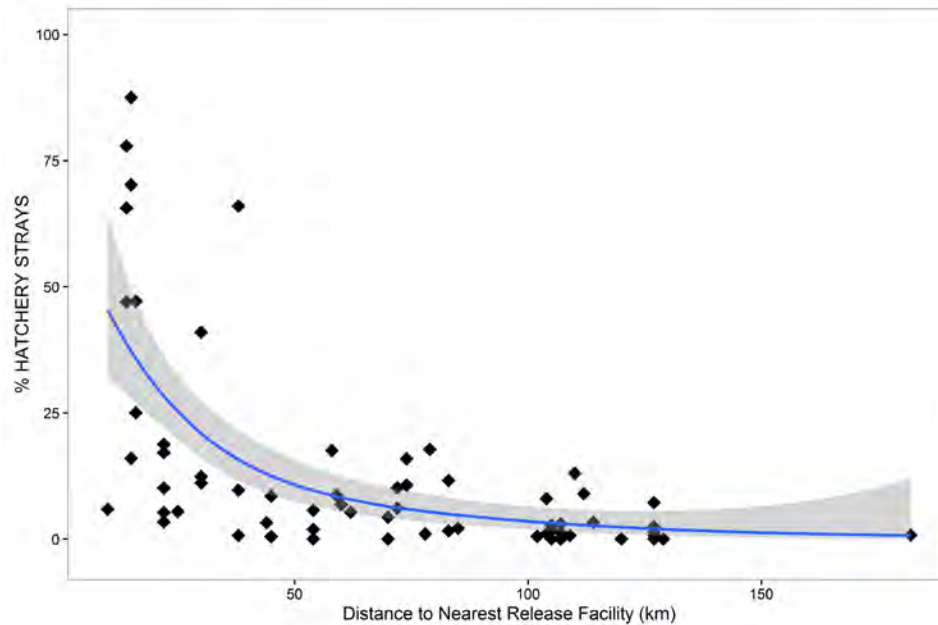


Figure 7. Percentage of stray hatchery chum salmon in SEAK streams (2008–2010) versus distance to the nearest chum salmon release facility (data from Piston and Heintz 2012). The blue line is a GAM fit and the shaded area 95% confidence intervals. In this case we assumed that the number of hatchery strays in streams followed a quasi-Poisson distribution.

Temporal Trends in Hatchery Salmon Straying

The change in hatchery straying proportions across the spawning season has been documented by previous studies for PWS for pink and chum salmon (Figure 8, Brenner et al. 2012, Joyce and Evans 2000). In SEAK, temporal changes in hatchery chum salmon strays also exist; however, the run timing of multiple hatchery and wild components is more complicated (Andy Piston, *pers. comm.*) than PWS, where all hatchery chum salmon return during a similar time period. The current experimental design and analysis does acknowledge temporal trends in straying with stratified sampling, but draft AHRP reports could be clarified with a more detailed explanation for how temporal weighting was conducted. For example, it would be useful if assumptions about stream life, observer efficiency, carcass residency, and correlations between ground and aerial counts were provided and accounted for in analyses (e.g., Fried et al. 1998).



We do have questions about the validity of the method used to weight hatchery proportions in streams over time. Notably, the current protocol calls for weighting based upon the sum of live and dead salmon at the time that samples were collected (Equation 5 of Knudsen et al. 2015). However, Table 2 of the 2014 Annual Progress Report (Knudsen et al. 2015) states that straying proportions were only weighted based upon carcass counts, not live counts. In contrast, the original Request for Proposals of the AHRP stated that weighting would be based on aerial survey estimates. Regardless of whether ground or aerial estimates are used to assess stream escapement, we believe that the weighting method should be based upon an integrated estimate of escapement over time. Such an integrated estimate—area-under-the-curve—is already being used to evaluate escapement goals for pink and chum salmon in PWS (e.g., Moffitt et al. 2014). For SEAK, peak counts of escapement are also based on aerial survey estimates (Geiger and McPherson 2004). Point estimates of escapement can be integrated across time and combined with assumptions about stream life (e.g., Fried et al. 1998), and carcass residence in streams, to produce a weighting of hatchery straying proportions that accounts for annual trends in escapement (Brenner et al. 2012). In contrast, it has been our experience that salmon carcasses can quickly wash out of streams, making them an ephemeral and unreliable indicator of overall escapement into a system, and therefore a poor choice for weighting of hatchery proportions across a season. The 2014 AHRP report also acknowledges that high water events flush carcasses out of streams (Knudsen et al. 2015). We note that ADF&G already uses integrated weighting approach to estimate salmon stock components in escapement samples and harvests in fisheries across Alaska. For example, scales, otoliths, and genetic tissues collected during the course of a run for which strata estimates sum to total escapement or harvest, etc. Thus, for a variety of reasons, we suggest that the AHRP use weighting methods that can be linked to integrated measures of abundance; thereby making estimates of hatchery proportions consistent with existing ADF&G assessment methods and previous studies that have evaluated straying (Brenner et al. 2012).

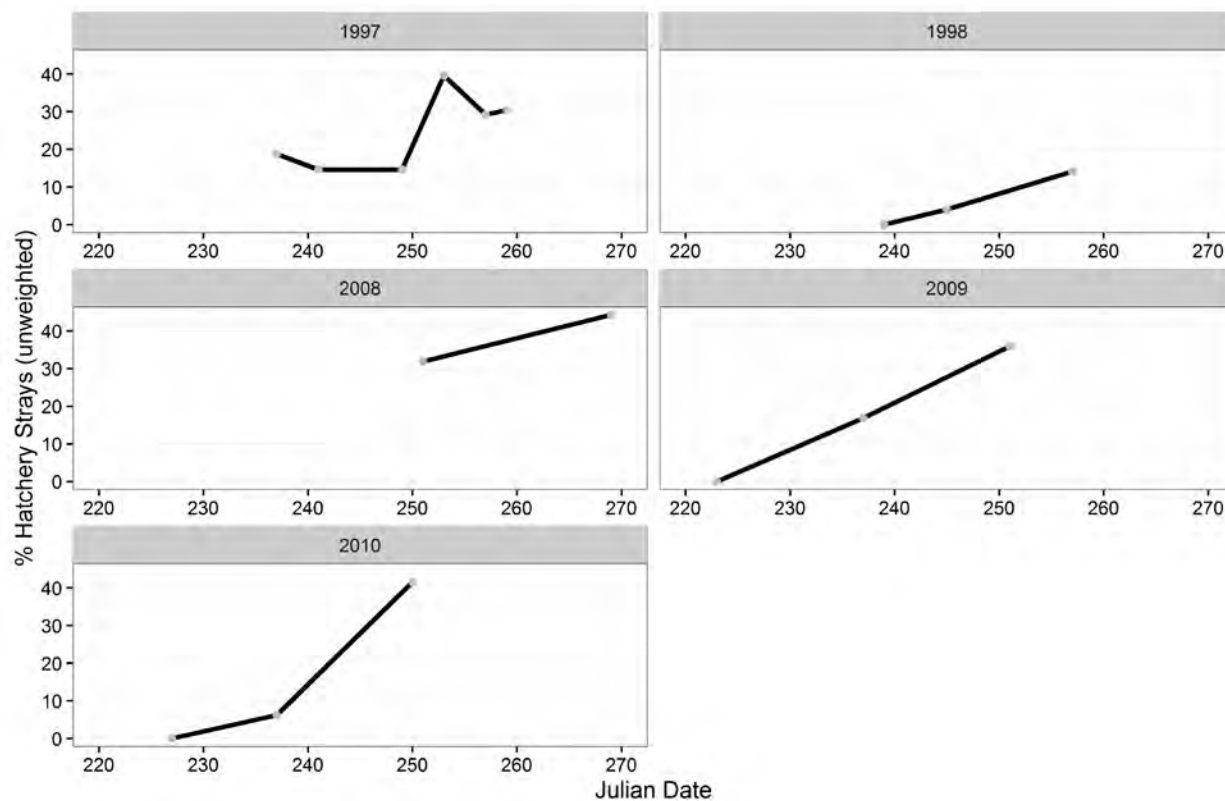


Figure 8. Example of temporal trends in hatchery salmon straying proportions based on proportions of hatchery pink salmon carcasses sampled from Snug Harbor Creek in PWS from 1997 to 2010 (Brenner et al. 2012).

Discussion and Summary

Data from previous hatchery salmon straying studies conducted in PWS and SEAK suggest that the proportion of hatchery strays in streams is a function of distance to release facility, time, and the size of wild escapements. It is recommended that known drivers be taken into account in analyses to meet the objective of producing an unbiased estimate of the hatchery fraction of the spawning population across all streams. Other factors, including the location of release sites in relation to migratory pathways, harvest pressure, within-year environmental conditions, and broodstock characteristics may also influence hatchery straying. The singular effects of these additional factors may be more difficult to discern; however, they should be considered for analyses.



The AHRP annual reports note differences in escapement estimates between the current study and those produced by ADF&G's aerial survey program (Knudsen et al. 2015). We suggest that these discrepancies could—at least in part—be attributed to some of the points we have addressed within this technical document. For example, excluding spawning areas, not accounting for spatial patterns in straying, not sampling across the full range of possible stream escapements, and not weighting straying proportions according to overall escapement could bias estimates of hatchery and wild escapement. Not accounting for major covariates can be indicated by overdispersion (the variance being larger than the mean), and can be exacerbated by zero-inflation (more zeros in the data than would be expected). Overdispersion can be a product of count data in general and not accounting for major covariates within models in particular (Zuur et al. 2009). Figures 1, 2, 4 and 7 show a very wide range of hatchery straying proportions and number of hatchery fish across stream escapements and, without accounting for distance to release facility or other drivers, these data appear to exhibit overdispersion: the mean hatchery straying proportions is a small fraction of the variance for years we have examined. In addition, the histogram of hatchery stays (Figure 5) suggests an inflation of the number of streams with zero hatchery fish. Zero-inflation is also quite common (normal) in count data and could come about as a result of the reduced probability to detect hatchery strays within streams having larger escapements (Figures 1 and 2) or, as previously discussed, a sampling design that biases against streams that have hatchery strays. Zuur et al. (2009) presents an excellent discussion of how to account for overdispersion and zero-inflation in a variety of ecological models that use count data.

Herein, we have proposed some possible solutions for analyzing data collected during the course of the AHRP project in order to meet the objective of quantifying the extent and annual variability of pink and chum salmon straying in PWS and SEAK. Most notably, we suggest the inclusion of data from previous studies and modeling approaches to account for known spatial trends in straying and the influence of stream escapement size on straying proportions. The benefits of using previous studies to extrapolate straying proportions across areas are that it would take advantage of a rich source of available data to fill in gaps within the current study design, which did not stratify across gradients that are important determinants of straying—distance from release facility and escapement size. Using this approach may necessitate pooling data across years, which would nullify annual variance estimates of straying proportions. If straying proportions exhibit a strong



covariance across streams, replicates from individual streams taken across years could still be used to estimate spatial trends in straying.

Another possible approach is to limit the interpretation of the result to the subset of larger AIS surveyed during this study; at the exclusion of extrapolating to other streams, or areas not surveyed. This approach has the benefit of not having to address the issues of spatial gradients in straying proportions or stream escapements. However, without extrapolating stream proportions to larger areas, key objectives of this study would not be achieved and the data collected from the ocean sampling portion of this study may be of limited use.

Acknowledgments

We thank Andy Piston, Chris Habicht, Dr. Dion Oxman, Ben Williams, and Kyle Shedd for many helpful comments and suggestions.

Questions for the AHRP

- 1) Are the issues highlighted in this technical document deserving of a solution? If so:
- 2) What solution(s) do you think are most appropriate to account for spatial gradients in stream straying proportions for the purpose of estimating mean straying proportions across a larger area?
- 3) What solution(s) do you think are most appropriate to address the influence of escapement size on stream straying proportions for the purpose of estimating straying proportions across a diversity of stream escapements?
- 4) What solution(s) do you think are most appropriate to address concerns that weighting of straying proportions using carcass counts is not indicative of cumulative stream escapement?
- 5) How would the issues raised in this technical document influence escapement estimates of wild and hatchery fish into streams published in initial AHRP reports?

AHRP Review and Comments



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I am writing this on behalf of the South Central Alaska Dipnetters Association. We are concerned about the possible release of another 20,000,000 pink salmon smolt on top of the already 680,000,000 pink salmon smolt being released.

There is no historical scientific basis to judge as to whether this is a sound decision to make without more information. No one knows the ramifications of these extra mouths to feed on their own or other salmon species, never mind other wildlife. Mother Nature has a way of keeping a balance over time but this force feed of an extra biomass seems to really push the limits, in our collective opinion.

Commercial fishers in UCI always use the notion of over escapement to push for longer fishing times and emergency openers. The argument is that too much biomass overwhelms the habitat and cannot support too many extra smolts. Maybe that argument should be applied to this situation.

We are not prepared to gamble on the other species of salmon so a few commercial fishers can make a few extra car or truck payments. It just does not seem like a smart and prudent decision for the community biomass either.

In closing, we wish that the BOF takes the prudent and conservative approach when discussing this issue. It would be wise to error on the side of caution rather than succumb to outside pressures.

Thank You, Ken Federico, Chair, SCADA

Submitted By
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I am writing on behalf of the South Central Alaska Dipnetters association. We are concerned about ACR #6, which concerns the Kenai/Kasilof area for dipnetting. It is our collective belief that something of this magnitude should be addressed in-cycle rather than how it is currently being presented. This ACR will affect 30,000 to 35,000 households that apply for a dipnetting permit every year. This is not an emergency and two more years of the status quo will not greatly affect other users. By other users I am referring to commercial interests since the author has a vested interest.

We believe this ACR is just an "end Run" around the system in place so those permit holders above cannot have a chance to discuss and present their case. We further believe that this disinfranchises all dipnet permit holders and other interested parties by submitting this out of cycle. Dipnetters lost to habitat concerns about 5 miles of Kenai river access at the last BOF meeting. That alone will make it harder for people to attempt to put fish in their freezers.

In closing, these rivers mentioned affect most of the states population for dipnetting since it is on the road system and only two hours from Anchorage. People from all over the state come to dipnet the Kenai/Kasilof too. I did a breakdown a couple of years ago on the geographic locations of Permit holders for South Central dipnetting. I was suprised that people from Nome, Bethel and other outlying villages also come to dipnet in UCI. So your decisions will concern all Alaskans.

Thank you for your time and effort. There is no grander service than Public service.

Ken Federico, on behalf of SCADA



CITY OF VALDEZ, ALASKA

RESOLUTION NO. 18-33

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF VALDEZ, ALASKA, SUPPORTING THE ALASKA SALMON HATCHERY PROGRAM

WHEREAS, the City of Valdez benefits greatly from the State of Alaska Hatchery Program; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments such as Valdez, which receive raw fish tax dollars; and

WHEREAS, Alaska hatcheries accounted for 57% of the total common property commercial catch and 60% of the total ex-vessel value in the Prince William Sound region in 2017; and

WHEREAS, the Prince William Sound Aquaculture Corporation (PWSAC) headquartered in Cordova contributes significantly to the economy of Prince William Sound by providing 1,405 jobs, \$68 million in labor income, and \$192 million in total economic output in 2017; and

WHEREAS, the Valdez Fisheries Development Association, Inc. (VFDA) headquartered in Valdez contributes significantly to the economy of Prince William Sound by providing 824 jobs, \$21.5 million in labor income, and \$80.1 million in total economic output between 2008 to 2012; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the state of Alaska by creating employment and economic opportunities throughout the state and in particular in coastal communities such as Valdez ; and

WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery programs and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities like Valdez, while maintaining a wild stock escapement priority; and



Resolution No. 18-33
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WHEREAS, Alaska salmon fisheries, including those of hatchery origin, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC);

WHEREAS, salmon hatchery programs are permitted using a public process, employ strong scientific methodology and are built upon sound and sustainable fisheries policies intended to protect wild salmon populations.

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF VALDEZ, ALASKA, that

- Section 1. The City of Valdez affirms its support for Alaska's Salmon Hatchery Programs including PWSAC and VFDA.
- Section 2. The City of Valdez supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural stocks, such as the Alaska Hatchery/Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023.
- Section 3 The City of Valdez calls on the Alaska Board of Fisheries to work with the hatchery community, the Alaska Dept. of Fish and Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.
- Section 4 The City of Valdez supports the Alaska Dept. of Fish & Game's approval of VFDA's permitted increase of 20 million pink salmon eggs taken in 2018 at the Solomon Gulch Hatchery.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF VALDEZ, ALASKA, this 2nd day of October, 2018.

CITY OF VALDEZ, ALASKA

Jeremy O'Neil, Mayor

ATTEST:

Sheri L. Pierce, MMC, City Clerk



Submitted By
Jeff Cabana
Submitted On
9/30/2018 5:19:13 PM
Affiliation
Commercial fisherman 37 yrs PWS

Phone
907-205-7933
Email
bamacabana@gmail.com
Address
P.O. Box 26
Homer, Alaska 99603

To the Board of Fish,

I am writing to you in regards to ACR1 PWS. I am questioning why this proposal might be addressed at the Oct 3rd meeting in Anchorage. We just had a regular Board of Fish cycle meeting regarding PWS this past spring, held in Valdez. KRSA was in attendance. That would have been the time to address this issue, where there were more local area people in attendance. Reportedly, KRSA is claiming they had no other way to submit their proposal.

Due to the fact that everything about the VALDEZ Production takes place in PWS, there is NO OTHER place this should be heard other than at the regular PWS meetings.

KRSA is no new comer to The Board of Fish process. They know what the proper process is. This is not an emergency or crises situation where irreparable damage could be done and it cannot wait until a regular cycle meeting.

Please consider this matter to reflect fairness for the commercial fisherman of PWS.

Thank you. Jeff Cabana

Submitted By
Nathan tueller
Submitted On
10/3/2018 5:14:13 PM
Affiliation

acr 1. not an emergency. Should not be heard out of sequence. valdez hatchery produces pink salmon caught in valdez. This proposal should be heard in 2020 when pws in in cycle, otherwise what is the point of having regional meetings in the regions affected. the sportsfishermen of the keani are looking to anchorage as more favorable environment to pass this acr. that is the only reason it has been brought up now. Hear this, review it, and make a decision on it in the pws meeting of 2020.

Submitted By
Nathan tueller
Submitted On
10/3/2018 5:22:22 PM
Affiliation

I'm commenting on acr 1, which i am against. Acceptable hatchery eggtake levels are set by ADF&G. They are the trained, educated, marine biologists who have successfully protected the salmon of Prince Williams Sound and Alaska since before I was born. This is an attempt to politically control something that the science based managers have been handling successfully for decades. Please do not allow this.

Submitted By
Nathan tueller
Submitted On
10/3/2018 5:27:36 PM
Affiliation

I am against acr 1. The eggs have already been taken. There is no conclusive evidence that valdez hatchery pinks adversely affect other salmon runs. There is conclusive proof that lots of alaskans, like over 2000, rely on the hatcheries of pws for their incomes.

Lets get the results of adf&gs hatchery straying study before we jump to any conclusions.

Submitted By
Nathan tueller
Submitted On
10/3/2018 5:44:54 PM
Affiliation

my comments address acr 1. In my opinion, there is no good reason to allow this reduction in eggtake. Salmon straying is the natural process that allow salmon to retain genetic diversity and replenish streams that are occasionally wiped out by one act of nature or another. Do these straying pinks threaten or outcompete the keani fish or for that matter any other run of salmon? no. We have banner hatchery returns side by side with banner natural returns to pws. reds and kings have different food sources than pinks. The keani river fisherman need to look to fixing their own situation before lashing out at us hundreds of miles away.

Submitted By
Russell Fitzwater
Submitted On
10/2/2018 12:11:16 PM
Affiliation

Phone
4802923404
Email
russellfitzwater@gmail.com
Address
1290 Alyeska Hwy
Girdwood, Alaska 99587

I want to point out that not only is there a serious lack of proof (data) to support the notion that pink salmon released from any hatchery have a direct effect on the Chinook Salmon population, we especially do not have the data to conclude that the number of Valdez Pinks directly corresponds to the number of Chinook returning to the Kenai River. Our fisheries should be managed based on scientific data collected to conclude a cause and effect before making any decisions such as this one. Yes, it's worth pointing out ACR 1 claims they have to use the ACR which is code for out of cycle because there is no other way for them to submit a proposal to reduce the pink eggs at Valdez. This is pure BS. They should have to submit their proposal during a PWS cycle just like everyone else has to do for PWS issues. If the BOF Grant's them a ACR this means they can submit proposals every year. The very reason there is a 3 year cycle for every area in Alaska is this gives the stakeholders a chance to plan to attend a BOF meeting in an area close to where the fishery occurs. Thus PWS is held in Valdez or Cordova, Kodiak is held in Kodiak, BB is held in Dillingham... Anchorage is not close to PWS and is not where this proposal should be heard.

Submitted By
Tim Cabana
Submitted On
9/27/2018 1:48:14 PM
Affiliation
Fisherman

Acr 1 is out of cycle. We just finished our areas issues in March 2018 and these people were there. They had there chance to do this then and for whatever reason thought an out of cycle surprise proposal would have a better chance. This is wrong and sets a very bad president. Not a good idea, this will open it up to any other proposals to be brought up anytime. There is a reason we are on a 3 year cycle. Either keep to it or change the rules.

From: tim cabana
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Acr1
Date: Thursday, September 27, 2018 1:28:19 PM

It is wrong and sets a bad precedent to take up a PWS prososal out of cycle just a few months after we went through our areas proposals. The Kenai river sportfisherman where at the meetings in March and should have brought it up then. This will set a bad precedent that could allow any proposals anytime. It is hard enough to keep track of whats going on in our fisheries without having to check ever month on whatever someone wa ts to throw at us out of cycle. Please do not let this ho on.

This is a Valdez PWS issue and should wait till the next cycle to be addressed. That you

Tim Cabana, PWS SALMON FISHERMAN

[Sent from Yahoo Mail on Android](#)

Submitted By
wendy tueller
Submitted On
10/3/2018 5:33:12 PM
Affiliation

Proposals are considered for each region once every 3 years, that is my argument against acr 1. This is a PWS proposal out of sequence. It can wait till 2020. The rest of us do.

Submitted By
wendy tueller
Submitted On
10/3/2018 5:38:32 PM
Affiliation

Phone
907 783 1178
Email
bellaphylomena@hotmail.com
Address
box 913
Girdwood, Alaska 9

If the keani river sportsfishermen want to make changes in pws, rather than on the keani river, than they should do so in 2020, when pws issues are heard. It is a deliberate political maneuver to have this heard in anchorage rather than in one of the communitys that would be directly, negatively impacted by acr 1. I urge you to say no for now, and hear it at the pws meeting in 2020. Say no to this proposal.



Submitted By
Bruce Marifern
Submitted On
10/3/2018 4:49:24 PM
Affiliation
SE Seine

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907-518-1113

Email
fishfern@gci.net

Address
Po box 917. Petersburg Alaska
Petersburg , Alaska 99833

Good Afternoon

I would like to express my concern on ACR 10 ,,, Considering we just visited these issues , I would be of the humble opinion to let fish and game manage these stocks. They have a conservative approach to a sustainable fishery.

On ACR 2 I would oppose the cap

Sincerely Bruce Marifern

Submitted By
Leif Dobszinsky
Submitted On
10/3/2018 9:02:56 AM
Affiliation



PC117
1 of 1

I am in opposition to ACR 2. Hatchery produced salmon in SEAK are a vital economic leveler to the ups and downs of natural spawning salmon stocks. Commercial and Sport fisherman rely on the hatchery returns to augment commercial fisheries and recreations opportunities in down years such as the summers of 2016 and 2018.

October 1, 2018

Alaska Department of Fish and Game
Board of Fisheries
PO Box 115526
Juneau, AK 99811
Via email: dfg.bof.comments@alaska.gov

RE: Comments on October 15-16 Work Session ACRs

Dear Chairman Jensen and Board of Fisheries Members,

PVOA's mission statement is to:

"Promote the economic viability of the commercial fishing fleet in Petersburg, promote the conservation and rational management of North Pacific resources, and advocate the need for protection of fisheries habitat."

We appreciate the opportunity to provide these comments on Agenda Change Requests regarding Southeast fisheries.

***ACR2** Cap statewide private non-profit salmon hatchery egg take capacity at 75% of the level permitted in 2000.*

ACR2 would greatly harm the seafood industry, the sport fishing industry, and coastal communities dependent on these sectors in Southeast Alaska. Private Non-Profit (PNP) hatchery operators Armstrong-Keta Inc (AKI), Douglas Island Pink and Chum (DIPAC), Northern Southeast Regional Aquaculture Association (NSRAA), and Southern Southeast Regional Aquaculture Association (SSRAA) greatly contribute to the overall harvest of salmon.

PVOA asks the Board of Fisheries not adopt this ACR. Below are some economic impacts of hatcheries statewide and in Southeast for 2017 to show the importance of their contributions:

- Statewide, hatcheries contributed nearly 47 million fish to the commercial fishery and accounted for 21% of the commercial harvest of 222 million salmon with an ex-vessel value of \$162 million. This comprised 24% of the statewide harvest exvessel value.
- In Southeast, about 8 million hatchery fish were harvested at an ex-vessel value of \$53 million. This comprised 39% of the Southeast total exvessel value.
- The statewide first wholesale value of hatchery fish was \$331 million.
- About 194,000 hatchery-produced fish were harvested by subsistence, personal use, and sport fishers; including salmon, rainbow trout, arctic char, and grayling.

Two of the state's five largest wild runs occurred in 2013 and 2015. Likewise, the two largest hatchery harvests occurred in 2013 and 2015.¹

The Alaska Hatchery program was created by the State in 1971 during historic low harvests to supplement fisheries, not to replace wild fisheries. Today, this is still the primary objective of the program. Alaska has set high standards for hatcheries, that have been proven to be very successful, requiring them to be located away from natural salmon stocks, use local broodstock sources, and mark hatchery fish to decipher from wild stocks.

Great care is taken in operations of and choosing sites for hatcheries through the public Regional Planning Team process and oversight from the Alaska Department of Fish and Game, Department of Natural Resources, and Department of Environmental Conservation.

ACR10 Close Sitka Sound commercial sac roe herring fishery until regional herring stock status improves, additional research on herring is conducted, and the amount necessary for subsistence is met in at least three consecutive years (5 AAC 27.110 and 5 AAC 27.160)

PVOA members ask the Board of Fisheries not adopt ACR10. While the Sitka Sound herring biomass has shown a slight decline in recent years, it is still robust and above the 25,000 ton threshold of spawning biomass for a fishery in recent history. Furthermore, this threshold has increased from 6,000 in 1977 to 7,500 in 1983, to 20,000 in 1997, and 25,000 in 2009 as the biomass increased.

We believe the Sitka herring biomass is stable, and protected from overfishing by the spawning biomass threshold and harvest rate starting at 12%.

ADF&G uses an Age Structured Analysis, which relies on a time series of herring stock assessments, to estimate the biomass in Sitka. This same method is used to forecast spawning biomass of herring in Southcentral Alaska, the Eastern Bering Sea, and British Columbia. This method estimates recruitment, age, growth, maturation, natural mortality, weight-at-age, and spawning escapement to forecast abundance.²

This ACR lacks objectives for the requested 'stock status improvements' in which to re-open the fishery if this were to become a proposal and passed by the Board of Fisheries. If a fishery is to be closed until stock conditions improve, there need to be clear objectives to compare the current condition of the biomass against the trigger to re-open the fishery. The ACR also does not include information on what kind of additional research they are seeking. As described above, ADF&G already has extensive and regionally proven herring research.

¹ Stopha, M. 2018. Alaska salmon fisheries enhancement annual report 2017. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 5J18-02, Juneau.

² Hebert, K. 2017. 2018 Report to the Alaska Board of Fisheries: Southeast Alaska–Yakutat herring fisheries. Alaska Department of Fish and Game, Fishery Management Report No. 17-58, Anchorage.

PVOA BOF Comments
PO Box 232 Petersburg, AK 99833

Petersburg Vessel Owner
(907) 772-9323

 email: pvoa@gci.net

The Board of Fisheries extensively reviewed the management of the Sitka Sac Roe fishery in January while addressing proposals in the Southeast cycle. In light of the very recent work and consideration regarding this fishery, this ACR is untimely.

Thank you for your time and dedication in considering public comments for the upcoming Work Session. We ask ACR2 and ACR10 are not moved forward as proposals.

Petersburg Vessel Owner's Association (PVOA) is composed of over 100 members participating in a wide variety of species and gear type fisheries in state and federally managed waters. An additional thirty businesses supportive to our industry are members. PVOA members fish throughout Alaska from Southeast to the Bering Sea. Targeted species include salmon, herring, halibut, sablefish, crab, shrimp, sea cucumbers, and geoducks.

Respectfully,



Megan O'Neil
Executive Director



Submitted By
Max Worhatch
Submitted On
9/30/2018 5:08:14 PM
Affiliation
United Southeast Alaska Gillnetters

Phone
253-237-3099
Email
usag.alaska@gmail.com
Address
PO Box 2196
Petersburg, Alaska 99833

~~September 30, 2018

John Jensen, Chair
Alaska Board of Fisheries, Boards Support Section
PO Box 115526
Juneau, AK 99811-5526

Submitted via online form.

Dear Chairman Jensen and Board of Fisheries members:

United Southeast Alaska Gillnetters is opposed to ACR2.

The economic impacts that would occur should this draconian proposal be adopted would have a devastating effect on the economy of southeast Alaska. The fleet we represent, comprised of 474 small family owned businesses, of which over 80% are residents, rely heavily on enhanced fish. The communities of Haines, Juneau, Sitka, Petersburg, Wrangell, Craig, Coffman Cove, and Ketchikan all have vibrant, active fleets. These communities rely heavily on the gillnet fishery as a force in their local economies. Most of these communities also have seine and troll fleets that also rely on enhanced fish.

With the advent of farmed fish in the early nineties, Alaska salmon went from being a luxury item to a commodity. While the market has grown, so has the competition. Prices today are near the levels of the early to mid-eighties. Without the increased volume enhanced fish affords us, we would not exist as the economic engine we are today.

The coastal communities of southeast that have processing plants have invested millions in infrastructure to support both processing and fishing fleets in an effort to capture a piece of the economy generated by the fishing industry. Processors have likewise invested in communities and local fishermen. Raw fish taxes generated by salmon go to the state and communities where fish are landed.

If the board were to adopt this proposal, southeast Alaska would be sent into a serious recession, perhaps a depression, and would probably have to reinvent itself. With all the investment and infrastructure geared toward the fishing industry, that could take decades. While the proposer may be correct in that the hatchery protocol has been ignored, the proposal itself appears punitive toward industry, as if it were their fault two different political appointees have ignored this over the years. It also appears to us that the protocol is redundant, given that the Regional Planning Team process covers these very issues, and is a very public process.

If the board were to adopt this proposal, our organization's message to our representatives on the regional boards would be to cut all king salmon production first. Our ability to harvest these fish has been marginalized with the recent lack of king salmon in the southeast region, and represents the least value for our fleet as well as the worst cost/benefit ratio in our region. It is also the most expensive fish we raise, and with this draconian cut, we would have a reduction in chum salmon returns. Chum salmon returns pay for many of these king salmon programs.

To adopt this proposal, and the socio-economic impacts associated with it, would require a real emergency. There's no stock of concern, no stock being negatively impacted that's been identified. We see no emergency. We see no science. What we do see is a punitive proposal with no real basis.

Sincerely,

Max Worhatch
Executive Director

UNITED SOUTHEAST ALASKA GILLNETTERS' MISSION IS TO SERVE, PROTECT AND ENHANCE THE COMMERCIAL GILLNET SALMON FLEET OF SOUTHEAST ALASKA



Submitted By
Kyle Rosendale
Submitted On
10/3/2018 10:55:14 AM
Affiliation

Board of Fisheries

ADF&G Boards Support

P.O. Box 115526

Juneau, Alaska 99811-5526

Re: October Board of Fisheries Work Session

03 October 2018

Chairman Jensen and members of the Board of Fisheries,

Thank you for the opportunity to comment on issues that will be discussed during the October 15-16 Board of Fisheries Work Session. I would like to note my support for two Agenda Change Requests (ACRs): ACR 2 and ACR 10.

ACR 2: Cap statewide private non-profit salmon hatchery egg take capacity at 75% of the level permitted in 2000.

The impacts of hatchery salmon on the ecosystem are not well-known, with one review of hatchery-wild salmon interactions in Alaska concluding “virtually nothing is known about the effects of hatchery fish on wild populations in Alaska” and called for additional study of hatchery-wild interactions in Alaska (Grant, 2012). In a review of work on hatchery and wild salmon interactions, Rand et al (2012) noted “there remains substantial uncertainty regarding the interpretation of spatial, temporal, and dietary overlap between hatchery and wild fish during their early life history in the marine environment” and Naish et al (2008) found studies of hatchery-wild “interactions at all ecological scales during the entire salmon life history have been rare”. Further studies (Cross, 2005; Pearson et al, 2012; Ruggerone et al, 2012; Springer and van Vliet, 2014) have implicated hatchery salmon as negatively impacting wild salmon, herring, and birds.

Amaroso et al (2017) note that it is difficult to evaluate hatchery programs due to “a lack of suitable controls that would allow for isolation of any enhancement effect” and found evidence that hatchery production can “replace” wild production. The authors concluded “the benefits of enhancement may be considerably overestimated” if reduced productivity of wild salmon populations due to hatchery salmon is not fully considered. Hatcheries in Alaska released about 1.6 billion fry in 2017 (Stopha, 2018); given the uncertainty surrounding the large-scale impacts of hatchery operations to the ecosystem, releases of this magnitude seem unwise. I believe that reducing hatchery production state-wide while continuing to study ecosystem impacts of hatchery salmon would be in line with the Precautionary Principle and would be my preferred course of action. Therefore, I support ACR 2.

I should note that Alaska is not the only state producing large numbers of hatchery salmon. Ruggerone and Irvine (2018) found that 40% of the total salmon biomass in the North Pacific Ocean is hatchery-origin. With that in mind, I would also encourage the Board of Fisheries, if possible, to direct ADF&G to coordinate research efforts on marine impacts of hatchery salmon with other major North Pacific hatchery producers, such as Canada, Japan, and Russia, and develop policy and management strategies based on the results.

ACR 10: Close Sitka Sound commercial sac roe herring fishery until regional herring stock status improves, additional research on herring is conducted, and the amount necessary for subsistence is met in at least three consecutive years.

Herring are a culturally and ecologically important species and herring populations throughout the Southeast Alaska have been severely depleted or even extirpated (Thornton et al, 2010). The needs of subsistence herring egg harvesters in Sitka have been met in only three of the past 10 years (Sill and Cunningham, 2017). Herring are also a forage fish and an invaluable resource for other culturally, ecologically, and economically important species, such as humpback whales, king salmon, halibut, lingcod, and coho salmon (Environment Canada, 1998). Traditional ecological knowledge suggests that the spatiotemporal distribution of herring spawn in Sitka Sound has drastically changed and subsistence harvesters are no longer able to meet their needs. The Board of Fisheries must act to provide opportunity for subsistence users and prevent an irreplaceable loss to Alaskan Native culture and to Southeast Alaskan ecosystems. Therefore, I support ACR 10.

Thank you for the opportunity to comment on Agenda Change Requests to be heard at the October Work Session. And thank you for streaming the proceedings – I look forward to listening from Sitka.

Thank you,

Kyle Rosendale

References

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A Resolution in Support of the Alaska Salmon Hatchery Program

WHEREAS, the people of Alaska benefit greatly from the State of Alaska Salmon Hatchery Program; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments, which receive raw fish tax dollars; and

WHEREAS, Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations; and

WHEREAS, Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans; and

WHEREAS, returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980; and

WHEREAS, there are no stocks of concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time; and

WHEREAS, Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade; and

WHEREAS, Alaska hatcheries accounted for 22% of the total common property commercial catch and 43% of the total ex-vessel value in the Southeast region in 2016; and

WHEREAS, a recent McDowell Group report identifies the average annual economic contribution for years 2012-2017 to be 4,700 jobs, \$218 million in labor income, including all



direct, indirect and induced economic impacts, and \$600 million in total economic output is associated with Alaska salmon hatchery production; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the state of Alaska by creating employment and economic opportunities throughout the state and in particular in rural coastal communities; and

WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery program and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority; and

WHEREAS, Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC);

THEREFORE BE IT RESOLVED that the Alaska Fisheries Development Foundation affirms its support for Alaska's salmon hatchery programs; and

FURTHER BE IT RESOLVED that the Alaska Fisheries Development Foundation supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023; and

FURTHER BE IT RESOLVED that the Alaska Fisheries Development Foundation calls on the Alaska Board of Fisheries to work with the hatchery community, the Alaska Department of Fish and Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

Approved by the AFDF Board of Directors via email vote and signed this 9th day of September, 2018.

Witness:



Julie Decker, Executive Director



Julie Decker, Executive Director
Alaska Fisheries Development Foundation
www.afdf.org

Alaska Board of Fisheries
Mr. John Jensen, Chair
Via email: dfg.bof.comments@alaska.gov

October 3, 2018

RE: Alaska Salmon Hatchery Reports & Forum - MSC and RFM Certifications of Alaska Salmon

Dear Chairman Jensen and Board members,

The Alaska Fisheries Development Foundation (AFDF) and the Pacific Seafood Processors Association (PSPA) offer the attached materials with respect to the Tuesday, October 16 afternoon session of the Alaska Board of Fisheries Work Session on Alaska salmon enhancement issues. AFDF is the Client for the Responsible Fisheries Management (RFM) certification and PSPA is the Client for the Marine Stewardship Council (MSC) certification of Alaska's salmon fishery, which will be transferred to AFDF in the Winter of 2018.

Sustainability certification has become a necessity for accessing markets and selling seafood internationally. The Alaska salmon fishery has been certified as sustainably managed by MSC and RFM since 2000 and 2011, respectively. These programs use third-party scientific experts to serve on Assessment Teams and review Alaska's management practices against the programs' standards. The certification period is five years with annual audits by the Assessment Team to assure no drastic changes have occurred which would negatively affect certification.

In 2013, the 2nd re-certification under the MSC program identified questions about Alaska's pink and chum salmon enhancement programs, consequently placing conditions on continued certification relevant to large-scale chum enhancement in Southeast (SE), and Kodiak pink and chum salmon. PWS salmon was not certified by MSC due to an identified need for additional data, although the RFM certification remained in place. Since then, RFM became the first certification program in the world to be recognized by the Global Sustainable Seafood Initiative (GSSI) as meeting the rigorous FAO guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries. Subsequently, the MSC program received the same GSSI recognition.

Since 2013, PSPA and AFDF have worked with the hatchery associations in SE, PWS and Kodiak to satisfy the MSC conditions for certification. Several SE conditions specific to chum have been resolved. An Action Plan has been developed which satisfies Kodiak pink and chum salmon conditions.

In 2017, PWS was brought back into the Alaska salmon certification by MSC for two reasons. First, the research plan from the Alaska Hatchery-Wild Interaction Study showed intent to provide extensive scientific data on the questions and preliminary results of the research looked positive. Second, PSPA



Glenn Reed, President
Pacific Seafood Processors Association
www.pspafish.net



conducted extensive education and outreach efforts. PSPA facilitated two separate 3-day workshops in Cordova with Assessment Team members, concerned NGO participants, ADF&G staff, and hatchery staff in order to more thoroughly discuss salmon management in Alaska. As a result, channels of communication were opened which allowed for a deeper understanding of the complex issues and Alaska's precautionary approach. ***Consequently, since 2017, the Alaska salmon fishery (every region, gear group and species) is certified as sustainable by two separate third-party programs. This is critically important to selling Alaska seafood into global and domestic markets.***

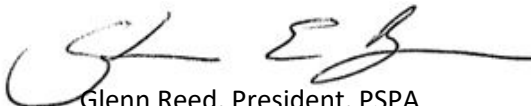
The attached documents consist of a Powerpoint presentation prepared by Mr. Dave Gaudet who works as a Technical Facilitator for AFDF and PSPA on these certifications. This document gives a description of the third-party certification process, compares the RFM and MSC processes, and compares some of the outcomes. Also attached are the current full assessment reports for each of the certifications. Please note, there are two reports for MSC as the report for Prince William Sound was done separately.

We offer these documents to demonstrate that certification of a fishery is the result of a thorough assessment by experts in the field with many levels of assurance of professional conduct. We do not defend the means of assessment. Mr. Gaudet will also be available to discuss our involvement in the process and the outcomes.

Please feel free to contact us if you have any questions.

Sincerely,


Julie Decker, Executive Director, AFDF

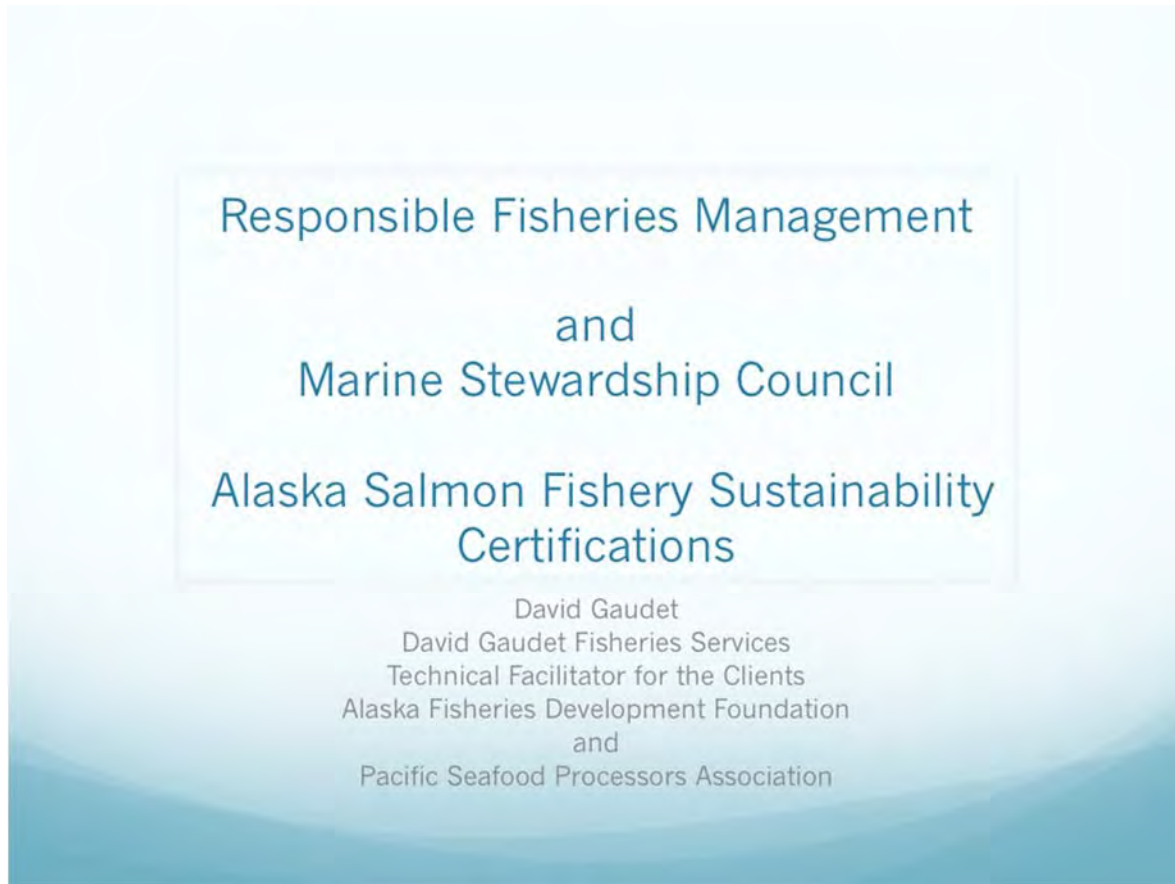

Glenn Reed, President, PSPA

Attachments:

- 1) Gaudet Presentation on MSC and RFM Certifications of Alaska Salmon**
- 2) RFM Salmon Assessment Report, March, 2017**
Excerpt included only; *full report is 289 pages*; see link below for full doc:
<https://www.alaskaseafood.org/wp-content/uploads/2017/03/ALASKA-RFM-SALMON-REASSESSMENT-Final-Report-March-2017.pdf>
- 3) MSC Salmon Assessment Report, Nov, 2013**
Excerpt included only; *full report is 583 pages*; see link below for full doc:
<https://cert.msc.org/FileLoader/FileLinkDownload.aspx/GetFile?encryptedKey=UTVglTCKxlpINOsKejV08aW2NRoD2Qr/GEpOHQADkMEpwAKqRasuTa4eWpffo6if>
- 4) MSC Salmon (PWS Only Scope Extension) Assessment Report, May, 2017**
Excerpt included only; *full report is 106 pages*; see link below for full doc:
<https://cert.msc.org/FileLoader/FileLinkDownload.aspx/GetFile?encryptedKey=Sni28hTCmUq9x1A6unmnPLUk5Y0kkqLUo+9B6QLE7x6WjtAYJS87Mwgv0msFbkcv>



Slide 1



I contract with the Alaska Fisheries Development Foundation and the Pacific Seafood Processors Association, in this case known as the Clients, as a technical facilitator for the purpose of obtaining fishery certifications for the Alaska Commercial Salmon fishery from the Alaska Seafood Marketing Institute's Responsible Fisheries Management and Marine Stewardship Council's programs. In short, I work with the Certifying bodies to ensure that they receive materials needed to conduct a thorough and complete assessment. That includes providing data and documents, identifying sources, reviewing results and acting as an interface with ADF&G. I have been involved with the process off and on, since 2000 when I was an ADF&G employee. I also perform the same task for Pacific cod. I will walk you through the processes and the outcomes. My role as a technical facilitator does mean that I am an expert on the processes but I will do my best to explain them and answer questions.



Slide 2

Presentation Sources

Responsible Fisheries Management (RFM)

- <https://www.alaskaseafood.org/rfm-certification/>
- Alaska Responsible Fisheries Management Certification Program – Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries in Alaska - Version 2.0 May 2018
- RFM Salmon Reports
<https://www.alaskaseafood.org/rfm-certification/certified-fisheries/alaska-salmon/>

Marine Stewardship Council (MSC)

- <https://www.msc.org>
- MSC Guidance for the Fisheries Certification Requirements – V2.0 1st October 2014
- MSC Salmon Reports
<https://fisheries.msc.org/en/fisheries/alaska-salmon/@@assessments>
- An assessment methodology for salmon
 - Megan Atcheson Presentation
 - Seafood Summit 2015

All of the material contained in this presentation can be found on line. Please note that for the rest of the presentation I will refer the two processes as RFM and MSC. The latest full assessments are also available as RCs.



Slide 3

Why Certify?

- Independent certification provides further assurance to customers and markets that require Third Party Certification.
- Through the use of proper certification programs we provide the means for fisheries to demonstrate responsible fisheries management.
- Many foodservice companies and retailers now require Third Party Certification

Certifications are “relatively” new to the seafood industry. They are somewhat the result the environmental movement but they do have practical value by providing an independent assessment and certification of sustainable fisheries management – or not – to the public. In addition, many foodservice companies and retailers require it.



Slide 4

Proper Certification is Not Interference, Scientific Research, Fisheries Advice or Fisheries Management

- **Certification is not marine research nor is it fisheries advice**
 - Certification includes verification that research and fisheries advice is based on generally accepted methodology
- **Certification and ecolabelling is not fisheries management**
 - Fisheries management remains the task of the competent authorities
- **Certification entails, i.e., third party verification of government fisheries management performance which facilitates market access for seafood**
 - Do authorities meet the commitments that they themselves have made in international fora

A few notes about what certification is not and is. The RFM and MSC processes are not intended to direct research, provide advice or management. It is simply a third party verification of performance.



Slide 5

RFM and MSC Similarities

- Both the RFM and MSC assessments are based on the best practice codes and guidelines provided by the UN Food and Agriculture Organization (FAO), International Social and Environmental Accreditation and Labeling Alliance (ISEAL) and the Global Sustainable Seafood Initiative (GSSI).
- Both use a 3rd party certification process. The fishery is assessed by a team of experts who are independent of both the fishery and either RFM or MSC. The team of experts is the Certifying Body which has received training relative to application of the assessment.
- Both the RFM and MSC programs and the Certifying Body's are subject to accreditation by other bodies such as the International Standards Organization (ISO).
- The Assessment structure and contents are updated on a regular schedule.

I will only be discussing the RFM and MSC certification processes. There are others, such as Monterey Bay Aquarium, Best Aquaculture Practices and Aquaculture Stewardship Council but the Alaska Seafood industry actively works with the RFM and MSC programs. As all of the programs have the same goal – are the fish populations that support these fisheries sustainable. There is currently a movement to look into other fishing practices such as labor, but the RFM and MSC programs currently concern only the sustainability of the fish populations.

Since both programs have the same goal, they have some similarities. Both of them are primarily based on best practices and guidelines developed by the FAO. They also incorporate principles from ISEAL and GSSI. GSSI is a global, multi-stakeholder initiative to streamline seafood purchasing decisions while promoting sustainability

They both use a 3rd party certification process. The RFM and MSC provide standards and guidance against which an independent Certifying body assesses the fishery in question. The Certifying Bodies consist of experts in both the relevant fishery and the assessment process to ensure a fair outcome.

The RFM and MSC organizations and the Certifying Bodies are subject to review by the ISO.

Finally, both the RFM and MSC standards are updated on a regular schedule.

Slide 6

Differences in Approach Between RFM and MSC

RFM

- The development of the assessment (Fisheries Standard) occurs through engagement with academics and industry. Version 2.0.
- Four Key Components*:
 - A. The Fishery Management System
 - B. Science and Stock Assessment Activities, and the Precautionary Approach
 - C. Management Measures, Implementation, Monitoring and Control
 - D. Serious Impacts of the Fishery on the Ecosystem
- *There were six previously in Version 1.3

MSC

- The development of the assessment (referred to as standard review) occurs through engagement with academics, fellow NGOs, governments and industry. Version 2.0.
- Three Guiding Principles:
 - Principle 1: Sustainable target fish stocks
 - Principle 2: Environmental impact of fishing
 - Principle 3: Effective management

Although both programs seek the same outcome – is a fishery sustainable – they organize their review processes differently. RFM develops a fisheries standard with a team comprised of academics and industry. MSC does the same but has much more participation from NGOs. The RFM program uses four key components while the MSC used three principles. A quick comparison between the key components and the principles reveals that they are very similar.

In summary, these documents define the management components needed to verify sustainable management.



Slide 7

Differences Between RFM and MSC Continued

RFM

- The Fisheries Standard is applicable to all species
- Uses 13 “Supporting Clauses” to introduce criteria
 - Scoring occurs on clauses

MSC

- There are specific additions to the “default” assessment tree
 - Salmon Fisheries
 - Introduced species based Fisheries
 - Enhanced Bivalves Fisheries
- Uses “Performance Indicators” to introduce criteria and for scoring

A further difference is that RFM has only one Fisheries Standard that is applicable to all fisheries. The MSC has a “default” assessment tree with three specific assessment trees, one of which is for salmon.

RFM scores on clauses while MSC scores on Performance Indicators.

For Alaska, an important feature of the RFM program is that it preserves the Alaska origin.

Slide 8

Example RFM Clauses and Supporting Clauses

- Example of a Clause (1.1) from The Fisheries Management System Key Component.
 - **1. There shall be a structured and legally mandated management system based upon and respecting international, State, and local fishery laws, for the responsible utilization of the stock under consideration and conservation of the marine environment.** FAO CCRF (1995) 7.1.3, 7.1.4, 7.1.9, 7.3.1, 7.3.2, 7.3.4, 7.6.8, 7.7.1, 10.3.1 FAO Eco (2009) 28 FAO Eco (2011) 35, 37.3
 - 1.1 There shall be an effective legal and administrative framework established at international, State and local levels appropriate for fishery resource conservation and management. The management system and the fishery operate in compliance with the requirements of international, State, and local laws and regulations, including the requirements of any regional and/or international fisheries management agreement. FAO CCRF (1995) 7.7.1 FAO Eco (2009) 28 FAO Eco (2011) 35
- Example of a clause (4.1) from the Science and Stock Assessment Activities, and the Precautionary Approach Key Component
 - **4. There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.** FAO CCRF (1995) 7.1.9, 7.4.4, 7.4.5, 7.4.6, 8.4.3, 12. FAO Eco (2009) 29.1–29.3 FAO Eco (2011) 36.1, 36.3–36.5, 37.4
 - 4.1 All significant fishery removals and mortality of the target species (shall be considered by management. Specifically, reliable and accurate data required for assessing the status of fishery(ies) and ecosystems—including data on retained catch, bycatch, discards, and waste—shall be collected. Data can include relevant traditional, fisher, or community knowledge, provided their validity can be objectively verified. These data shall be collected, at an appropriate time and level of aggregation, by relevant management organizations connected with the fishery, and provided to relevant States regional, and international fisheries organizations. FAO CCRF (1995) 7.3.1, 7.4.6, 7.4.7, 12.4 FAO Eco (2009) 29.1–29.3 FAO Eco (2011) 36.1, 36.3, 36.4

These are 2 examples of Clauses for two Key Components. The references following the statements (FAO CCRF (1995)) are documents where the best practices and guidance are found. Guidance for scoring 1.1 and 4.1 are found in the RFM V2.0 Guidance document found on the website.



Slide 9

Example MSC Performance Indicators (PI)

- Examples from Principle 1
 - PI 1.1.1 The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing
 - PI 1.2.1 There is a robust and precautionary harvest strategy in place
 - PI 1.3.1 Enhancement activities do not negatively impact wild stocks or substitute for a stock rebuilding strategy
- Examples from Principle 2
 - PI 2.1.1 The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species
 - PI 2.2.1 The fishery and its enhancement activities do not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups
 - PI 2.3.1 The fishery meets national and international requirements for the protection of ETP species. The fishery and its enhancement activities do not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.
- Examples from Principle 3
 - PI 3.1.1 The management system exists within an appropriate legal and/or customary framework which ensures that it: Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and Incorporates an appropriate dispute resolution framework.
 - PI 3.2.1 The fishery and its enhancement activities have clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2

These are examples of Performance Indicators from the 2013 Alaska salmon fishery assessment. The assessment used an older version than 2.0 but is very similar. Note that there are general categories within each principle, i.e., 1.1, 1.2, 1.3. I chose to list the 1st from each category.



Slide 10

RFM Scoring

- Guidance is provided for scoring the Clauses through the use of Evaluation Parameters (EPs). There are 3 EPs for each clause.
 - Process
 - Current Status/Appropriateness/Effectiveness
 - Evidence Basis
- There are 10 points associated with each Clause. Each time an EP is not met, 3 points are subtracted and an Evaluation Outcome determined as follows:

As I mentioned, guidance for scoring is provided. For each clause, there are 3 Evaluation Parameters. The EPs are: Process, Current Status/Appropriateness/Effectiveness and Evidence Basis. An explanation of the EPs is in the guidance document.



Slide 11

RFM Scoring Outcomes

| Outcome | Score | Definition |
|--------------------------|-------|---------------------------------|
| Full Conformance | 10 | All requirements met |
| Minor Non-Conformance | 7 | Minor gap in information |
| Major Non-Conformance | 4 | Major gap in information |
| Critical Non-Conformance | 1 | Complete absence of information |

During an assessment, each clause is evaluated to determine its “Conformance Level”. There are four levels, Full Conformance, Minor Non-Conformance, Major Non-Conformance and Critical Non-Conformance. Evaluation of the EP is used to determine the level.



Slide 12

Fishery Failure Thresholds

| Key Component | # of clauses | Maximum # of non-conformances allowed per category | | |
|---|--------------|---|---|--|
| | | Critical | Major | Minor |
| Fishery Management System | 30 | No Critical Non-conformance is allowed within the overall assessment, or in any Key Component; 1 Critical Non-conformance = Fail | 1 Major Non-conformance per Key Component, if no Minor Non-conformance is assigned. | 3 Minor Non-conformances allowed per Key Component, if no Major Non-conformance is assigned. |
| Science and Stock Assessment Activities, and the Precautionary Approach | 30 | | | |
| Management Measures, Implementation, Monitoring and Control | 30 | | | |
| Serious Impacts of the Fishery on the Ecosystem | 35 | | | |
| Total | 125 | No Critical Non-conformance allowed. | Up to 4 Major Non-conformances (provided that there is no more than 1 Major Non-conformance per Key Component and no Minor Non-compliances) | Up to 12 Minor Non-compliances (provided that there are no Major Non-compliances in the same Key Component and no more than 3 Minor Non-conformances in any one Key Component) |

At some point a fishery may fail the assessment. This table identifies the levels for failure. Note that no Critical Non-conformances are permitted. The Certifying body will identify the Major and Minor Non-Conformances and the Client will develop an Action Plan to remedy them.

Slide 13

MSC Scoring of PIs

- Scoring Guideposts
 - Each PI has Scoring Guideposts (SG) that provide criteria for assigning a numerical score
 - Each PI must meet a minimum score of 60 otherwise the assessment fails
- Example for PI 1.1.1
 - SG 60 It is likely that the wild stock is above the point where recruitment would be impaired or fishery impacts are so small as to have no significant effect on the stock
 - SG 80 It is highly likely that the wild stock is above the point where recruitment would be impaired or fishery impacts are so small as to have no significant effect on the stock status
 - SG 100 a There is a high degree of certainty that the wild stock is above the point where recruitment would be impaired or fishery impacts are so small as to have no significant effect on the stock status
 - SG 100 b There is a high degree of certainty that the wild stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years.

If a score is less than 60, the assessment fails.

Each of the Performance Indicators is numerically evaluated through the use of Scoring Guideposts (SG). The Certifying Body's Assessment Team evaluates evidence to arrive at a score for the PI. The SGs outline what is expected of a higher score. Note that the SG 60 "it is likely" compared to what the SG100 states "there is a high degree of certainty".



Slide 14

MSC Conditions

- A passing score is 80 or above
- Any score less than 80 results in a condition

If a PI receives a score below 60, the assessment is stopped. If it receives a score between 60 and 80, it receives a Condition.



Slide 15

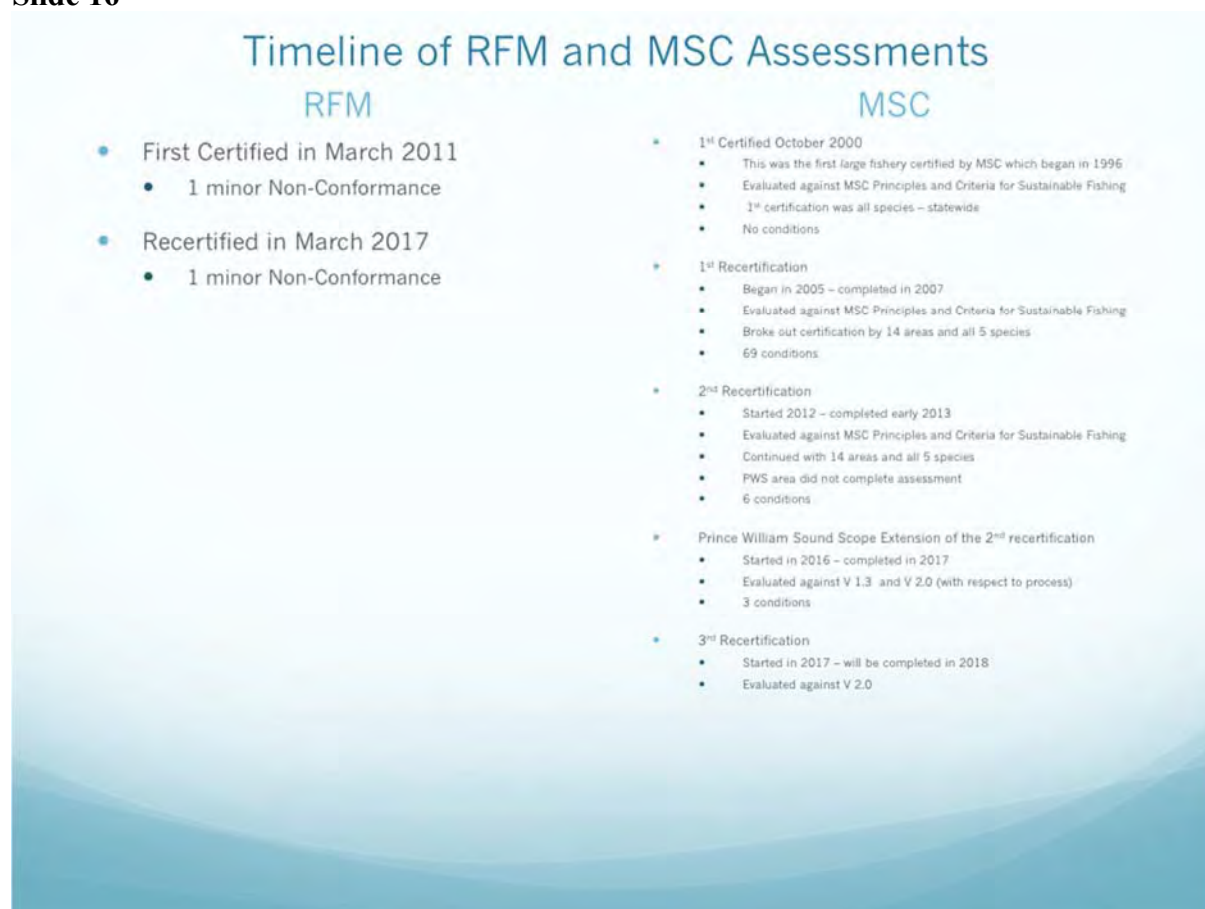
Peer Review

- A peer review is required before the assessment is released to the public for both RFM and MSC.

Finally, a peer review is required prior to the assessment being released to the public.



Slide 16



This is of assessment activity for the Alaska salmon fishery for both RFM and MSC. RFM was begun in part to provide a choice for certification processes.

The 1st MSC Assessment was in 2000, shortly after MSC was founded in 1996 by the World Wide Fund for Nature (WWF) and Unilever. In the beginning, ADF&G was the Client. That lasted through the first recertification in 2007 after which there were other Clients. During the 2nd recertification, PWS was not included in the final primarily due to a lack of data for the evaluation of enhancement. The present Client, PSPA, requested a “Scope Extension” and provided data collected by the Hatchery Wild Interaction Study. The 3rd recertification is in progress and will be completed in 2018.



Slide 17

Outcomes of Certifications

RFM

- During the 1st Surveillance audit of the original certification, One Minor Non-conformance was issued relative to stray rates of pink and chum salmon in PWS and SEAK.
 - ADF&G provided an Action Plan detailing plans for the Hatchery Wild Interaction Study
 - The elements of the Action Plan were satisfied in 2nd, 3rd and 4th Surveillance Audits
- During the 1st Recertification, a Minor Non-conformance was issued concerning a subclause; *With due regard to the assessment approach employed, stock assessment of fisheries that are enhanced through aquaculture inputs shall consider the separate contribution from aquaculture and natural production.*
 - AFDF and the Kodiak Regional Aquaculture Association provided an Action Plan

MSC

- Of the 6 conditions listed in the 2nd Recertification, 5 related to enhancement concerns
- 3 conditions have been closed
- All 3 conditions in the PWS Scope Extension Certification relate to enhancement concerns
- The conditions are all related to large scale pink and chum enhancement projects;
 - SEAK chum salmon
 - PWS pink and chum salmon
 - Kodiak pink and chum salmon

The RFM assessments have issued 2 Minor Non-Conformances, one during the 1st Surveillance Audit of the original certification and the 2nd during the 1st Recertification. Both concerned enhancement activities. The 1st Minor Non-Conformance was remedied with the initiation of the Hatchery Wild Interaction study. The 2nd Minor Non-Conformance is currently in effect with an Action Plan.

There were 6 conditions associated with the 2nd Recertification. Of those, 3 have been closed. The Scope Extension for PWS resulted in another 3 conditions. All of the remaining conditions relate to large scale pink and chum enhancement in SEAK, PWS and Kodiak.



Slide 18

Remedies for the RFM Non-conformances and MSC Conditions

RFM

- There is an Action Plan by AFDF and the Kodiak Regional Aquaculture Association to mark pink and chum salmon at the Kitoi facility and subsequently assess stray rates.

MSC

- The remedies for all of the conditions relate to the findings of the Hatchery Wild Interaction Study
- There is also a plan for PSPA and the Kodiak Regional Aquaculture Association to mark pink and chum at the Kitoi facility and subsequently assess stray rates.

All of the Non-Conformances and conditions issued by the RFM and MSC Assessment Teams relate to large scale pink and chum enhancement. In short, the Assessment Teams are awaiting results from the Hatchery Wild Interaction study. As was said in the introduction, the purpose of Certification is not for the Assessment Teams/Process to provide advice. If a Non-Conformance or Condition is in place, it is up to the Client and whatever party (ADF&G, enhancement facility operator) may be involved to find a solution with respect to the problem. In the case of the Kitoi facility, assessing stray rates and determining the enhanced proportion of the harvest can best, and likely only, be accomplished through the use of marking.



Slide 19

MSC Enhancement outcome requirements

- Principle 1:
It is highly likely that the enhancement activities do not have significant negative impacts on the local adaptation, reproductive performance or productivity and diversity of wild stocks.
- Principle 2:
The enhancement activities do not hinder recovery of ETP species.
 - The enhancement activities do not have adverse impacts on habitat (water quality, access to spawning grounds, stream quality).
 - Enhancement activities do not cause serious or irreversible harm to the key elements underlying ecosystem structure and function

At a presentation in 2015, MSC summarized the outcome requirements for salmon enhancement. In Alaska, Principle 1 is the concern of the Assessment as there are no ETP species (Endangered, Threatened or Protected).



Slide 20

Prince William Sound Conditions from 2017

| No. | Condition | PI |
|-----|---|-------|
| 1 | Demonstrate a high likelihood that the enhancement activities do not have significant negative impacts on the local adaptation, reproductive performance and productivity or diversity of wild stocks based on low hatchery contributions and/or impact on wild fitness. | 1.3.1 |
| 2 | Demonstrate an objective basis for confidence that the enhancement strategy is effective for protecting wild stocks from significant detrimental impacts based on evidence that the strategy is achieving the outcome metrics used to define the minimum detrimental impacts. | 1.3.2 |
| 3 | Provide information on the contribution of enhanced fish to the wild escapement of Pink and Chum Salmon, and relative fitness of hatchery-origin fish sufficient to evaluate the effect of enhancement activities on wild stock status, productivity and diversity. | 1.3.3 |

These are the conditions listed in the PWS Scope Extension. The bottom line is that the determination is not linked only to straying but rather to an evaluation of all possible significant detrimental impacts. It is interesting to note that MSC chose to specifically identify the fisheries for which information is to be provided that there are no significant detrimental impacts while the RFM process is awaiting the outcome of the study without specifically identifying the fisheries.



Slide 21

Conclusions

- The Alaska seafood industry needs 3rd Party certifications to market their products
- The 3rd Party produces an independent comprehensive review and assessment of the Alaska salmon fishery by a team of experts
- A certification program that is built from FAO best practices and guidelines provides a rigorous framework that is less sensitive to unreasonable demands
- Ultimately, certifications must collaborate with scientific, industry, NGO, academic and management communities and the public
- The Hatchery Wild Interaction Study will provide the data and analysis necessary to evaluate any negative impacts from enhancement on wild stocks

Third party certifications are needed for the Alaska seafood industry to source its products worldwide. But more importantly, the certification process results in an independent expert review and assessment of fishery management.

FAO led the way in developing best practices and guidelines for sustainable fisheries and is the best basis from which to develop assessment programs. The certification process is more than just having an Assessment team review the fishery. It must involve the scientific, industry, NGO, academic and management communities in a transparent process with the public.

Finally, the results of the Hatchery Wild Interaction Study are expected to provide the necessary information for the analysis of any negative impacts of enhanced fish on wild stocks.



ALASKA RESPONSIBLE FISHERIES MANAGEMENT CERTIFICATION

Full Assessment and Certification Report

For The

US Alaska Salmon Commercial Fisheries

Facilitated By the

Alaska Fisheries Development Foundation

Assessors:

Ivan Mateo, Lead Assessor
Brian Allee, Assessor
Marc Johnson, Assessor
Scott Marshall, Assessor

Report Code:

AK/SAL/002/2016

Date:

9th March 2017

Global Trust Certification Ltd.

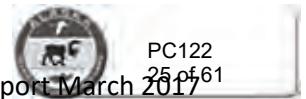
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Foreword

The Alaska Responsible Fisheries Management (RFM) Standard Version 1.3 is composed of Conformance Criteria and is based on the 1995 FAO Code of Conduct for Responsible Fisheries and the FAO Guidelines for the Eco-labelling of Fish and Fishery Products from Marine Capture Fisheries adopted in 2005 and amended/extended in 2009. The Standard also includes full reference to the 2011 FAO Guidelines for the Eco-labelling of Fish and Fishery Products from Inland Fisheries which in turn are now supported by a suite of guidelines and support documents published by the UN FAO. Further information on the Alaska RFM program may be found [here](#).



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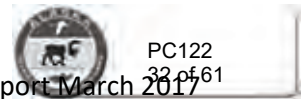


Acronyms

| | |
|-------|---|
| ABC | Allowable Biological Catch |
| AC | Advisory Committee |
| ACC | Alaska Administrative Code |
| ADFG | Alaska Department of Fish and Game |
| AFA | American Fisheries Act |
| AFDF | Alaska Fisheries Development Foundation |
| AFSC | Alaska Fisheries Science Center |
| AS | Alaska Statue |
| ASMI | Alaska Seafood Marketing Institute |
| AWT | Alaska Wildlife Troopers |
| AYK | Arctic Yukon Kuskokwim |
| BC | British Columbia |
| BEG | Biological Escapement Goal |
| BOF | Board of Fisheries |
| BSAI | Bering Sea and Aleutian Islands |
| CCRF | Code of Conduct for Responsible Fisheries |
| CIAA | Cooke Inlet Aquaculture Association |
| CMA | Chignik Management Area |
| CDQ | Community Development Quota |
| CFEC | Commercial Fisheries Entry Commission |
| COAR | Commercial Operators Annual Report |
| CPUE | Catch per Unit Effort |
| CWCS | Comprehensive Wildlife Conservation Strategy |
| CWT | Coded Wire Tags |
| DEC | Department of Environmental Conservation |
| DIPAC | Douglas Island Pink and Chum Inc. |
| EIS | Environmental Impact Statement |
| EEZ | Exclusive Economic Zone |
| EFH | Essential Fish Habitat |
| ESA | Endangered Species Act |
| FAO | Food and Agriculture Organization of the United Nations |
| FDA | Food Drugs Administration |
| FMP | Fishery Management Plan |
| FSB | Federal Subsistence Board |
| GOA | Gulf of Alaska |
| GHL | Guideline Harvest Level |
| HAPC | Habitat Area of Particular Concern |
| HCD | Habitat Conservation Division |
| IFQ | Individual Fishing Quota |
| IJC | International Joint Commission |
| IMS | Institute of Marine Sciences |
| IRFA | Initial Regulatory Flexibility Analysis |
| IRIU | Improved Retention/Improved Utilization |
| IUCN | International Union of Conservation of Nature |
| KMA | Kodiak Management Area |
| KRAA | Kodiak Regional Aquaculture Association |
| KSMSC | Kodiak Seafood and Marine Science Centre |
| LCI | Lower Cooke Inlet |
| LLP | License Limitation Program |
| LOF | List of Fisheries |
| ISO | International Organization for Standardization |
| MMPA | Marine Mammal Protection Act |



| | |
|--------|--|
| MOU | Memorandum of Understanding |
| MSFCMA | Magnuson-Stevens Fisheries Management and Conservation Act |
| MT | Metric tons |
| MSY | Maximum Sustainable Yield |
| Ne | Effective Population |
| NEPA | National Environmental Policy Act |
| NGO | Non-governmental Organization |
| nm | Nautical miles |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NPFMC | North Pacific Fishery Management Council |
| NPRB | North Pacific Research Board |
| NRSEAA | Northern Southeast Aquaculture Association |
| OEG | Optimal Escapement Goal |
| OFL | Overfishing Level |
| OLE | Office for Law Enforcement |
| OY | Optimum Yield |
| PAR | Permit Alteration Request |
| PNP | Private Non Profit |
| PSMFC | Pacific States Marine Fisheries Commission |
| PSC | Pacific Salmon Commission |
| PSC | Prohibited Species Catch |
| PWS | Prince William Sound |
| PWSAC | Prince William Sound Aquaculture Center |
| PWSS | Prince William Sound Science Center |
| RAC | Regional Advisory Council |
| RACE | Resource Assessment and Conservation Engineering |
| REFM | Resource Ecology and Fisheries Management |
| RFM | Responsible Fisheries Management |
| SAFE | Stock Assessment and Fishery Evaluation (Report) |
| SEAK | Southeast Alaska |
| SEG | Sustainable Escapement Goal |
| SET | Sustained Escapement Threshold |
| SSC | Scientific and Statistical Committee |
| SSL | Steller Sea Lion |
| SSSC | Sitka Sound Science Center |
| TAC | Total Allowable Catch |
| UCI | Upper Cook Inlet |
| USCG | U.S. Coast Guard |
| USDA | US Department of Agriculture |
| USFWS | US Fish and Wildlife |
| VFDA | Valdes Fisheries Development Association |
| YRP | Yukon River Panel |



i. Summary and Recommendations

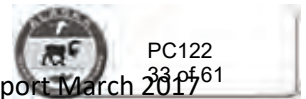
This is the Reassessment Report (ref AK/Sal/002./2016) for the US Alaska Salmon Commercial Fisheries following original certification in March 11th 2011.

The United States Alaska commercial salmon [all Pacific salmon species: Chinook *Oncorhynchus tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *Oncorhynchus gorbuscha*, and chum *O. keta*] fisheries, employ troll, purse seine, drift gillnet, beach seine, set gillnet and fish wheel (Upper Yukon River only) gear in the four administrative Regions of Alaska that are principally managed by the Alaska Department of Fish and Game (ADFG). While certification covers the entire Alaska Exclusive Economic Zone (EEZ), most of the harvest is taken in the internal waters (0-3 nautical miles, and other enclosed waters) of the state of Alaska.

The reassessment was conducted according to the Global Trust procedures for Alaska RFM V1.3.

The assessment was conducted by a team of Global Trust appointed Assessors comprising of three externally contracted fishery experts and Global Trust internal staff (Appendix 1).

The Assessment Team recommends that the salmon fisheries reviewed be awarded continuing certification by the Alaska Responsible Fisheries Management Certification Program (Section 6 Assessment Outcome Summary).



ii. Schedule of Key Reassessment Activities

| Assessment Activities | Date(s) |
|--|---|
| Appointment of Reassessment Team | March 14 th 2016 |
| On-site Witnessed Reassessment and Consultation Meetings | April 11 th – 18 th 2016 |
| Draft Reassessment Report | July 25 th 2016 |
| Client Corrective Action Plan and Acceptance | December 9 th 2016 |
| External Peer Review | January 2 nd – 9 th 2017 |
| Stakeholder Consultation | January 21 st – February 21 st 2017 |
| Final Reassessment Report | February 22 nd 2017 |
| Certification Review/Decision | February 27 th 2017 |

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1. Introduction

The US Alaska Commercial Salmon Fisheries, employing troll, purse seine, beach seine, drift gillnet, set gillnet (and fish wheel in Upper Yukon River only) gear, in the four administrative Regions of Alaska, was assessed against the requirements of the Alaska Responsible Fisheries Management (AFM) Certification Program.

The request for reassessment was made by the Alaska Fisheries Development Foundation (AFDF) on behalf of the Alaska commercial salmon fisheries and participants, and was conducted by Global Trust Certification Ltd.

This reassessment report documents the procedure for the continuing certification of commercially exploited Alaska salmon under the Alaska RFM Certification Program. This is a voluntary program for Alaska fisheries developed by the Alaska Seafood Marketing Institute (ASMI) to provide an independent, third-party verification that Alaska fisheries are responsibly managed according to the FAO Code of Conduct for Responsible Fisheries.

The reassessment was conducted in accordance to Global Trust accredited procedures for V1.3 of the Standard. The Standard is accredited in accordance with ISO/IEC 17065: Requirements for bodies certifying products, processes and services. It is also benchmarked against GSSI.

The reassessment is based on the criteria specified in the Food and Agriculture Organization of the United Nations (FAO) Code of Conduct for Responsible Fisheries (1995) and the minimum criteria set out for marine fisheries in the FAO Guidelines for the Eco-Labeling of Fish and Fishery Products from Marine Capture Fisheries (2005/2009), hereafter generally referred to as the FAO Criteria.

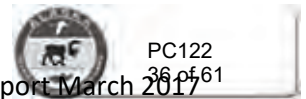
The reassessment is based on 6 major components of responsible management that are derived from the FAO Code of Conduct for Responsible Fisheries and Guidelines for the Eco-labelling of products from marine capture fisheries.

- A The Fisheries Management System
- B Science and Stock Assessment Activities
- C The Precautionary Approach
- D Management Measures
- E Implementation, Monitoring and Control
- F Serious Impacts of the Fishery on the Ecosystem

These six major components are supported by 13 fundamental clauses, which in turn are sustained by 124 sub-clauses. Collectively, these form the Alaska RFM Standard against which a fishery applying for certification is assessed. The reassessment was comprised of planning, onsite audits, certification reporting, peer review, and a Certification Committee review. Five site visits were made to the fishery during the reassessment. At various stages in the reassessment process, information pertaining to the step in the process was posted on the ASMI website¹. A summary of the consultation meetings is presented in section 5 in this report. Assessors are external contracted fishery consultants and Global Trust internal staff (Appendix 1). Peer Reviewers are external contracted fisheries consultants (Appendix 2).

This report documents each step in the reassessment process and recommendations made to the Certification Committee of Global Trust, who will make the certification decision according to the requirements of ISO/IEC Guide 65 accredited certification.

¹ <http://www.alaskaseafood.org/rfm-certification/certified-fisheries-companies/certified-fisheries>



1.1 Recommendations of the Assessment Team

Following approval of the client's action plan to address the minor non-conformance found on sub clause 13.4 during this reassessment, the Assessment Team recommends continuing certification under the AK RFM Certification Program for, US Alaska Commercial Salmon Fisheries, under federal National Marine Fisheries Service (NMFS) and North Pacific Fishery Management Council (NPFMC) and state of Alaska Department of Fish and Game (ADFG) and Board of Fisheries (BOF) management, fished by the directed fisheries with troll, purse seine, beach seine, drift gillnet, set gillnet, and, in the upper Yukon River, fish wheel gear, in the four administrative Regions of Alaska and within Alaska's 200 nm EEZ.

INTERTEK MOODY MARINE

November 2013

Ref: 82540

Alaska Salmon Fishery

PUBLIC CERTIFICATION REPORT

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Glossary of Acronyms

| | |
|--------|---|
| ADF&G | Alaska Department of Fish and Game |
| AK | State of Alaska |
| AMMOP | Alaska Marine Mammal Observer Program |
| ANS | Amounts necessary for subsistence |
| AYK | Arctic-Yukon-Kuskokwim (Region) |
| BEG | Biological escapement goal |
| BOF | Board of Fisheries |
| CIAA | Cook Inlet Aquaculture Association |
| CITES | Convention on International Trade in Endangered Species |
| CMA | Chignik Management Area |
| CPF | Common property fishery |
| CWT | Coded-wire tag |
| ESA | Endangered Species Act |
| GSI | Genetic stock identification |
| IMEG | Interim management escapement goal |
| IMM | Intertek Moody Marine |
| IPI | Inseparable / Practically Inseparable |
| ISBF | Introduced species based fisheries |
| KMA | Kuskokwim Management Area |
| LCI | Lower Cook Inlet |
| LRP | Limit reference point |
| MBA | Migratory Bird Act |
| MMPA | Marine Mammal Protection Act |
| MSC | Marine Stewardship Council |
| MSY | Maximum sustainable yield |
| NGO | Non-governmental organisation |
| NMFS | National Marine Fisheries Service |
| NSEDC | Norton Sound Economic Development Corporation |
| NSI | Northern Southeast Inside |
| PBR | Potential Biological Removal |
| PI | Performance Indicator |
| PSC | Pacific Salmon Commission |
| PST | Pacific Salmon Treaty |
| PSVOA | Purse Seine Vessel Owners' Association |
| PWS | Prince William Sound |
| PWSAC | Prince William Sound Aquaculture Corporation |
| SEAK | Southeast Alaska |
| SEG | Sustainable escapement goal |
| SG | Scoring Guidepost |
| SI | Scoring Issue |
| SOC | Stock of concern |
| SRA | Spawner-recruit analysis |
| TAC | Total allowable catch |
| TRP | Target reference point |
| UCI | Upper Cook Inlet |
| UoC | Unit of Certification |
| USFWS | United States Fish and Wildlife Service |
| WASSIP | Western Alaska Salmon Stock Identification Program |
| WWF | World Wildlife Fund |
| YMA | Yukon Management Area |

1 Executive Summary

The Alaska salmon fishery has been certified twice previously, first in 2000 and then again in 2007. The client for this third assessment is the Purse Seine Vessel Owners' Association (PSVOA). This Public Certification Report now presents the final results of this assessment of the Alaska salmon fishery against the Marine Stewardship Council (MSC) Principles and Criteria for Sustainable Fishing. Peer review, public consultation and final determination stages of review have been undertaken, and the 13 Units of Certification (UoCs) that progressed through the assessment process are now certified. The Prince William Sound UoC has not progressed and remains in assessment.

The Alaska salmon fishery targets five Pacific salmon species (Chinook – *Oncorhynchus tshawytscha*, sockeye – *Oncorhynchus nerka*, pink – *Oncorhynchus gorbuscha*, chum – *Oncorhynchus keta* and coho – *Oncorhynchus kisutch*). All five species are anadromous, spawning and hatching in freshwater but living and feeding in the ocean, before heading back to freshwater to repeat the spawning and hatching cycle. Pink salmon is the smallest but most numerous species, and Chinook salmon is the largest but least numerous species. All five species that occur in Alaska have strong commercial markets and varying levels of subsistence, personal use, and sport fishing importance.

Six separate gear types are utilized in the Alaska salmon fishery; these are purse seine, drift gillnet, set gillnet, troll, beach seine (Yukon River, Kodiak, Alaska Peninsula), and fishwheel (Yukon River), and these are used variously within 14 separate Units of Certification (UoC).

Table ES1: Units of Certification within the Alaska salmon fishery (target species are shaded grey).

| Unit | Regulatory Area | Gear types | Target Species | | | | |
|------|---------------------------------------|--|----------------|---------|------|------|------|
| | | | Sockeye | Chinook | Coho | Pink | Chum |
| 1 | Southeast | Purse seine, drift gillnet, troll | | | | | |
| 2 | Yakutat | Set gillnet, troll | | | | | |
| 3 | Prince William Sound | Purse seine, drift gillnet, set gillnet | | | | | |
| 4 | Copper/Bering Districts | Drift gillnet | | | | | |
| 5 | Lower Cook Inlet | Purse seine, set gillnet | | | | | |
| 6 | Upper Cook Inlet | Drift gillnet, set gillnet | | | | | |
| 7 | Bristol Bay | Drift gillnet, set gillnet | | | | | |
| 8 | Yukon River | Beach seine, drift gillnet, set gillnet, fish wheel | | | | | |
| 9 | Kuskokwim | Drift gillnet, set gillnet | | | | | |
| 10 | Kotzebue | Set gillnet | | | | | |
| 11 | Norton Sound | Set gillnet | | | | | |
| 12 | Kodiak | Purse seine, beach seine, set gillnet | | | | | |
| 13 | Chignik | Purse seine | | | | | |
| 14 | Peninsula/Aleutian Islands ("Area M") | Purse seine, beach seine, drift gillnet, set gillnet | | | | | |

The 14 UoCs are listed in the table above, and are based on Management Areas contained within the four Alaska Management Regions – Southeast Region (Southeast and Yakutat UoCs), Central Region (Prince William Sound, Copper/Bering Districts, Lower Cook Inlet, Upper Cook Inlet and Bristol Bay UoCs), Arctic-Yukon-Kuskokwim Region (Yukon River, Kuskokwim, Kotzebue and Norton Sound UoCs) and Westward Region (Kodiak, Chignik, and Peninsula/Aleutian Islands [Area M] UoCs). There is no commercial harvest of salmon in the Northern Management Area of the Arctic-Yukon-Kuskokwim Region (i.e., north of Kotzebue), and this Management Area is therefore not included as a UoC.

This reassessment of the Alaska salmon fishery was undertaken by Dr. Greg Ruggerone, Dr. Dana Schmidt and Professor Jim Seeb, who covered Principle 1 (target stock), Principle 2 (environment) and Principle 3 (management) components of the MSC Standard across the different UoCs. Site visits to Seattle, Washington (18-19 October 2012) and then to Anchorage, Alaska (22-23 October 2012) were undertaken in order to meet with scientists, fishery managers and stakeholders, as well as with representatives of the PSVOA. During the days that the team was convened, opportunities to meet with the team were provided for all stakeholders who expressed such a desire.

An important aspect of the Alaska salmon fishery is that a significant proportion of the harvest in some UoCs is made up of hatchery-reared fish. The ‘hatch and catch’ rearing system is intended to supplement, not supplant, the wild stock production, and takes advantage of the natural homing instinct of Pacific salmon that typically bring them back to their natal rivers to spawn after the marine feeding phase. Although the first Alaska hatcheries were established in the 1890s, a major expansion in salmon aquaculture research and production began in the 1970s, and hatchery returns in some areas now comprise a significant proportion of the total harvests.

Key strengths of the Alaska salmon fishery include the long period of time over which catch and escapement data have been collected, the strong management focus on achieving sustainable escapements of wild salmon, Alaska’s relatively pristine habitats, and the knowledge and experience of the staff of the Alaska Department of Fish and Game (ADF&G).

The assessment results show that 13 of the 14 UoCs meet the MSC standard with generally high overall scores. As such, these 13 UoCs are certified according to the MSC standard as being sustainable. At the present time, the assessment team considers that additional information is needed in order to conduct the assessment of the Prince William Sound (PWS) UoC, and so the PWS UoC remains in assessment. Summary scores for each of the UoCs are provided in Table 2, below.

Table ES2: Summary table showing final Principle level scores

| Unit of Certification | | Principle | Score | Pass? |
|-----------------------|-------------------------|------------------------|-------|---------------------|
| 1 | Southeast Alaska | P1 - Target Species | 80.7 | Yes |
| | | P2 - Ecosystem | 81.0 | |
| | | P3 - Management System | 91.5 | |
| 2 | Yakutat | P1 - Target Species | 97.1 | Yes |
| | | P2 - Ecosystem | 83.7 | |
| | | P3 - Management System | 96.5 | |
| 3 | Prince William Sound | P1 - Target Species | - | Still in assessment |
| | | P2 - Ecosystem | - | |
| | | P3 - Management System | - | |
| 4 | Copper/Bering Districts | P1 - Target Species | 82.4 | Yes |
| | | P2 - Ecosystem | 85.7 | |
| | | P3 - Management System | 91.5 | |

| | | | | |
|----|----------------------------|------------------------|------|-----|
| 5 | Lower Cook Inlet | P1 - Target Species | 91.0 | Yes |
| | | P2 - Ecosystem | 86.0 | |
| | | P3 - Management System | 89.5 | |
| 6 | Upper Cook Inlet | P1 - Target Species | 94.3 | Yes |
| | | P2 - Ecosystem | 85.7 | |
| | | P3 - Management System | 91.5 | |
| 7 | Bristol Bay | P1 - Target Species | 98.9 | Yes |
| | | P2 - Ecosystem | 87.3 | |
| | | P3 - Management System | 96.5 | |
| 8 | Yukon River | P1 - Target Species | 91.7 | Yes |
| | | P2 - Ecosystem | 87.3 | |
| | | P3 - Management System | 96.5 | |
| 9 | Kuskokwim | P1 - Target Species | 91.2 | Yes |
| | | P2 - Ecosystem | 87.3 | |
| | | P3 - Management System | 96.5 | |
| 10 | Kotzebue | P1 - Target Species | 88.3 | Yes |
| | | P2 - Ecosystem | 87.7 | |
| | | P3 - Management System | 96.5 | |
| 11 | Norton Sound | P1 - Target Species | 84.2 | Yes |
| | | P2 - Ecosystem | 87.3 | |
| | | P3 - Management System | 96.5 | |
| 12 | Kodiak | P1 - Target Species | 82.5 | Yes |
| | | P2 - Ecosystem | 85.3 | |
| | | P3 - Management System | 91.5 | |
| 13 | Chignik | P1 - Target Species | 87.1 | Yes |
| | | P2 - Ecosystem | 87.7 | |
| | | P3 - Management System | 96.5 | |
| 14 | Peninsula/Aleutian Islands | P1 - Target Species | 97.4 | Yes |
| | | P2 - Ecosystem | 87.3 | |
| | | P3 - Management System | 96.5 | |

Six conditions of certification were placed on the fishery across the 13 UoCs that are now certified. In recognition of their interlinked nature and in order to minimise repetition, the text of a number of conditions was drafted to address deficiencies identified across two or more PIs.

It should be noted that the timeline for Condition 1 extends the period of time available for meeting this condition to beyond the period of the certification, due to 'exceptional circumstances' (CR 27.11.8, MSC 2013a). In this case, the exceptional circumstances relate to the life cycle of chum salmon, and therefore to the time taken for data to be collected and made available for the study, as detailed in the Condition.

The Conditions are summarised as follows:

Condition 1: (UoC = 1, SEAK; Performance Indicator = 1.3.1)

By the end of 2023, the SG 80 scoring requirements must be met in full. This will be achieved when it has been demonstrated that:

- a) (PI 1.3.1, SG80a) It is highly likely that the chum salmon enhancement activities in SEAK do not have significant negative impacts on the local adaptation, reproductive performance and productivity or diversity of wild chum stocks.

Condition 2: (UoC = 1, SEAK; Performance Indicator = 1.3.2)

By the end of the fourth year of certification, the SG 80b scoring requirements must be met for chum salmon. This will be achieved when it has been demonstrated that:

- a) (PI 1.3.2, SG80b) There is some objective basis for confidence that the strategy is effective, based on evidence that the strategy is achieving the outcome metrics used to define the minimum detrimental impacts (e.g., related to verifying and achieving acceptable proportions of hatchery-origin fish in the natural spawning escapement).

Condition 3: (UoC = 1, SEAK; Performance Indicator = 1.3.3 and 2.5.2)

By the end of the fourth year of certification, the SG 80 scoring requirements for PI 1.3.3, and the SG80e scoring requirements for PI 2.5.2 must be met in full. This will be achieved when it has been demonstrated that:

- a) (PI 1.3.3, SG80a) Sufficient relevant information is available on the contribution of enhanced Chinook, coho, pink and chum salmon to the harvest and wild escapement of the stocks.
- b) (PI 1.3.3, SG80b) The assessment includes estimates of the impacts of enhancement activities on wild stock status, productivity and diversity.
- c) (PI 2.5.2, SG80e) There is a tested and evaluated artificial production strategy, if necessary, with sufficient monitoring in place and evidence is available to reasonably ensure with high likelihood that strategy is effective in achieving the SG 80 outcome.

Condition 4: (UoC = 5, Copper/Bering Districts; Performance Indicator = 1.3.1, 1.3.2 and 1.3.3)

By the end of the fourth year of certification, the SG 80 scoring requirements must be met in full. This will be achieved when it has been demonstrated that:

- a) (PI 1.3.1, SG80a) It is highly likely that the Gulkana hatchery enhancement activities do not have significant negative impacts on the local adaptation, reproductive performance and productivity or diversity of Copper/Bering District stocks of sockeye salmon,
- b) (PI 1.3.2, SG80b) There is some objective basis for confidence that the strategy is effective, based on evidence that the strategy is achieving the outcome metrics used to define the minimum detrimental impacts (e.g., related to verifying and achieving acceptable proportions of hatchery-origin fish in the natural spawning escapement),
- c) (PI 1.3.3, SG80a) Sufficient relevant information is available on the contribution of enhanced sockeye to the harvest and wild escapement of the wild sockeye stock, and
- d) (PI 1.3.3, SG80b) The assessment includes estimates of the impacts of enhancement activities on wild sockeye stock status, productivity and diversity.

Condition 5: (UoC = 12, Kodiak; Performance Indicators = 1.3.1, 1.3.3 and 2.5.2)

By the end of the 5th year of certification, the SG 80 scoring requirements for PI 1.3.1 and PI 1.3.3, and the SI 80e requirements for PI 2.5.2, must be met in full. With respect to the current hatchery programs at Pillar Creek and Kitoi Bay for Chinook, coho, pink and chum salmon, this will be achieved when it has been demonstrated that:

- a) (PI 1.3.1, SG80a) it is highly likely that the enhancement activities do not have significant negative impacts on the local adaptation, reproductive performance and productivity or diversity of wild stocks.
- b) (PI 1.3.3, SG80a) sufficient relevant information is available on the contribution of enhanced Chinook, coho, pink and chum salmon to the harvest and wild escapement of the stocks.

- c) (PI 1.3.3, SG80b) the assessment includes estimates of the impacts of enhancement activities on wild stock status, productivity and diversity.
- d) (PI 2.5.2, SG80e) there is a tested and evaluated artificial production strategy, if necessary, with sufficient monitoring in place and evidence is available to reasonably ensure with high likelihood that strategy is effective in achieving the SG 80 outcome.

Condition 6: (UoC = 13, Chignik; Performance Indicator = 1.1.2)

By the end of the fourth year of certification, the SG 80 scoring requirements must be met in full. This will be achieved when it has been demonstrated that:

- a) (PI 1.1.2, SG80a) Reference points are appropriate for the wild stock and can be estimated,
- b) (PI 1.1.2, SG80b) The limit reference point (e.g., lower end of the Sustainable Escapement Goal or equivalent) is set above the level at which there is an appreciable risk of impairing reproductive capacity,
- c) (PI 1.1.2, SG80c) The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome and,
- d) (PI 1.1.2, SG80e) Where the wild stock is a management unit comprised of more than one subcomponent, it is highly likely that the target and limit reference points are consistent with maintaining the inherent diversity and reproductive capacity of each stock subcomponent.

Authorship and Peer Reviewers

1.1 Assessment team

Nominations for the assessment team for this second reassessment were consulted on for 11 days from the 5th of July, 2012. Following the consultation, the assessment team was confirmed as the three salmon management and science experts listed below:

Dr. Greg Ruggerone

Greg has investigated population dynamics, ecology, and management of Pacific salmon in Alaska and the Pacific Northwest since 1979. He was the Project Leader of the Alaska Salmon Program, University of Washington, from the mid-1980s to early 1990s where he was responsible for conducting and guiding research at the Chignik and Bristol Bay field stations, preparing salmon forecasts, and evaluating salmon management issues. Most of his research involves factors that affect survival of salmon in freshwater and marine habitats, including climate shifts, habitat degradation, predator-prey interactions, and hatchery/wild salmon interactions. He is currently a member of the Columbia River Independent Scientific Advisory Board and the Independent Scientific Review Panel. He recently served as the fish ecologist on the Secretary of Interior review of dam removal on the Klamath River. During the past six years, he has evaluated salmon fisheries for sustainability using guidelines developed by the Marine Stewardship Council.

Dr. Dana Schmidt

Dana is a limnologist and quantitative fisheries biologist with 39 years of experience of which 18 were in Alaska and 14 in British Columbia. He is responsible for statistical design and analysis of many of Golder Associates Ltd. western North America fisheries and limnology studies and has directed numerous projects involving environmental assessment and investigations of population dynamics of species that are impacted by development. He spent 16 years with the ADF&G conducting fisheries research in Alaska lakes, streams, and marine habitat with much effort directed at numerous sockeye salmon lakes across Alaska. He directed stock assessment programs on all Pacific Salmon species in the westward region of Alaska during his tenure as regional research supervisor on Kodiak Island and principal limnologist for ADF&G's statewide limnology laboratory. He has been a senior reviewer of BC lake fertilization programs targeting kokanee and is currently reviewing limnological and fisheries data related to stock status on 16 Kodiak Island lakes and Chilkoot and Chilkat Lakes in Southeast Alaska. He has been recognized as the lead author of the "Most Significant Paper" in the North American Journal of Fisheries Management for his research on ecology of Karluk Lake sockeye salmon on Kodiak Island, Alaska and has authored over 50 publications and research reports on environmental impacts on aquatic systems and fisheries management. He has served as an assessment team member for the sockeye salmon component of the MSC BC salmon certification program since 2002 and the pink and chum salmon assessment programs since 2008, and is currently on the surveillance audit team for BC sockeye and pink salmon.

Professor Jim Seeb

Jim is a Research Professor at the School of Aquatic and Fishery Sciences at University of Washington. He is a principal in the Gordon and Betty Moore sponsored International Program for Study of Salmon Ecological Genetics. In his current research he uses DNA polymorphisms in Pacific salmon for study of the interaction of life history, ecology and genetics. He formerly was a senior scientist with the ADF&G where he was steward of the State's Genetics Policy and worked to interpret that and other policies to minimize the risks of hatchery/wild stock interactions.

1.2 Intertek Moody Marine assessors

In addition to the three experts who undertook the assessment, the lead assessor for the assessment was Dr. Rob Blyth-Skyrme, with technical support being provided to the assessment team by Dr. Andy Hough; their details are below:

Dr. Rob Blyth-Skyrme

Rob has worked in aquaculture and then in marine fisheries science, management and policy since 1996. Rob started his career in mariculture, before switching to a focus on wild fisheries. Following his PhD, he moved to Eastern Sea Fisheries Joint Committee, the largest inshore fisheries management organization in England, where he was the Environment Officer and then the Deputy Chief Officer. He then became a senior advisor to the UK Government on marine fisheries and environmental issues, leading a team dealing with fisheries policy, science and nationally significant fisheries and environmental casework. Rob has extensive experience of running and providing lead input to workshops and management fora at a national level, and has published a number of papers in peer-reviewed international journals. Rob now runs Ichthys Marine Ecological Consulting, a marine fisheries and environmental consultancy with offices in the UK and Hawaii, and has undertaken all facets of MSC work as a lead assessor and expert team member, including leading the assessment team that conducted the third audit in 2010 of the recertified Alaska salmon fishery, and supporting the team that conducted the fourth audit in 2011. Rob has been trained in the use of the MSC's risk-based framework.

Paul Knapman

Paul is a Lead Assessor/Auditor and is the General Manager for Intertek Moody Marine (IMM). He has extensive experience of the fishing industry in North America and Europe. He was previously Head of an inshore fisheries management organisation, a senior government advisor on fisheries and environmental issues, a fisheries officer and a fisheries consultant working in Europe and Canada.

1.3 Peer Reviews

Two suitably qualified experts were asked to conduct a peer review prior to the report proceeding to public consultation as a Public Comment Draft Report. Following a 10-day stakeholder consultation period, the following individuals were confirmed as peer reviewers:

Professor Milo Adkinson

Milo is a Professor in the Fisheries Division for the School of Fisheries and Ocean Sciences at the University of Alaska, Fairbanks. Current research interests and activities include: Pacific salmon management, especially forecasting methodologies, implications of climate fluctuations, early marine growth and survival, the economic viability of rural fishing communities; the application of decision analysis and bayesian statistics to resource management; selection methodologies for ecological, epidemiological and fisheries data series and conservation and dynamics of small populations.

Dr. Katherine W. Myers

Katherine is a fishery scientist with 35 years of experience in fishery biology, ecology, and management. For most of her career, Katherine conducted international cooperative high seas research on Pacific salmon and steelhead, including stock identification, catch, bycatch, and run-size estimation, tagging experiments, and investigations of distribution, abundance, migration, food habits, feeding ecology, bioenergetics, age and growth, competitive stock interactions, survival, and habitat and climate-change effects on fish production. She retired from the University of Washington, in December 2010, after 30 years of service as a Research Scientist. Currently, Katherine is a



Washington State advisor to the North Pacific Anadromous Fish Commission, a member of the Northwest Power and Conservation Council Fish and Wildlife Program's Independent Scientific Advisory Board, a member of the Scientific and Technical Committee of the Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative, and the Northwest Washington District Director of the American Institute of Fishery Research Biologists. Katherine has degrees in fishery sciences from the University of Washington (B.S.), Oregon State University (M.S.), and Hokkaido University (Ph.D.), and has authored or co-authored over 150 peer-reviewed scientific publications and technical reports.



MSC Public Certification Report
for
Alaska Salmon- Prince William Sound Scope Extension Assessment



MRAG Americas, Inc.

Amanda Stern-Pirlot, Ray Beamesderfer & Scott Marshall

May 12, 2017

CLIENT DETAILS:

Pacific Seafood Processors Association

MSC reference standards:

MSC Certification Requirements (CR) Version 1.3 (standard)

MSC Fishery Certification Requirements (FCR) Version 2.0 (process)



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1 Executive Summary

This Final Report and Determination sets out the results of the Marine Stewardship Council (MSC) assessment of the Prince William Sound (PWS) Salmon fisheries against the MSC Principles and Criteria for Sustainable Fishing. This evaluation has been undertaken by way of a “scope extension” to the currently certified Alaska Salmon fishery, comprising the remainder of the state’s Salmon fisheries. As such, only those components not held in common with the rest of the Alaska Salmon fishery have been evaluated, and the commensurate background sections revised. See IMM 2013 for the complete report on the components of the fishery that were not re-evaluated during the scope extension process. This report is incorporated herein by reference.

Intertek Moody Marine (IMM) was contracted in 2012 by the Purse Seine Vessel Owners Association (PSVOA) to undertake an MSC assessment of the Alaska Salmon fishery, which was subsequently certified in November, 2013. There were 14 Units of Certification (UoC) covered by that assessment, comprising all Salmon fisheries in the state of Alaska including those in PWS. However, the PWS unit did not complete the assessment at that time, and is therefore presently being assessed again via a scope extension to the valid AK Salmon certificate.

Table 1. Units of Certification covered by the currently valid Alaska Salmon MSC certificate (from IMM, 2013).

| Unit | Regulatory Area | Gear types | Target Species | | | | |
|------|----------------------------|--|----------------|---------|------|------|------|
| | | | Sockeye | Chinook | Coho | Pink | Chum |
| 1 | Southeast | Purse seine, drift gillnet, troll | | | | | |
| 2 | Yakutat | Set gillnet, troll | | | | | |
| 4 | Copper/Bering Districts | Drift gillnet | | | | | |
| 5 | Lower Cook Inlet | Purse seine, set gillnet | | | | | |
| 6 | Upper Cook Inlet | Drift gillnet, set gillnet | | | | | |
| 7 | Bristol Bay | Drift gillnet, set gillnet | | | | | |
| 8 | Yukon River | Beach seine, drift gillnet, set gillnet, fish wheel | | | | | |
| 9 | Kuskokwim | Drift gillnet, set gillnet | | | | | |
| 10 | Kotzebue | Set gillnet | | | | | |
| 11 | Norton Sound | Set gillnet | | | | | |
| 12 | Kodiak | Purse seine, beach seine, set gillnet | | | | | |
| 13 | Chignik | Purse seine | | | | | |
| 14 | Peninsula/Aleutian Islands | Purse seine, beach seine, drift gillnet, set gillnet | | | | | |

The assessment was undertaken in accordance with the MSC Certification Requirements (v. 1.2, January 10th, 2012) and using the MSC Guidance to MSC Certification Requirements (v. 1.0, August 15, 2011), which set out the assessment and certification process. In 2015, PSVOA transferred clientship for the Alaska Salmon fishery to the Pacific Seafood Processors Association (PSPA), and PSPA requested that Intertek Fisheries Certification (formerly IMM) transfer the Alaska Salmon MSC certificate to MRAG Americas, in order that MRAG Americas could undertake the remaining surveillance audits. It was decided in 2016 that PSPA would also contract MRAG Americas to conduct



an assessment of the PWS Salmon fisheries by way of a scope extension to the certification for the rest of the state of Alaska.

The scope extension process adds one additional Unit of Certification to the fishery, as follows:

| Unit | Regulatory Area | Gear types | Target Species | | | | |
|------|----------------------|---|----------------|-----------------|-----------------|------|------|
| | | | Sockeye | Chinook | Coho | Pink | Chum |
| 3 | Prince William Sound | Purse seine, drift gillnet, set gillnet | | Covered via IPI | Covered via IPI | | |

The following steps have been undertaken as part of the scope extension process:

- A Gap Analysis per FCR 7.22.4 to confirm which assessment components are the same and different to the certified Alaska Salmon fishery (https://fisheries.msc.org/en/fisheries/alaska-Salmon/@assessment-documentsets?documentset_name=Gap+Analysis&phase_name=Expedited+audit+announcement&start_date=2016-10-06&title=Scope+Extension).
- Announcement of the assessment, including scope extension assessment team, use of the modified assessment tree for enhanced Salmon fisheries, and notification of the site visit.
- Undertaking of the site visit
- Production of the client draft scope extension report that describes the background to the fisheries, the fishery management operations and the evaluation procedure and results. The client and subsequent draft and final reports include only the information required for the scope extension evaluation according to FCR PE 3.1.2. The original IMM Alaska Salmon Public Certification Report (IMM 2013) contains the remaining evaluation of those components held in common between the two fisheries.
- The stakeholder consultation on proposed peer reviewer
- Peer Review Confirmation
- Production of the Peer Review Report
- Response to Peer Review comments, and report revisions where necessary
- Production of the Public Comment Draft Report and public comment period
- Response to Stakeholder comments
- Production of the Final Report and Determination
- Completion of the objections period and Production of the Public Certification Report
- Issuance of the certificate

The assessment of PWS Salmon (Principle 1 and Principle 2 assessment only) was undertaken by Ray Beamesderfer, Scott Marshall and Amanda Stern-Pirlot. Amanda Stern-Pirlot was the Assessment Team Leader. According to the gap analysis, differences between the PWS Salmon fishery and certified Alaska Salmon fishery were found only in Principles 1 and 2, as the target stocks and geographic area (hence potential for P2 impacts, are different). The governance and management jurisdiction are all the same for all of the fisheries.

A site visit was conducted in Juneau AK on November 16th, 2016. In addition, in August of 2016, a large informational meeting was attended by some members of this assessment team in Cordova during which much of the new research and management pertaining to the PWS Salmon fishery was presented and discussed. Although the Cordova meeting was not an official part of this PWS scope extension assessment, it was important for gathering relevant information. During the site visits, the assessment team met with scientists, fishery managers and stakeholders as well as clients and harvester representatives. There were no meetings requested from additional stakeholders

particularly pertaining to the PWS Salmon scope extension and no written submissions were received prior to the site visit.

The following strengths and weakness were identified with respect to

Principle 1:

Strengths:

- The fishery is intensively managed and successful in providing natural spawning escapement consistent with sustaining high yields.
- Assessments of hatchery numbers and hatchery contributions to natural spawning populations provide a basis for assessing the potential risk of hatchery enhancement to wild populations.

Weaknesses:

- Additional information is needed on the effects on wild population productivity and fitness of hatchery-origin Pink and Chum Salmon spawning in natural production areas.

Principle 2:

Strengths:

- Commercial salmon fishing gear is highly selective for target salmon species with a very low incidence of incidental harvest or interaction of other species.

Weaknesses:

- Questions remain in some quarters regarding the potential ecosystem effects of large scale hatchery production of salmon throughout the Pacific.

Based on the information available to date, the PWS Salmon fishery scope extension achieved overall scores of 82.4 for Principle 1 and 86.0 for Principle 2. P3 scores are the same as for the currently certified Alaska Salmon fishery, Southeast AK unit (IMM 2013). As such, the PWS Salmon fishery was recommended for certification against the MSC Standard, as no indicator scored less than 60, and all overall principle scores were above 80.

Following the final review stages and objections period, MRAG Americas has decided to certify the PWS salmon fishery as sustainable according to the Marine Stewardship Council Fisheries Standard.

Three conditions of certification were placed on the PWS Salmon fishery (Table 2). The conditions and milestones for the fishery are detailed in Appendix 1.2 of this report.

Table 2. Conditions identified by the assessment for the Prince William Sound commercial salmon fishery.

| No. | Condition | PI |
|-----|---|-------|
| 1 | Demonstrate a high likelihood that the enhancement activities do not have significant negative impacts on the local adaptation, reproductive performance and productivity or diversity of wild stocks based on low hatchery contributions and/or impact on wild fitness. | 1.3.1 |
| 2 | Demonstrate an objective basis for confidence that the enhancement strategy is effective for protecting wild stocks from significant detrimental impacts based on evidence that the strategy is achieving the outcome metrics used to define the minimum detrimental impacts. | 1.3.2 |
| 3 | Provide information on the contribution of enhanced fish to the wild escapement of Pink and Chum Salmon, and relative fitness of hatchery- | 1.3.3 |



| | | |
|--|---|--|
| | origin fish sufficient to evaluate the effect of enhancement activities on wild stock status, productivity and diversity. | |
|--|---|--|

All comments and information presented by the peer reviewer and stakeholders were considered and the report revised as necessary prior to the publication of the Final Report and Determination in April, 2017.



2 Authorship and Peer Reviewers

2.1 Assessment Team

The assessment team consists of Ms. Amanda Stern-Pirlot (team leader), Mr. Ray Beamesderfer and Mr. Scott Marshall, and. Qualifications of the team are:

Ms. Amanda Stern-Pirlot. Ms. Stern-Pirlot is an M.Sc graduate of the University of Bremen, Center for Marine Tropical Ecology (ZMT) in marine ecology and fisheries biology. Ms. Stern-Pirlot joined MRAG Americas in mid-June, 2014 as MSC Certification Manager and senior fisheries consultant, a role involving oversight of and participation in MSC assessment activities, and has since served as a member and leader on several assessment teams. She has worked together with other scientists, conservationists, fisheries managers and producer groups on international fisheries sustainability issues for the past 10 years. With the Institute for Marine Research (IFM-GEOMAR) in Kiel, Germany, she led a work package on simple indicators for sustainable within the EU-funded international cooperation project INCOFISH, followed by five years within the Standards Department at the Marine Stewardship Council (MSC) in London, developing standards, policies and assessment methods informed by best practices in fisheries management around the globe. She has also worked with the Alaska pollock industry as a resources analyst, within the North Pacific Fisheries Management Council process, focusing on bycatch and ecosystem-based management issues, and managing the day-to-day operations of the offshore pollock cooperative. She has co-authored a dozen publications on fisheries sustainability in the developing world and the functioning of certification schemes as an instrument for transforming fisheries to a sustainable basis.

Ray Beamesderfer. Mr. Beamesderfer holds a bachelor's degree in Wildlife and Fisheries Biology from the University of California, Davis, and a Master's in Fishery Resources from the University of Idaho. Ray has special expertise in using quantitative analysis, statistics, and computer modelling to solve difficult fisheries-related questions, and in synthesizing and translating scientific analyses. He has completed a wide variety of projects in fishery management, biological assessment, and conservation/recovery planning. He is the author of numerous reports, biological assessments, management plans, and scientific articles on fish population dynamics, fish conservation, fishery and hatchery management, sampling, and species interactions. Ray has served on fishery assessment teams for Salmon fisheries in Alaska and Russia.

Scott Marshall. Mr Marshall earned a B.S. in Fisheries from Oregon State University, and a M.S. in Fisheries Science from the University of Washington. He has held multiple positions in fisheries, including Project Leader at the Fisheries Research Institute (UW); Research Project Leader, Principal Fishery Scientist and SE Region Supervisor for the Division of Commercial Fisheries for the Alaska Department of Fish and Game; staff biologist for Idaho Department of Fish and Game; and Fisheries Administrator in charge of the Lower Snake River Compensation Plan for the US Fish and Wildlife Service. He has served on Scientific and Statistical Committee of the North Pacific Fisheries Management Council and as Co-Chairman of the Transboundary Rivers Panel of the Pacific Salmon commission.

2.2 Peer Reviewer

As this is a scope extension assessment, only one peer reviewer was required, with expertise in Salmon assessments:

Dr. Dmitry Lajus is an Associate Professor at the Department of Ichthyology and Hydrobiology at St. Petersburg State University since 2003. In 2006, Dr. Lajus received a Fulbright Fellowship at the University of New Hampshire. Previously, from 1987 to 2003, Dr. Lajus was a Researcher and Senior Researcher at the Zoological Institute, Russian Academy of Sciences. He specializes in population biology of marine fish and invertebrates, population phenogenetics, stress assessment, history of fisheries, historical ecology, and population dynamics. His salmon experience includes conservation

implications of salmon genetics, salmon population dynamics, history of salmon fisheries, and salmon ecology. Dr. Lajus has an extensive list of peer-reviewed publications, chapters in books, conference proceedings, participation in international conferences, and involvement in international research and educational projects. Dr. Lajus received a M.S. degree from the St. Petersburg State University and a Ph.D. from the Zoological Institute, Russian Academy of Sciences.

3 Description of the Fishery

3.1 Unit(s) of Certification and scope of certification sought

The MRAG Americas assessment team determined that the fishery is within scope as required by the MSC.

The Unit of Assessment includes Pink, Chum, Sockeye, Chinook and Coho Salmon harvested by commercial purse seine and gill net fisheries in PWS, Alaska. These fisheries harvest Salmon that originate almost entirely in the same region and these fisheries are managed by the Alaska Department of Fish and Game (ADF&G).

The 2013 Alaska Salmon assessment identified Chinook and Coho Salmon as non-target IPI species for PWS (IMM 2013). The total combined catch of non-target Chinook and Coho Salmon in the PWS UoC is approximately 1%, and these species therefore qualify for an exemption from IPI requirements under CR 27.4.10.2 (MSC 2013a).

This Unit of Assessment was used as it is compliant with client wishes for assessment coverage and in full conformity with MSC criteria for setting the Unit of Assessment.

3.1.1 Scope of Assessment in Relation to Enhanced Fisheries

The Alaska Salmon fishery is partially enhanced (i.e., some of the fishery is entirely based on wild runs, while the rest of the fishery is based on a 'hatch and catch' enhancement system). The fishery meets the scope criteria for enhanced fisheries, as described by the MSC (MSC 2013a, Table C1). The following is confirmed:

Linkages to and maintenance of a wild stock

- A1: That the fishery relies upon the capture of fish from the wild environment,
- A2: The five Salmon species are native to the Alaska region,
- A3: There are natural reproductive components of the stock from which the fishery's catch originates that maintain themselves without having to be restocked every year, and
- A4: Stocking as part of the 'hatch and catch' system does not form a major part of a current rebuilding plan for depleted stocks.

Feeding and husbandry

- B1: The 'hatch and catch' production system operates without substantial augmentation of food supply, and feeding is used only to grow the Salmon to a small size prior to release, and
- B2: Is not relevant to the Alaska Salmon fishery as it applies to 'catch and grow' systems.

Habitat and ecosystem impacts

- C1: Any modifications to the habitat of the stock do not cause serious or irreversible harm to the natural ecosystem's structure and function (noting that Salmon fry farms permitted to be in-scope).

3.1.2 Scope of Assessment in Relation to Introduced Species Based Fisheries

This is not a fishery based on introduced species.



Alaska Board of Fisheries

October 16th, 2018

Alaska Salmon Hatchery Forum Discussion - Anchorage, Alaska

Alaska Salmon Hatchery Contribution Estimates to Sport, Personal Use and Subsistence Harvests (1977-2017)

Respectfully Submitted by Alaska PNP Aquaculture Associations:

Valdez Fisheries Development Association (VFDA), Mike Wells

Prince William Sound Aquaculture Corporation (PWSAC), Casey Campbell

Cook Inlet Aquaculture Association (CIAA), Gary Fandrei

Kodiak Regional Aquaculture Association (KRAA), Tina Fairbanks

Douglas Island Pink and Chum (DIPAC), Eric Prestegard

Northern Southeast Regional Aquaculture Association (NSRAA), Steve Reifenstuhl

Southern Southeast Regional Aquaculture Association (SSRAA), David Landis

Armstrong Keta Inc. (AKI), Bart Watson

Representing over 5,000 Alaska Fishermen



Dear Chairman Jensen and Board of Fish Members:

This document provides current estimates of hatchery salmon contributions to the sport, personal use and subsistence harvests of Alaska over a 40 year period. Harvest estimates for all salmon species were collected from ADF&G Sport Fish Management Area reports and those provided by hatchery operators to ADF&G in Annual Reports of PNP operations.

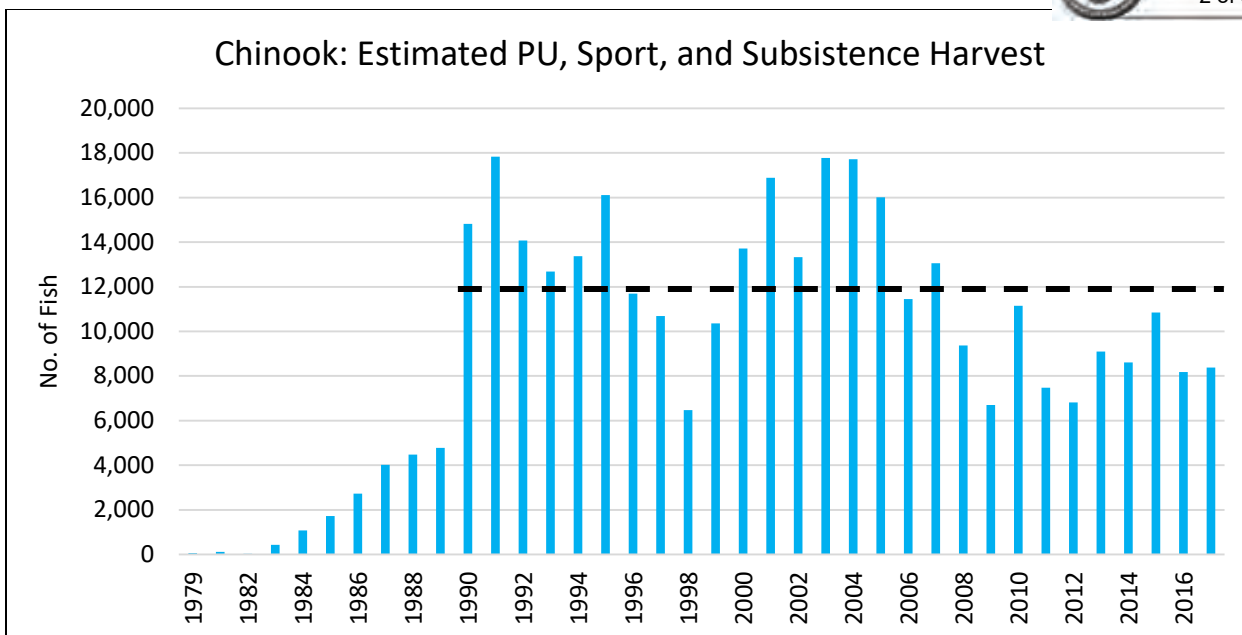


Figure 1. Estimated sport, personal use, and subsistence harvest of Chinook salmon for all PNP hatchery agencies from 1979 - 2017. Data is determined from hatchery Annual Reports and Sportfish Area Management Reports. The average contribution of Chinook from 1990 – 2017 is 11,951 fish, shown as the dashed line.

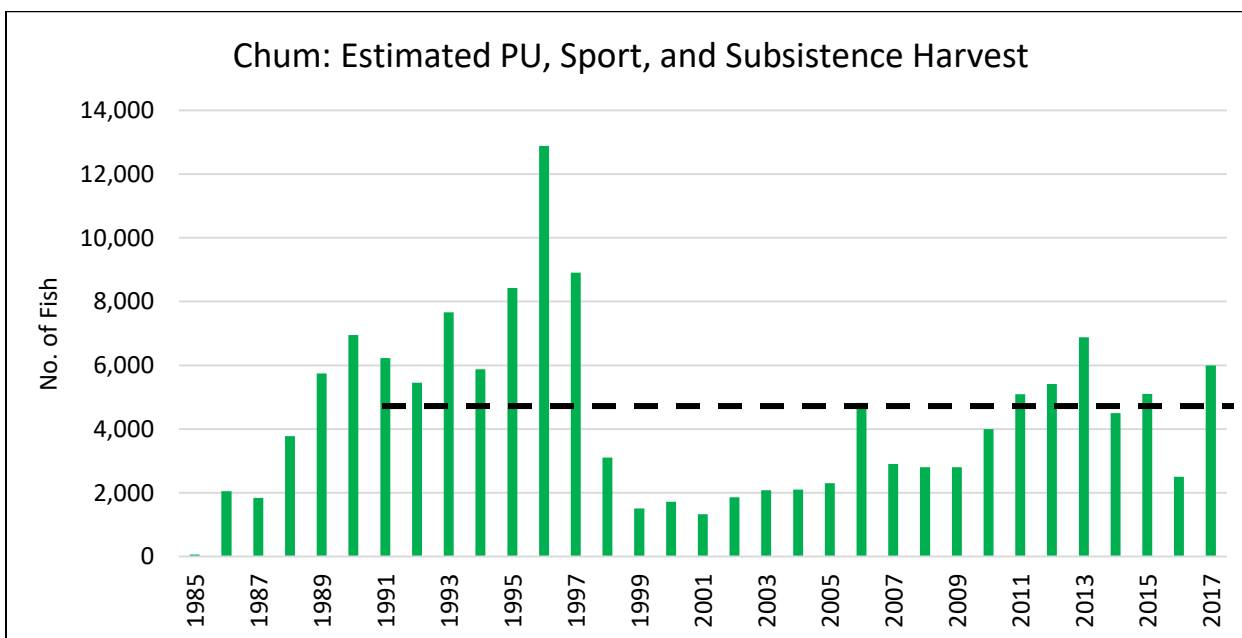


Figure 2. Estimated sport, personal use, and subsistence harvest of Chum salmon for all PNP hatchery agencies from 1985 - 2017. Data is determined from hatchery Annual Reports and Sportfish Area Management Reports. The average contribution of Chum from 1990 – 2017 is 4,685 fish, shown as the dashed line.

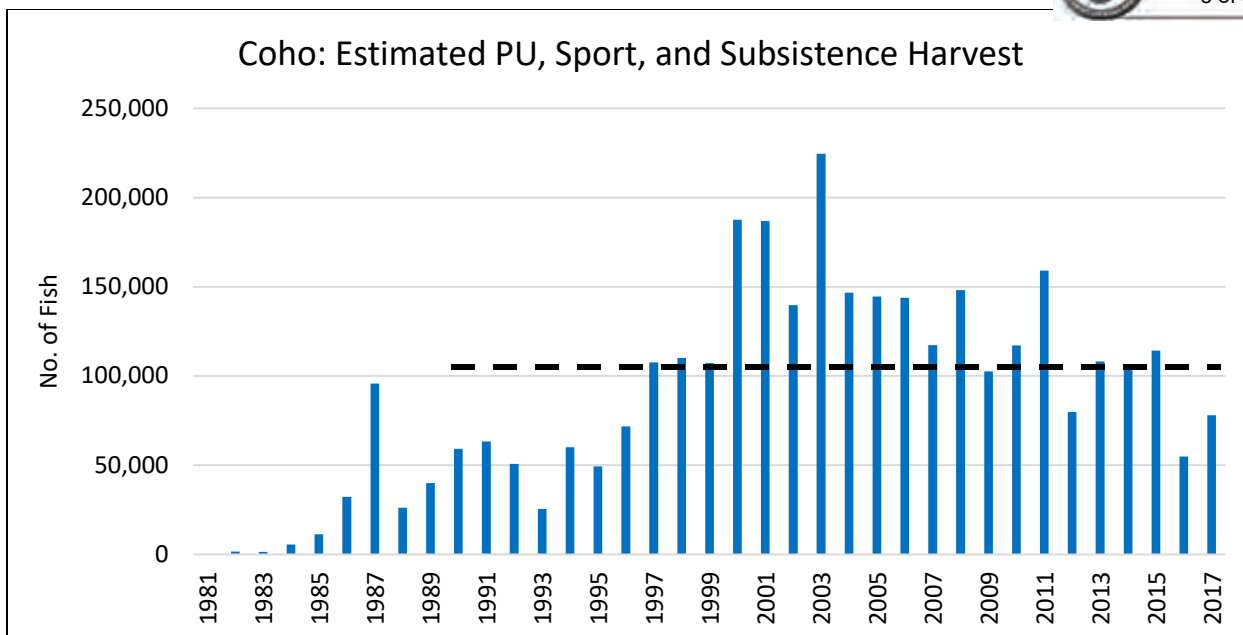


Figure 3. Estimated sport, personal use, and subsistence harvest of Coho salmon for all PNP hatchery agencies from 1980 - 2017. Data is determined from hatchery Annual Reports and Sportfish Area Management Reports. The average contribution of Coho from 1990 – 2017 is 109,398 fish, shown as the dashed line.

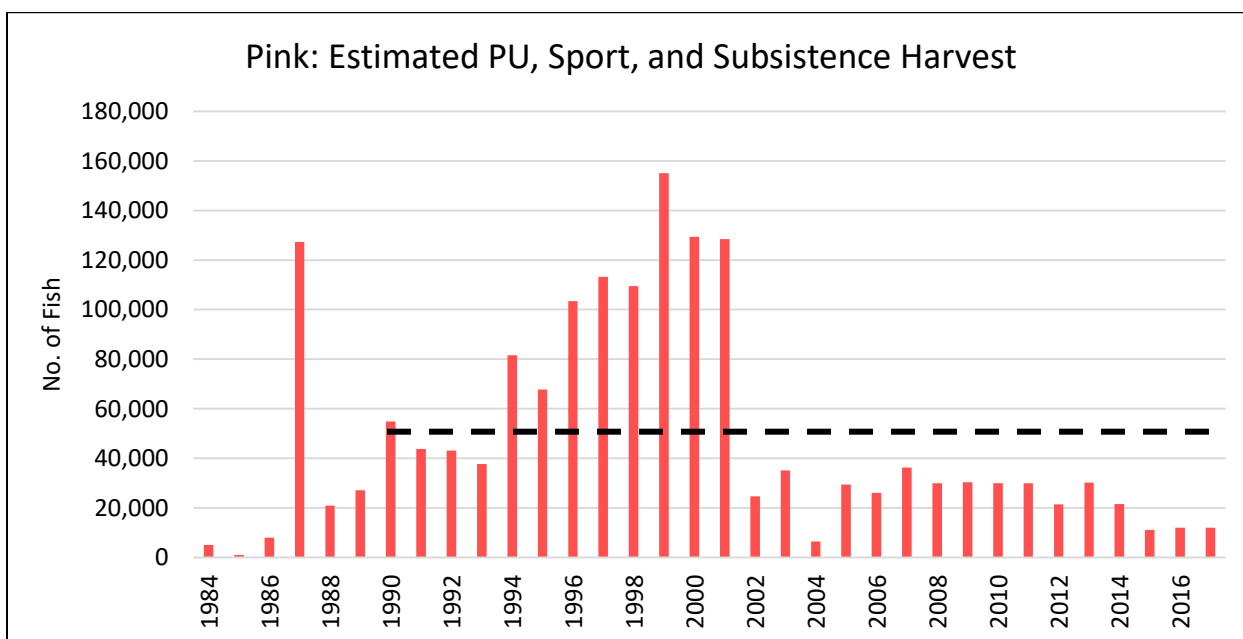


Figure 4. Estimated sport, personal use, and subsistence harvest of Pink salmon for all PNP hatchery agencies from 1979 - 2017. Data is determined from hatchery Annual Reports and Sportfish Area Management Reports. The average contribution of Pink from 1990 – 2017 is 51,952 fish, shown as the dashed line.

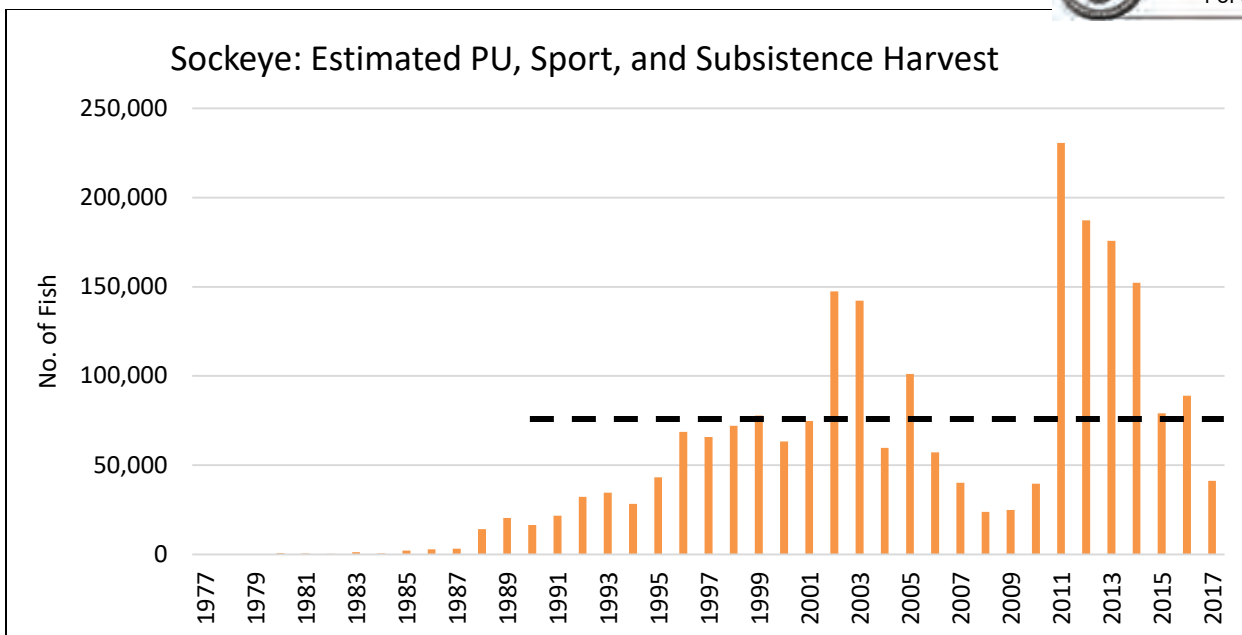


Figure 5. Estimated sport, personal use, and subsistence harvest of Sockeye salmon for all PNP hatchery agencies from 1977 - 2017. Data is determined from hatchery Annual Reports and Sportfish Area Management Reports. The average contribution of Sockeye from 1990 – 2017 is 78,225 fish, shown as the dashed line.

**All Agencies Estimated Contributions (Sport, Personal Use, Subsistence)**

| Year | Chinook | Chum | Coho | Pink | Sockeye | Total (by year, all species) |
|--|----------------|----------------|------------------|------------------|------------------|---|
| 1977 | - | - | - | - | 13 | 13 |
| 1978 | - | - | - | - | 79 | 79 |
| 1979 | 55 | - | - | - | 412 | 467 |
| 1980 | - | - | - | - | 629 | 629 |
| 1981 | 115 | - | 3 | - | 488 | 606 |
| 1982 | 32 | - | 1,600 | - | 329 | 1,961 |
| 1983 | 425 | - | 1,350 | - | 1,228 | 3,003 |
| 1984 | 1,075 | - | 5,573 | 5,000 | 472 | 12,120 |
| 1985 | 1,724 | 55 | 11,313 | 1,000 | 2,223 | 16,315 |
| 1986 | 2,720 | 2,050 | 32,333 | 8,030 | 2,829 | 47,962 |
| 1987 | 4,011 | 1,838 | 95,828 | 127,247 | 3,265 | 232,189 |
| 1988 | 4,471 | 3,778 | 26,220 | 20,850 | 14,136 | 69,455 |
| 1989 | 4,781 | 5,745 | 40,022 | 27,115 | 20,401 | 98,064 |
| 1990 | 14,821 | 6,954 | 59,134 | 54,917 | 16,510 | 152,336 |
| 1991 | 17,837 | 6,229 | 63,294 | 43,808 | 21,687 | 152,855 |
| 1992 | 14,079 | 5,452 | 50,830 | 43,088 | 32,219 | 145,668 |
| 1993 | 12,678 | 7,660 | 25,434 | 37,695 | 34,625 | 118,092 |
| 1994 | 13,371 | 5,873 | 60,122 | 81,598 | 28,302 | 189,266 |
| 1995 | 16,116 | 8,423 | 49,323 | 67,767 | 43,197 | 184,826 |
| 1996 | 11,688 | 12,880 | 71,750 | 103,413 | 68,760 | 268,491 |
| 1997 | 10,684 | 8,908 | 107,670 | 113,205 | 65,850 | 306,317 |
| 1998 | 6,466 | 3,100 | 110,099 | 109,546 | 72,100 | 301,311 |
| 1999 | 10,356 | 1,505 | 107,173 | 155,058 | 77,815 | 351,907 |
| 2000 | 13,709 | 1,718 | 187,535 | 129,387 | 63,334 | 395,683 |
| 2001 | 16,890 | 1,326 | 186,805 | 128,453 | 74,795 | 408,269 |
| 2002 | 13,334 | 1,856 | 139,649 | 24,639 | 147,429 | 326,907 |
| 2003 | 17,776 | 2,083 | 224,548 | 35,138 | 142,188 | 421,733 |
| 2004 | 17,721 | 2,100 | 146,631 | 6,500 | 59,731 | 232,683 |
| 2005 | 16,009 | 2,300 | 144,573 | 29,450 | 101,133 | 293,465 |
| 2006 | 11,446 | 4,822 | 143,817 | 26,123 | 57,120 | 243,328 |
| 2007 | 13,062 | 2,900 | 117,321 | 36,309 | 40,195 | 209,787 |
| 2008 | 9,362 | 2,800 | 148,117 | 30,000 | 23,758 | 214,037 |
| 2009 | 6,695 | 2,805 | 102,590 | 30,371 | 24,949 | 167,410 |
| 2010 | 11,140 | 4,000 | 117,066 | 30,000 | 39,564 | 201,770 |
| 2011 | 7,469 | 5,090 | 159,027 | 30,000 | 230,543 | 432,129 |
| 2012 | 6,815 | 5,412 | 79,707 | 21,414 | 187,187 | 300,535 |
| 2013 | 9,090 | 6,883 | 108,061 | 30,218 | 175,789 | 330,041 |
| 2014 | 8,609 | 4,500 | 105,889 | 21,602 | 152,301 | 292,901 |
| 2015 | 10,846 | 5,100 | 114,232 | 11,076 | 79,088 | 220,342 |
| 2016 | 8,175 | 2,500 | 54,788 | 11,938 | 88,903 | 166,304 |
| 2017 | 8,373 | 6,000 | 77,968 | 11,938 | 41,237 | 145,516 |
| Total (by species, all years) | 354,026 | 144,645 | 3,277,395 | 1,643,893 | 2,236,813 | Overall Total 7,656,772 |
| Average (by species): 1990 – 2017 | 11,951 | 4,685 | 109,398 | 51,952 | 78,225 | |



Alaska Board of Fisheries

October 3, 2018

Worksession Meeting Anchorage, Alaska

Scientific Analysis & Review of Journal Articles in Response to ACR 1 & ACR 2

Respectfully Submitted by Alaska PNP Aquaculture Associations:
Valdez Fisheries Development Association (VFDA), Mike Wells
Prince William Sound Aquaculture Corporation (PWSAC), Casey Campbell
Cook Inlet Aquaculture Association (CIAA), Gary Fandrei
Kodiak Regional Aquaculture Association (KRAA), Tina Fairbanks
Douglas Island Pink and Chum (DIPAC), Eric Prestegard
Northern Southeast Regional Aquaculture Association (NSRAA), Steve Reifensstuhl
Southern Southeast Regional Aquaculture Association (SSRAA), David Landis
Armstrong Keta Inc. (AKI), Bart Watson

Representing over 5,000 Alaska Fishermen



Dear Chairman Jensen and Board of Fish Members:

We recognize this is a dense response, and that your time is limited. The fact is this document only scrapes the surface of the complex issues of ocean carrying capacity and straying. These topics cannot and should not be reduced to sound bites, considering that the foundational research, like most science, has been ongoing for decades, and is anything but simple. For example, the Alaska Hatchery Research Project (AHRP) took a year to plan and will require eleven years to execute the fieldwork.



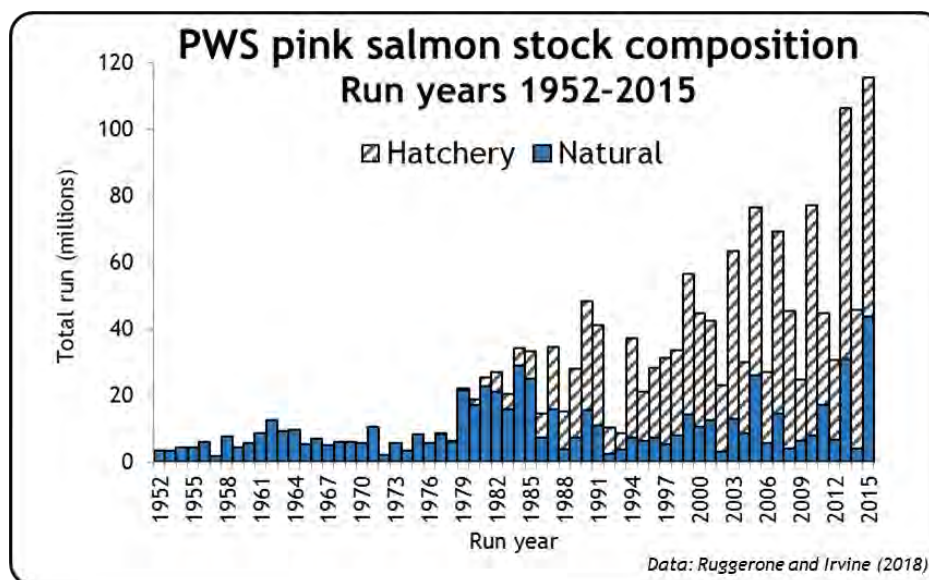
I. Ruggerone and Irvine (2018). Numbers and Biomass of Natural- and Hatchery-Origin Pink Salmon, Chum Salmon, and Sockeye Salmon in the North Pacific Ocean, 1925–2015.

This is an excellent compendium of the best available data on numbers and biomass of pink, chum, and sockeye salmon in the North Pacific Ocean. The authors have done a commendable job of compiling diverse data sources of harvest, harvest rates, and escapement. They have used reasonable approaches to estimating total salmon escapements by species by region, and to estimate hatchery and wild origins. They find that the abundance and biomass of pink, sockeye, and chum salmon has been higher in the past 2.5 decades (1990–2015) than at any time in the 90-year time series. The lead author is well known for his “concern” about the impacts of pink salmon (wild and hatchery) and hatchery salmon on the growth and survival of wild stocks of salmon. There is some obvious bias in the discussion of the implications of the results. An example of the anti-hatchery bias is seen in the Discussion on page 162, where Hilborn and Eggers (2001) and Amorosa et al (2017) are cited to minimize the contributions of enhancement to Prince William Sound fisheries, while ignoring the results of Wertheimer et al. (2004a, 2004b). The major recommendations of the paper, however, are quite reasonable: 1) mass-marking of hatchery salmon; and 2) estimate and document abundance of natural and hatchery salmon in the catch and escapement. Alaska has been a leader in both of these areas in order to properly manage the salmon enhancement programs in the state.

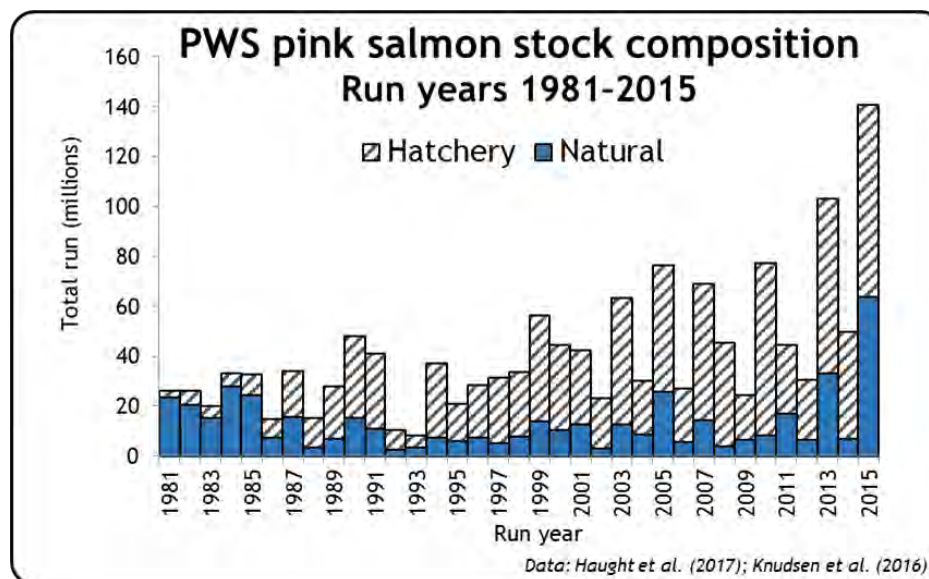
Most Alaska PNP programs have been marking their production for two decades, and ADF&G has been assessing wild/hatchery escapements for the past decade.

Here are major take-aways from the paper.

1. The high-sustained abundance of these species is good news. These abundances are consistent with the renaissance of Alaska salmon, recovering from catches of 22 million fish Statewide in 1974 to an average of 177 million from 1990–2015 (Stopha 2018). The recovery of Alaska salmon can be attributed to the change in ecosystem dynamics associated with the 1977/1978 “regime shift,” which resulted in greatly increased zooplankton productivity in the North Pacific and significant changes in species composition of fish and crustaceans (Brodeur and Ware 1992). Also contributing to the high biomass of salmon have been the large-scale enhancement of chum salmon in Asia, especially Japan, and of pink and chum salmon in North America, especially Alaska. Ruggerone and Irvine’s (2018) summaries of wild and hatchery pink salmon abundance in Prince William Sound (PWS) from 1952–2015 do well to show a trend in increasing pink salmon production in the region, as depicted in the following graph:



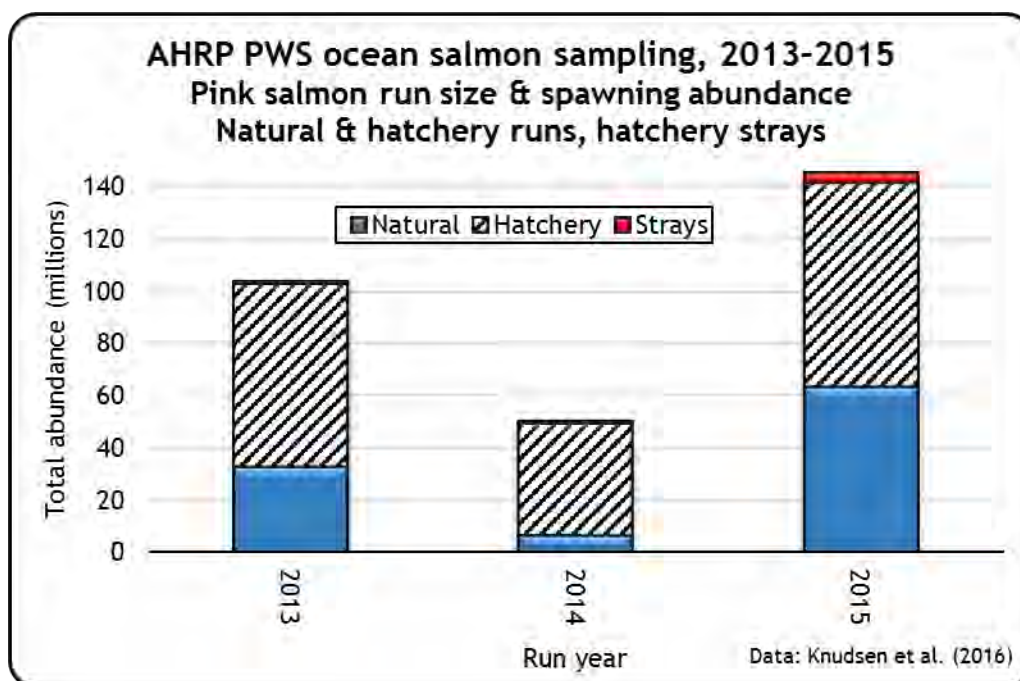
However, there are notable differences between Ruggerone and Irvine's (2018) and Knudsen et al.'s (2016) estimates for PWS pink salmon run size and stock composition for the years 2013–2015. Ruggerone and Irvine (2018) estimate a total run estimate of approximately 115 million pink salmon returning to PWS in 2015, whereas data collected through ADF&G's collaboration with the groundbreaking Alaska Hatchery Research Project (AHRP) indicate a total run estimate of over 140 million pink salmon (Knudsen et al. 2016):



The AHRP may be found further described at http://www.adfg.alaska.gov/index.cfm?adfg=fishingHatcheriesResearch.current_research

For the years 2013–2015, the AHRP combined ocean and stream sampling to estimate run size and spawning abundance for both wild and hatchery fish in PWS, including estimates

of the hatchery fraction of spawning populations (Knudsen et al. 2016). Knudsen et al. (2016) report a total 2015 run size of PWS pink salmon to be over 140 million fish, which was record setting and approximately 37% larger than the previous record in 2013. Germane to current reviews of PWS pink salmon hatchery production is the estimation of hatchery fractions as measured by the number of hatchery fish assumed to have spawned in PWS natural streams, which Knudsen et al. (2016) report as being 4.4% in 2013, 14.8% in 2014, and 9.5% in 2015. Or, put another way, for these same years between 1% and 5% of the total pink salmon hatchery returns were estimated to have spawned naturally. Numerically, these estimates equate to a potential for approximately 702,000 fish in 2013, 742,000 in 2014, and just over 4 million fish in 2015, as shown graphically below in relation to total run estimates (data from Knudsen et al. 2016):



As summarized in the AHRP 2018 Project Synopsis (http://www.adfg.alaska.gov/static/fishing/PDFs/hatcheries/research/alaska_hatchery_research_project_synopsis_june_2018.pdf), preparations are underway to publish run reconstruction and straying results.

2. In Alaska, the management system developed by ADF&G has certainly played a major role (Clark et al. 2006) in sustaining wild and hatchery production. This management includes the capacity to mass mark hatchery fish and sample for these marks in commercial fisheries to avoid the over-exploitation of wild stocks. Finally, the cessation and ultimate ban of high-seas drift netting can also be considered a contributing factor.
3. The high salmon abundance has been relatively consistent over the 1990–2015 period, with higher variability in pink salmon numbers than the other species (Figure 3 of Ruggerone and Irvine). Thus, recent changes in abundance, survival, and size of coho and Chinook salmon have NOT been in response to any recent changes in aggregate salmon numbers or



biomass.

4. This paper makes clear that in the context of salmon carrying capacity, hatchery pink salmon are a relatively minor player. Only 15% of the abundance of pink salmon is attributed to hatchery production.
5. The 20 million scheduled increase in egg takes at VFDA would have virtually no effect on numbers or biomass in relation to current numbers of pink salmon or biomass of salmon in the North Pacific. Assuming 90% egg-to-fry survival and 3% marine survival, this increment would produce approximately 500,000 adults. This is 0.1% of the pink salmon in the North Pacific. In terms of biomass of salmon in the North Pacific, this is < 0.02%!
6. In the Discussion, it is clear that the Russian view of the impacts of density-dependent competition among salmon is very different from the North American academic view cited extensively by the authors, and presented in the several of the papers submitted to the BOF by the petitioners asking to rescind the 2014 VFDA PAR. The perspective championed by Ruggerone and Irvine (2018) is that density-dependent competition is having profound impacts on growth and survival of North American salmon stocks. Three papers cited by Ruggerone and Irvine (2018) and the petitioners (Batten et al. (in press), Springer et al. 2018, Shaul and Geiger 2016) propose that pink salmon are keystone predators, controlling the population dynamics and abundance of epipelagic zooplankton and nekton. In contrast, Shuntov (2017) is cited in Ruggerone and Irvine (2018) as stating that **Pacific salmon consume only 1-5% of prey consumed** by all epipelagic nekton in the Western Bering Sea, and up to 15% near eastern Kamchatka (where returning mature salmon are concentrated), and thus have only a low to moderate impact on the food epipelagic food web. Similarly, Radchenko et al. (2018) reviews studies showing that “as a rule, no significant correlations occur among pink salmon growth rate, stock abundance, or zooplankton standing crop.” (Note that the Russians have the most extensive and intensive monitoring of salmon in offshore and coastal waters of any nation in the salmonosphere.) This view of low to moderate impact on epipelagic food webs is consistent with mass-balance modeling of North Pacific ecosystems by Pauley et al. (1996). **Pacific salmon** were estimated to make up **less than 7% of the biomass of the epipelagic fish biomass** in the Alaska gyre. If squid are including as competitive nekton for zooplankton production, Pacific salmon made up less than 3% of the biomass.



II. Springer et al. (2018). Transhemispheric ecosystem disservices of pink salmon in a Pacific Ocean macrosystem.

This is a very poor scientific paper. Frankly, it is surprising it was published. The authors have greatly overreached their data. They accept results that have low statistical significance when the data analyzed agrees with their hypothesis, and dismiss them at the same level of significance if they disagree with their hypothesis. They ignore or dismiss data and results that contradict their conclusions.

The authors attempt to demonstrate that indices of shearwater abundance are being driven by changes in abundance of pink salmon in the North Pacific Ocean. They present data from four indices of abundance of shearwaters on nesting colonies, and analyze data from three of the colonies (the fourth has only five years of data). One of the data series, Montagu Island, extends back to 1967; the others are more recent, and coincident with the high abundance of pink salmon that has persisted in the North Pacific Ocean since 1990 (Ruggerone and Irvine 2018). Because of higher abundance of pink salmon in the North Pacific from the odd-year line, they attempt to use differences in the mean and median of the indices for odd- and even-years to show that pink salmon abundance is affecting shearwater abundance. They also look at trends in abundance, regressing the indices on pink salmon abundance across all years. They construct a multiple regression model with rainfall and measures of regional pink salmon abundance as prediction variables for the dependent variable, the shearwater abundance indexes.

Here is a litany of problems with Springer et al.'s (2018) data presentation, analysis, and interpretation.

1. In their trend analysis, there is a negative trend for two colonies and no trend for the third, Wedge Island. The Wedge Island colony is the only one of the three evaluated that actually measured abundance; the others actually measure nesting success. The lowest abundance in the Wedge Island data series occurred in an even year. The major change in the longer-term data set for Montagu Island is coincident with the 1977/1978 regime shift. This regime shift resulted in big increases in zooplankton productivity in North Pacific (Brodeur and Ware). Large changes in relative species composition occurred. Salmon abundance increased dramatically; shrimp, king crab declined precipitously in the Gulf of Alaska; gadids and flatfish increased. Could pink salmon be the mechanistic explanation for the downturn in shearwater dynamics, when there is higher productivity in general? Perhaps, if pinks (and other salmon) caused local depletion of the amount of shearwater prey near the surface. (Another possible scenario is that salmon drive prey to the surface where they would be more susceptible to shearwater predation). Given the large changes in productivity and species composition, there are probably multiple factors causing the shearwaters to decline at a time of increased productivity of their general prey groups.



2. The authors take the approach that odd/even year differences in abundance of pink salmon are reflected in odd/even year medians and mean averages at the nesting colony. They point out a tendency for shearwater averages to be higher in even years. However, at all three nesting colonies, none of the differences are statistically significant, regardless of how they truncate the data series (Tables 1,2,3). For the long-term data series at Montagu Island, the p-value for the comparison is 0.3 (p greater than 0.05 = not significant).
3. The authors discuss shearwater-pink correlations ostensibly to show the connection between pink salmon abundance and shearwater abundance indexes. They actually do not give the correlations, but rather the direction and significance of pink salmon abundances as covariates in a multiple regression model including rainfall. The amount of variation explained by rainfall alone is not presented. Rainfall must be a big driver in this relationship; note the nest failures on Montagu attributed to rainfall in 1971 and 1999. Shearwaters migrate through North Pacific waters through the ocean range of Asian and North American pink salmon (Figure 1). The salmon covariates are broken into four regional components, three Asian and one North American (“Alaska”).
4. For the rainfall/salmon model, there was no relationship with salmon abundance at two of the three colonies evaluated: Wedge (with the actual measures of abundance) and Forneaux. At Montagu, the pink salmon covariates were negatively related to pink salmon abundance for Japan/Okhotsk and Alaska, positively related for East Kamchatka, and either negative or positive for Western Kamchatka, depending on how the data series was truncated (Table 4). Significance level for each region also varied depending on how the data series were truncated. In summary, two colonies had no relationship to salmon abundance; and one colony had no consistent relationship with salmon abundance.
5. The authors then use an arbitrary model selection process to drop Japan/Okhotsk and West Kamchatka from the model for Montagu. Certainly, among the long list of authors someone has heard of using criteria such as the AIC (Akaike Information Criterion) to select the best model. At any rate, this action results in Table 5, showing significant negative effects of Alaska salmon. The relationships for Eastern Kamchatka salmon remain positive. The authors make a big deal that the regions “importance” declined markedly, but note that this positive relationship remains significant for the 1990–2016 interval, and “marginally” significant (p = .1) for the most recent interval.
6. For the rainfall/salmon model, there is no relationship with salmon abundance for two of the three colonies. The Montagu colony model showed a positive relationship with Eastern Kamchatka pink salmon, which contribute the most to the overall abundance of pink salmon, and a negative relationship with Alaskan pink salmon. When looking at the map of Shearwater distributions, their migration overlaps to a greater degree with Asian pink



salmon. By the time the birds are swinging down to the eastern part of their range, pink salmon from Southeast Alaska and Prince William Sound are probably eastward in more coastal waters. Thus, the pink salmon with which the shearwaters are most likely to co-occur are Asian pink salmon, which have no discernable effect or even a positive effect in the authors' models.

7. The authors acknowledge these contradictions, but that does not stop them from affirming their hypotheses. They note that the positive relationship of the Montagu shearwaters with East Kamchatka salmon "was not expected." They then go through the statistical gymnastics to dismiss the significance of these positive relationships, **even though non-significant** but consistent differences in odd/even year averages were evidence of a pink salmon effect. As for the results of NO relationships for the other two colonies, "...we believe that this does not materially controvert our hypothesis, based on the totality of the evidence that competition by pink salmon leads to negative effects on overwintering and nesting shearwaters." There you have it: no point in letting contradictory results spoil the hypothesis of a true believer.



III. Batten et al. (In press). Pink salmon induce a trophic cascade in plankton population in the southern Bering Sea and around the Aleutian Islands.

This paper attempts to show top-down control of plankton populations around the Aleutian Islands and in the southern Bering Sea. This paper is in the genre of “tail wags dog.” The authors purportedly show that zooplankton standing crop is affected by the number of pink salmon present. They do this by comparing odd/even year data from a surface layer tow of a continuous plankton recorder, attributing the difference to higher odd-year abundance of pink salmon. They correlate the findings to specific regional abundances of Asian pink salmon, and explain anomalies in their data series with particular changes in relative abundance by region. They characterize these results as a “trophic cascade”, with pink salmon controlling zooplankton trophic dynamics.

This paper has some serious flaws, both conceptually and in its analysis of the data:

1. Conceptually, it is highly unlikely that pink salmon control the zooplankton population dynamics in these oceanic regions. Localized depletion of zooplankton can certainly occur due to foraging by zooplanktivorous nekton. However, broad-scale description of trophic structure in the North Pacific Ocean **show that salmon in general have a low to moderate position** in the grand scheme of things. Mass-balance modeling of North Pacific ecosystems by Pauley et al. (1996) estimated that Pacific salmon make up less than 7% of the biomass of the epipelagic fish biomass in the Alaska gyre. If squid are included as competitive nekton for zooplankton production, Pacific salmon make up less than 3% of the nekton biomass. This is all salmon, not just pink salmon, and the majority of the biomass of salmon in the Gulf of Alaska and Bering Sea is chum salmon. In the mass-balance model, zooplankton biomass was over 40 times that of ALL planktivorous nekton consumption.

Another conceptual problem to the odd/even evidence of plankton depletion is **prey-switching by salmon species**. Pink, chum, and sockeye salmon have substantial overlap in their diets, and the latter two species have been shown to switch to other, “lower-quality” prey when pink salmon are abundant (e.g., Davis 2003). These changes in feeding habit are often used to support the concept of density-dependent interactions with pink salmon and their congeners, e.g., Ruggerone and Connors (2015). Why would we not expect these species to switch back to the preferred prey when pinks are not abundant? Given higher biomass of chum salmon and sockeye salmon in the North Pacific, why would they not consume the “pink prey” when pink abundance is lower in even years?

2. The conclusions of the authors go well beyond the scope of the sampling, in space and time. The plankton recorder is at 7.5 M (~23') depth. **Zooplankton biomass occupies much more of the water column, and is typically more abundant below 20 M (60' depth)**, with diel migrations from depth to near-surface waters (e.g., Orsi et al. 2004). Even



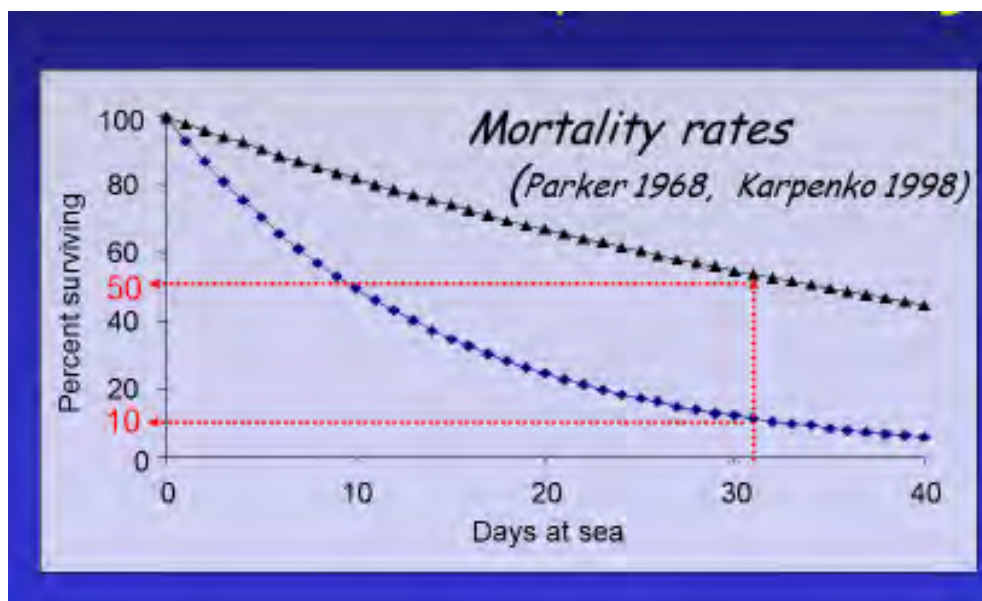
if local surface depletion of zooplankton was occurring by foraging salmon, that in no way shows general depletion of zooplankton standing crop.

3. In some odd years, sampling extended into August. By this time, most pink salmon would have left the sampling area to migrate into coastal waters; many are entering their natal streams! Thus, depletion of surface zooplankton must have been due to other zooplanktivorous nekton.
4. The glaring problem of the analysis of the plankton indexes to pink salmon abundance is the selection of specific indexes of abundance of pink salmon based on putative distributions by region. The authors have a map showing their sampling areas delineated into Eastern, Central, and Western regions (Figure 1). They cite Tagaki et al. (1981) and Myers et al. (1996) to assign the eastern and central region for correlation with Eastern Kamchatka pink salmon as the primary population in these areas, and the western region to other regions of Alaska. However, except for the central region, these assignments are not consistent with maps from Tagaki et al (1981). of the distribution of pink salmon by region (reproduced in Heard 1991). Their eastern sampling area is at the edge of the range for East Kamchatka pink salmon, but is well within the range of North American pink salmon originating from the Gulf of Alaska and western Alaska. In a more recent overview of pink salmon ocean distribution, Radchenko et al. (2018) also show ocean distributions that place Batten et al.'s (In press) eastern sampling stations at the edge of the Eastern Kamchatka pink salmon range, and well within North American pink salmon distribution.

This mis-assignment of “principle” regional stocks has large implications for the authors’ conclusions. For example, in the Western sampling region, even though large numbers of East Kamchatka pink salmon are present, surface zooplankton has no trend in relation to the abundance of these fish. In the Eastern sampling region, it negates their explanation of high zooplankton counts in 2013. This year had the highest large copepods counts observed in their data series. The authors emphasize that Eastern Kamchatka pink salmon abundance was lower than average in that year. However, North American pink salmon abundance was at a record high in 2013. Thus, the high zooplankton counts in the region are actually associated with high pink salmon abundance. Indeed, the high productivity of zooplankton in 2013 may have been a driver in the record abundance of North American pink salmon.

5. In contrast to the authors’ observations of the relationship between surface zooplankton and pink salmon abundance, Radchenko et al. (2018) reviews extensive Russian studies showing that “as a rule, no significant correlations occur among pink salmon growth rate, stock abundance, or zooplankton standing crop.” These studies included comprehensive sampling of zooplankton, concurrent salmon abundance, and analysis of growth and diet of the salmon. Supporting evidence for lack of significant correlation is that the first 30 to

45 days of a salmon fry/smolt sustain 50% to 90% mortality (Parker 1968 & Karpenko 1998), with predators likely being the main driver rather than zooplankton abundance.





IV. Shaul and Geiger (2016). Effects of climate and competition for offshore prey on growth, survival, and reproductive potential of coho salmon in Southeast Alaska.

This paper finds that size of Southeast Alaska coho salmon, and survival of Berners Bay coho salmon, are driven by climatic conditions and density dependent-interactions with pink salmon. The paper is both data and analytically intensive, and is a very thoughtful approach to understanding the processes affecting size and other population characteristics of Southeast Alaska coho salmon. The authors develop models to support their hypothesis that pink salmon are a top-down controlling factor in the abundance of North Pacific squid (*Berryteuthis anonychus*) populations that are the primary prey for coho salmon in offshore waters. Pink and coho salmon have similar duration of time at sea. In offshore regions, squid are the primary prey of coho salmon at all sizes, whereas pink salmon do not consume substantial quantities of squid until they reach a size greater than 1000 g. The authors' model indicate that size of coho salmon is not affected by direct (within year) competition of pink salmon for squid, but rather by impairing the reproductive potential of squid in subsequent years.

1. The authors present strong evidence for size declines in Southeast Alaska coho salmon, with differing trends for odd- and even-year returns indicating a density-dependent relationship with pink salmon abundance. Declines in size with increased pink salmon abundance have also been observed for Prince William Sound pink salmon (Wertheimer et al. 2004b) and for pink salmon in BC (Jeffrey et al. 2017). Jeffrey et al. (2017) also found that body size of chum salmon in BC species has declined with ocean biomass of North American salmon, but also found that body size Chinook, coho, and sockeye salmon in BC fisheries have increased with higher ocean biomass of North American salmon.
2. While the size decline data are compelling, we are not convinced of the proposed mechanism for how pink salmon affect coho size. It seems another “tail wags dog” concept. The biomass of pink salmon is only a small fraction of the nekton in the Alaska gyre, with squid estimated to have a 30-fold higher biomass (Pauley et al. 1996). In contrast to the conclusions of Shaul and Geiger (2016), **Aydin (2000) concluded** that the trophic position and high productivity of **squid give it a controlling position in the ecosystem** in relation to salmon predation and growth. Aydin (2000) found that squid abundance, while highly variable, had increased greatly (as did salmon) after the 1977/1978 regime shift. That squid abundance increased commensurate with salmon abundance indicates the species were responding similarly to the increased productivity in the North Pacific (Brodeur and Ware 1992). If squid were controlled by pink salmon predation, there should have been a decline in squid production as pink salmon increased.

In addition, the consumption of squid on the high seas by pink salmon is limited by their size and temporal distribution. Substantial quantities of squid are not consumed by pink salmon until they reach 1000 g in weight (Aydin 2000, Davis 2003). Pink salmon typically



attain this size by mid- or late-June (Radchenko et al. 2018). At this time, the fish are starting to migrate from offshore (squid) areas towards coastal water as they move towards their natal streams to spawn. This limited feeding opportunity is more consistent with the Aydin (2000) hypothesis of squid population size and biomass affecting salmon growth than with the Shaul and Geiger concept of pink salmon controlling the reproductive potential of the squid. Aydin (2000) also estimated that coho salmon consume more squid overall than pink or sockeye salmon. Coho salmon have a much broader temporal window for foraging on squid, as ocean age 1 coho salmon are larger than ocean age 1 pink salmon, and eat large quantities of squid even at sizes less than 500 g (Davis 2003). Coho salmon have much greater growth rates than pink salmon as they attain a size of 7 pounds in the same two years that pink salmon mature at 3.5 pounds.

The Shaul/Geiger lag response model requires that the squid have an obligate two-year life-history cycle as proposed by Jorgensen (2011). This is contradicted by other literature, which characterizes *B. anonychus* as an annual species with high productivity (Katugin et al. 2005, Drobney et al. 2008). Aydin (2000) cites studies showing that *B. anonychus* is highly productive, and spawns twice a year.

3. If direct or indirect competition for squid is not driving the size decline, **what are the alternative hypotheses?** Aydin (2000) thought that the winter ocean period was when salmon growth was most susceptible to density-dependent interactions; however, it is not clear how density-dependent interactions between pink salmon and coho salmon would affect coho salmon growth at this time. However, Aydin (2000) also found distinct differences in the distribution of squid in odd- and even-years in the 1990s, which he attributed to variations in oceanographic conditions. If such biennial differences are persistent, the interaction of squid distribution with SEAK coho distribution could produce the odd/even differences in size.
4. Given the differential association of SEAK coho size and BC coho size to North Pacific salmon abundances observed by Shaul and Geiger (2016) and Jeffrey et al. (2017), the effect of competitive interactions between coho and other salmon must vary with the ocean domains used by the different stocks. It is interesting that Shaul and Geiger found an increase in size for Southeast Alaska pink and sockeye salmon in recent years, while coho sizes were declining. They attribute that to the “flexibility” in their diets, which may indeed make them less susceptible to variations in squid abundance than coho salmon. Ruggerone and Irvine (2018) report recent general declines in average size of pink and sockeye salmon, again indicating **heterogeneous responses across regions** to ocean conditions.
5. The authors also attribute declines in marine survival of Berner’s River coho salmon to the lagged-impact of pink salmon on squid. Yet, year-class strength of coho salmon and pink



salmon in Southeast Alaska are strongly and positively correlated. We looked at the time series of coho and pink salmon harvest from 1960 to 2017; the association is 0.82, significant at $p < 0.001$. Since the 1977/1978 regime shift, the relationship has not been quite as strong, but is still 0.70, also significant at $p < 0.001$. This suggests that pink salmon and coho salmon are responding similarly to ocean conditions. Briscoe (2004) and LaCroix et al. (2009) suggested predator buffering as a mechanism that could explain this association: strong year-classes of juvenile pink salmon could improve survival of coho salmon smolts by deflecting predation pressure from less abundant coho salmon juveniles. However, Mallick et al. (2009), in examining survival trends for 14 stocks of hatchery and wild coho salmon in Southeast, did not find consistent effects of hatchery or wild juvenile salmon on the survival data. Shaul and Geiger also looked for such an effect on Berner's River coho survival, but did not find any indication that survival was influenced by estimated numbers of juvenile salmon in northern Southeast Alaska waters. Nevertheless, in terms of numbers of fish harvested, pink and coho salmon in Southeast Alaska generally are positively associated, indicating no or little density-dependent effect of pink salmon on coho salmon survival.

6. The authors have tied reduction in coho salmon size to the general increase in pink salmon biomass in the North Pacific. The correlation in year-class numbers of Southeast Alaska coho and pink salmon, and the differing response of pink salmon size in Southeast Alaska than in Prince William Sound suggest that density-dependent interactions, both negative and positive are regionally driven. This may be due to shared ocean distributions. Because production of hatchery pink salmon in Southeast Alaska is quite small ($< 5\%$), these interactions are driven primarily by wild stocks of pink salmon.



V. **Aydin (2000). Trophic feedback and carrying capacity of Pacific salmon on the high seas of the Gulf of Alaska.**

This dissertation is an impressive body of work. The author used field samples of salmon food habits in conjunction with bioenergetics models, foraging models, climate data, and salmon size data to examine the relative effects of environmental variation and potential density-dependence on “carrying capacity” in the northeastern Pacific Ocean. The author’s main conclusions are that (1) the winter prior to maturation is a critical time for salmon competitive interactions; (2) small differences in salmon body size after the winter period can limit foraging capability and thus growth and size at maturity; and (3) micronektonic squid are an important driver in adult salmon growth, and may function as a keystone species. The author expresses concern that “pumping up production with hatcheries” may have deleterious impacts on the salmon ecosystem, possibly resulting in “trophic cascades” that could limit growth and potentially impact survival.

1. Squid is a very important salmon prey item across wide areas of the Pacific, especially for coho salmon. Its abundance and distribution is highly variable, depending on oceanographic conditions. Squid abundance generally increased in the 1980s and 1990s, when salmon abundance also generally increased.
2. In the 1990s, the distribution of squid was different between odd and even years. These differences were attributed to differing oceanographic conditions.
3. Salmon diet varies across large ocean domains; there are large areas with low populations of squid where zooplankton or fish larvae are primary prey.
4. Density-dependence is most likely during winter. The strongest controller of growth during this time is zooplankton. Density-dependence is likely strongest for pink salmon and age .2 sockeye salmon.
5. The differential feeding habits of chum salmon on gelatinous organisms make them less susceptible to density-dependent effects.
6. Local depletion of prey resources can occur as salmon school density increases, even if prey is not depleted over large ocean areas. This is an important point in understanding regional differences in changes in size at return.
7. Despite the concern expressed by the author some 15 years ago about density-dependent interactions resulting in negative feedback loops, **abundance and biomass of salmon in the North Pacific Ocean remains at historically high levels**, albeit with high variability and differing responses depending on species and region.



VI. Davis (2003). Feeding ecology of Pacific salmon in the central north Pacific and central Bering Sea.

This paper provides extensive food habit information for Pacific salmon in the central North Pacific and Bering Sea during June and July. The author also determines caloric densities of prey, and uses these data and a bioenergetics model to estimate salmon growth and prey consumption during June and July. The author considers the effect of pink salmon abundance on diet composition. This is an important contribution to the understanding of summer food habits of Pacific salmon on the high seas. Major results from the analyses include:

1. Diet items varied greatly among the three regions (two in the North Pacific and one in the Bering Sea) sampled.
2. Shifts in prey composition were observed in chum, sockeye, and pink salmon when pink salmon were abundant. All three species consumed more low-caloric content prey at higher pink salmon abundances, and had lower stomach fullness. Chinook salmon in the central Bering Sea had lower stomach fullness in years pink salmon were more abundant. Coho salmon did not show either diet shifts or changes in stomach fullness in relation to pink salmon abundance.
3. The author concludes that the shifts in prey composition in the presence of abundant pink salmon are indicative of feeding competition among pink, sockeye, and chum salmon, and that this composition could result in density-dependent reduction of the growth of these species in the Central Bering Sea.
4. Bioenergetic models indicate that salmon are feeding close to their physiological maximum. When prey is abundant, there is an upper thermal limit to growth due to large metabolic requirements. At lower temperatures, growth is limited by a decreased capacity for prey consumption.
5. **The major take-away:** feeding competition causes diet shifts in pink, chum, and sockeye salmon. Reliance on lower quality food, along with localized prey depletion at high salmon abundances, may result in lower growth, with some decrease in size at maturity for pink, sockeye, and chum salmon, and shifts to older ages at maturity for sockeye and chum salmon. However, these **impacts have not prevented the sustained high biomass** of these species in the North Pacific Ocean over the last 30 years. In addition, **Russian studies of growth and feeding habits of pink salmon have not found an association of lower growth rates with pink salmon abundance (Radchenko 2018).**



VII. Lewis et al. (2015). Changes in size and age of Chinook salmon returning to Alaska.

This is a very good analysis of temporal trends in size at age and age at maturity for 10 stocks of Alaska Chinook salmon that occur from southern Southeast Alaska to Yukon River. The authors use regression analyses to quantify decadal trends, and suggest possible causes for the changes observed.

1. On average, these stocks of Chinook salmon have become smaller over the past 30 years because of a decline in the predominant age at maturity and because of a decrease in age-specific length.
2. Average size has declined for all 10 stocks of Chinook salmon evaluated. The observed smaller size is a result of trends in size-at-age and age at maturity.
3. Size-at-age has declined in all stocks for older (1.3 and 1.4) ages. However, **no overall trend in size at age 1.2 was found**. Six stocks had no significant trend, two stocks (Kenai and Copper) had significantly negative trends, and two stocks (Nushagak and Unuk) had significantly positive trends in size at age 1.2 (Table 2).
4. The age-at-maturity has declined for all 10 stocks. The proportion of age 1.4 fish has decreased, and the proportion of age 1.2 fish has increased.
5. The authors conclude that the concordant trends among these ten Chinook stocks across a broad geographic range indicate a common suite of large-scale mechanisms may be responsible for the changes.
6. Three possible mechanisms are identified: 1) **size-selective fishing removing larger**, older fish; 2) marine environmental conditions affecting growth and maturation rates; and 3) competition with the high abundance of salmon in the North Pacific affecting growth and thus size at age and age at maturity.
7. While size-selective fishing can affect the size and age structure of Chinook salmon (Bromaghin et al. 2011), the concordant trends are occurring in stocks with widely different fishery exploitation rates and exposure to size selective fishing (such as trolling with a minimum size limit), which makes it unlikely that fishing is the primary driver of these changes.
8. Differing environmental conditions could certainly play a major role in growth of Chinook salmon. **However, size at age 1.2 has not declined**; indicating that growth during at least the first two years at sea has not been impacted. Given broad prey overlap of 1.2 and older



Chinook salmon, it is unclear why older fish would experience reduced growth in response to the same environmental conditions.

9. The high abundance of other species of salmon has been persistent over the past 25–30 years, and thus is not an obvious cause for the trend in sizes. There is no apparent odd/even cycle in the size data (Figure 3), as was found by Shaul and Geiger (2016) for Southeast Alaska coho salmon, so pink salmon is not singled out! In addition, the size-class with the greatest diet overlap with congener species is age 1.2, which does not show a downward trend in size.
10. We can **identify another possible mechanism causing the changes in size and age:** increasing predation by a rapidly expanding marine mammal population that has a strong preference for Chinook salmon in its feeding habits. Resident killer whales preferentially feed on large Chinook salmon (Olesiuk et al. 1990; Hansen et al. 2010). Resident killer whales in northern BC and Gulf of Alaska waters have increased at annual rates of 2.9% and 3.5%, respectively (Hilborn et al. 2012; Matkin et al. 2014). At these rates, numbers of killer whales in these areas have increased 2–3 times over the 30-year time series evaluated by Lewis et al. (2015). Differential removal of large fish could cause the reduction in both the proportion of older fish and the size at age of older fish.



VIII. Jeffrey et al. (2017). Changes in body size of Canadian Pacific salmon over six decades.

This paper is an excellent update of Ricker's (1981) analyses of trends in body size of Pacific salmon. The data are extended to cover 1951–2012. Average body size for each species was calculated from commercial catch statistics over this timeframe. General additive models (GAM) were used to test the importance of potential factors affecting change in body size. Four climatic indices were used to examine for broad-scale environmental impacts, and estimates of biomass of potentially competing species (pink, chum, and sockeye salmon) were used to examine for density-dependent interactions.

1. The mean weight of all species changed over time.
2. Chinook salmon size declined markedly from 1951 to the early 1970s but then increased to close to its maximum annual weight in the 1990s. Since 2000, Chinook weight has again declined slightly.
3. Coho salmon size also declined from the 1950s, and did not reach its minimum until around 1985. Since then it has increased and is now at the highest level in the data series.
4. Chum and pink salmon declined initially in size, and then have remained relatively stable since the 1990s at a size that is 20–30% less than in the 1950s and 1960s. There was little change over the time series in the average size of sockeye salmon.
5. Annual size data for Chinook, chum, and sockeye salmon can be confounded by differing proportion of ages at return; the assumption is made that these effects are smoothed out over the long time series.
6. The GAM models identified at least two of the climate variables as important in explaining annual variations. There was no indication of abrupt climate effect, but rather more of a response to continuous changes in the climate indices.
7. The biomass of North American pink salmon entering the Gulf of Alaska was the most important biomass variable in explaining size variation in BC pink salmon. The direction of the effect was negative, suggesting some degree of intra-specific competition.
8. The combined biomass of North American pink, sockeye, and chum salmon was the most important biomass variable explaining size variation in chum salmon. The direction of the effect was negative, suggesting some degree of competition among these congeners.



9. The biomass of North American chum salmon was the most important biomass variable explaining size variation in sockeye salmon. Adding Asian chum salmon to this (or combined measures of biomass) did not improve the fit. **The direction of the effect was positive, indicating that when chums are abundant, growth conditions for sockeye are positive.**
10. The combined biomass of North American pink, sockeye, and chum salmon was the most important biomass variable explaining size variation in Chinook and coho salmon. The effect was again positive for these species. **The authors note there is less diet overlap of these species with pinks, chums, and sockeye.** They speculate that the positive relationship may be driven by environmental conditions, which when favorable allow for greater total biomass of salmon species and higher growth (thus larger size) in Chinook and coho salmon.
11. Relaxation of fishing pressure may have contributed to some increase in body size. For Chinook and coho salmon, **fishing pressure has shifted from commercial to recreational fishing.** The authors conclude that the effect of fishing is unclear, but place it as less important than the ecological (salmon biomass) and climatic effects. Their results are consistent with the “unclear” conclusion. They have no analytical approach to determine if and to what degree fishing influenced annual variation in size.
12. The most striking take-aways from this paper are the positive relationships of body size to ocean salmon biomass for sockeye, Chinook, and coho salmon. These relationships are consistent with the Russian view that environmental conditions are driving variability in biomass, and that **growth and survival is driven more by density-independent changes in productivity than density-dependent interactions among salmon species.** The authors do present evidence of density-dependent effects on growth for pink and chum salmon, with pinks most affected by intraspecific density and chums by total salmon biomass. Perhaps this latter is the effect of chum salmon switching to gelatinous prey to avoid more intense competitive interactions with pinks and sockeye.
13. The results for coho salmon are a striking contrast to Shaul and Geiger’s (2016) finding of size decline in commercial weights of coho salmon in Southeast Alaska. Restating what was said in the critique of Shaul & Geiger: these opposite results indicate that stock-specific differences in ocean distribution may be very important in determining growth potential and the degree and direction of species interactions.



IX. Jones et al. (2018). Population viability improves following termination of coho hatchery releases.

This is an interesting case history study of the response of a natural-spawning coho salmon population to the termination of an in-stream hatchery. It has **little relevance to the concern the petitioners expressed vis-à-vis ocean carrying capacity**. It does have some relevance to the ongoing debate on impacts of domestication selection of hatchery fish on the fitness of wild stocks.

The hatchery on the Salmon River in Oregon was operated from 1978–2005, representing 27 brood years (generations) of directed hatchery influence. The brood stock was derived from the local Salmon River coho population. Once hatchery returns began, the hatchery, located some 8 km up-river, would collect approximately 270 adults for brood stock, and allow the other hatchery fish to spawn naturally. During the hatchery period for which data are presented (1992–2005 broods, 1995–2008 returns), the hatchery would release approximately 200,000 smolts annually. The majority of naturally spawning fish during this period were first-generation hatchery fish; productivity of naturally-spawning fish was low. After termination of the hatchery, productivity has increased and the natural spawning fish have produced runs of approximately the same size as when the hatchery was operating (from 1995–2008; 1978–1994 numbers are not shown). The authors suggest that density-dependent interactions between hatchery smolts and naturally-produced fish reduced survival of the naturally-produced juveniles. There also could have been density-dependent loss of productivity through competition for limited spawning habitat, and potentially lower fitness of the hatchery fish spawning naturally. Marine survival was higher for smolts after the hatchery period, which would also contribute to increased productivity.

Coho salmon are typically reared in hatcheries until yearling smolts. This long period of hatchery rearing makes them more susceptible to domestication selection that could affect their reproductive success when spawning naturally (Theriault et al. 2011). In addition, the authors note that there had been a substantial shift to earlier-spawn timing from the original brood stock. Spawn timing is quite heritable and hatchery programs can easily select for earlier timing by filling up on eggs from the early returns.

In spite of the concerns for domestication selection and reduced reproductive success of hatchery fish, this population recovered quickly from the density-dependent impacts of in-river hatchery releases after 27 generations of direct hatchery/wild interactions. Productivity is similar to neighboring wild-stock systems, and the population appears to be self-sustaining. These results support the policy of deriving hatchery populations from local stocks; it also demonstrates the need to evaluate the efficacy of hatchery programs to ensure they are meeting their management goals. Supplementation of coho salmon populations with in-river fry and smolt releases can result in replacement of wild production due to density-dependent interactions in their freshwater spawning and rearing habitats (Nickelson 2003). When this occurs to the degree observed in the Salmon River, termination of hatchery releases is the reasonable and cost-effective course of action. This



is a very different from lake stocking of sockeye fry in lake systems, which have been identified as spawner-limited, e.g. Babine Lake, Tahltan Lake, and the Gulkana program.

This case history study demonstrates that appropriate brood-stock selection, and maintenance of spawning and rearing habitat, can ensure that wild stocks retain their viability and productive capacity even when exposed to long-term and direct interactions with hatchery fish. It is important to note that Alaska's hatchery program is dissimilar to the one described here. Most pink, chum, Chinook, and coho salmon are released to the ocean and not in freshwater rivers, and programs are located away from major wild stock systems.



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Submitted By
Arthur Bloom
Submitted On
10/2/2018 10:07:49 AM
Affiliation

I believe we should be more cautious about hatchery production. I do not believe we understand in any meaningful way the impact of releasing millions of hatchery reared salmon fry/smolt on wild salmon stocks.



Submitted By
Ben Van Alen
Submitted On
10/1/2018 12:34:04 PM
Affiliation

It is time for our experiment with the ocean ranching of hatchery salmon to end. There is no ecological, nor economic, niche for hatchery salmon. Hatchery fish increase competition, decrease growth, increase predation, decrease survivals, increase straying, decrease fitness, increase harvest pressure, and decrease management precision on wild fish. Hatchery releases put wild and hatchery fish in direct competition for declining resources. We observe declining or depressed runs of eulachon, herring, and wild and hatchery salmon wherever we have industrial scale hatchery releases. How can a hatchery fish help a wild one?

To have healthy salmon runs we must maintain the environment, maintain the wild spawners, and close hatcheries – to protect the environment and protect the spawners. The abundance of salmon (and all biota) is always ultimately limited by the environment's carrying capacity - not by the numbers of babies. The carrying capacity can be filled with wild fish, or hatchery fish, but it is the nutrient cycling of wild fish that maintains the carrying capacity. Wild fish are dying for more. It is best to manage for naturally distributed spawners within a range that returns are not obviously limited by too few, or too many, spawners. Our industrial-scale "ocean ranching" hatchery releases push carrying capacity thresholds and contribute to highly variable survivals and returns of both wild and hatchery salmon. Poor survivals of wild salmon results in low returns and low escapements and years of fishery restrictions to rebuilt escapements and returns. It takes fish to make fish. The sustaining and rebuilding of wild runs is impossible in the face of continued hatchery releases. Where are there industrial-scale hatchery releases and not declining runs of eulachon, herring, and salmon?

Production of salmon (and all plants and animals) is always ultimately limited by the environment's carrying capacity – not by the numbers of babies. You can't just release more fish and get more fish just like you can't just plant more corn to get more corn. The productivity of the ocean is limited just like the productivity of a field is limited. The natural fertilizing by millions of salmon in thousands of natal lakes, streams, and rivers is needed to maintain the environment's productivity just like the farmer must fertilize to maintain the productivity of his/her field. In fact, the farmer also knows the importance of tilling the soil before planting and the importance of seed quality. The farmer knows if she/he wants more corn then they need a bigger field. Our industrial-scale ocean-ranching hatchery program disregards natural ecological processes and all that we have learned about agriculture and farming since 700 BC. The Mighty Pacific is Nature where carrying capacity and natural selection rules. There is only one Mighty Pacific. We can't do better than what happens naturally. We must use Nature as our guide and minimize differences from what happens naturally. There is nothing natural or sustainable about hatchery propagation regardless of the millions of dollars we spend to build and operate hatcheries and the millions of dollars and hours we spend to manage for and around hatchery fish. Ironically, about the same proportion of wild runs are allowed to spawn as the proportion of hatchery runs that are harvested for brood stock and cost recovery? Again, the production of salmon is limited by the carrying capacity and the carrying capacity is limited by our habitat protections, the number we harvest, and the number we release from hatcheries. To sustain healthy stocks and fisheries we must maintain natural habitat conditions as much as possible (Vote yes on Proposition 1), actively manage salmon harvests to maintain naturally distributed and abundant spawners, and close hatcheries. It's the numbers that die, not the poor egg-to-fry. Human nature is not mother nature. We can't do better than what happens naturally. Realize that what happens naturally is the positive result of millions, billions, and gazillions of experiments in the competition and cooperation of the biota in the biosphere (fish in the sea).

Hatchery salmon swim with wild fish, they eat what wild fish eat, they eat wild fish, they stray and spawn and reduce the fitness of wild fish, they reduce survivals of wild fish, and, they do not make more fish - they make fewer. Wild and hatchery fish fill the carrying capacity but only wild fish help to sustain it. It is the natural nutrient cycling of millions of wild salmon spawning and dying in thousands of natal streams that helps maintain the productive capacity of our watersheds, estuaries, bays, straits, and ocean. It is the millions of wild salmon that return to spawn where and when their parents did that maintains the genetic and biodiversity fitness needed to have healthy stocks and fisheries. We've allowed billions of hatchery fish to elbow their way into the ecosystem potluck without bringing a dish. We've allowed millions of hatchery fish to stray, spawn, and unnaturally hybridize with, and reduce survivals of, wild fish. The "nutrient mining" inherent with ocean ranching is lowering the productivity for all biota. The 1.6+ billion "nutrient miners" now released from Alaskan hatcheries each year are in direct competition for space and food with wild fish.

How can a hatchery fish help a wild fish? Every place we look we find hatchery releases up and wild (and now hatchery) fish down. Cutting hatchery fish by 100% is needed to sustain healthy eulachon, herring, and salmon stocks and essential now that we have declining and depressed runs of wild eulachon, herring, and salmon in Southeast Alaska, Prince William Sound, Cook Inlet, and Kodiak. It is not thanks to hatcheries that we still have fisheries - it is because of hatcheries that we are losing our fisheries. From fishers to hatchery harvesters. Hatcheries have become one of the biggest "user group" in the State. Simply put, low salmon runs are a consequence of over-fishing and over-releasing. We have nearly 100% control over the former and should close hatcheries to control the latter.

The Board of Fisheries should take actions immediately to: 1) discontinue hatchery releases of Chinook, Coho, and Sockeye Salmon; and 2) allow only volitional releases of less than 20 million unfed Pink and Chum Salmon fry from hatchery sites until a complete review of factors limiting the production of wild and hatchery fish is completed.

In summary, it is impossible to maintain healthy salmon stocks and fisheries in the face of industrial-scale hatchery releases. There is only one ocean and the production of salmon from the ocean is ultimately limited by its carrying capacity. Wild fish can fill this carrying capacity and only wild fish help to sustain it. It is the natural spawning and dying of millions of salmon in thousands of natal streams that helps maintain the productive capacity of our watersheds, estuaries, bays, straits, and ocean. Hatchery fish are elbowing their way into the ecosystem potluck without bringing a dish. The "nutrient mining" inherent with ocean ranching is lowering the productivity for all biota. The



1.6+ billion "nutrient miners" now released from Alaskan hatcheries each year are in direct competition for space and food with wild fish. We observe declining and depressed runs of eulachon, herring, Chinook, Sockeye, Coho, Pink, and Chum Salmon wherever we have industrial scale hatchery programs. Why do we continue to think that the ocean is limitless and that we will have more salmon if we just release more salmon? Why allow hatcheries to employ whatever rearing and release strategies they can "afford" to provide their releases with a survival advantage over wild fish? Why allow hatchery strays? Why spend millions of dollars to supplant wild fish with hatchery fish? Instead of joining Japan and Russia as world leaders in ocean ranching nutrient mining we must stand tall and go wild for healthy runs and healthy fisheries. We all know the key to abundant salmon is to maintain the habitat and maintain the spawners. Minimizing hatchery releases is critical to maintaining the habitat and maintaining the spawners – and completely under our control. How can a hatchery fish help a wild one?

It is time to accept and embrace Alaska's wild stock priority. Alaska Salmon: Wild, Natural, Sustainable...or Hatchery? Stand Tall, Go Wild.



From: Robert Henrichs
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Cc: [Jack Hopkins](#); [Mark King](#); [Patty Schwalenberg](#); [Kerin Kramer](#); [Reyna Newirth](#)
Subject: hatcheries
Date: Wednesday, October 3, 2018 11:19:06 PM

Hatcheries are a huge part of the economy of the State.

They have created thousands of jobs on fishing boats, tenders, hatcheries, processing plants and freight companies.

It is a multi million dollar industry.

We can take the lessons that we have learned from the hatcheries, and apply them to restoring the king salmon runs all over Alaska.

We can cry about it or we can shape our own destiny/

Bob "Moose" Henrichs

Founding Director of Prince William Sound Aquaculture Corp.



From: Caleb Nichols
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: BOF Special Session regarding Hatchery Production
Date: Wednesday, October 3, 2018 3:13:02 PM

To the members of the Board of Fish,

My name is Caleb Nichols and I believe it is important that I inform you who your decisions regarding a strong and sustainable hatchery program in Alaska support. This year as you are aware, the Copper River sockeye salmon run was dismal. In the ten years that I have fished area E as a captain, it was the first time that I have offloaded my sockeye catch in a five gallon bucket. When the Copper River became closed due to the low sonar counts, I had the painful but necessary conversation with my wife about if we should sell our house or our boat. "The runs just late" and "the blob" was to blame were the thoughts circulating in my head, causing anxiety. My boat was still in harbor. When it became apparent that many sockeye salmon runs with the exception of the Nushigak and Main Bay (Prince William Sound PWSAC Hatchery) came in above expected. If it were not for Prince William Sound Hatchery Produced Sockeye salmon at Main Bay that I was able to harvest, you'd be seeing my boat for sale on ak list or Craigslist and my home for sale on Zillow. Thanks to Hatchery production, they are not. Please consider this in your decision and thanks for your time.

Caleb J Nichols RN
F/V Liam Joshua

Sent from my iPhone

Submitted By
Catherine Bursch
Submitted On
10/3/2018 5:19:37 AM
Affiliation
commercial fisherman

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I am an Alaskan resident and I have been fishing commercialy in Alaska for 35 years. I have gillnetted, seined and longlined in many different fisheries around the state.

I am concerned with the salmon hatchery system and oversight. Hatcheries are powerful tools and all Alaskans need to be able to weigh in on the effect hatcheries have on our coastlines and our shared oceans. As we begin to understand that our oceans have carrying capacities, almost all our fisheries management decisions become allocative.

As resources become more scarce, they become more coveted with increased competition for use.

As we see this scenerio unfolding with our state fisheries, I would ask the Board of Fisheries to examine and possibly rec-create a more equitable system for the people of Alaska to evaluate and weigh in on the pros and cons of salmon hatcheries.

I would caution the Board in increasing hatchery production until there is better citizen involvement and process created surrounding hatchery decisions.



Submitted By
Charlie Black
Submitted On
10/1/2018 9:51:54 AM
Affiliation

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I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

Hatchery programs are economic drivers for Alaskan communities. Studies have shown that 74% of VFDA's commercial salmon harvest value goes to Alaskan residents, with 37% going to residents of Cordova and Valdez, 23% to the Kenai Peninsula, 9% to residents of Anchorage, and 4% combined to residents from Kodiak, Mat-Su, Sitka, and Wrangell-Petersburg. It should be noted that these hatchery fish are not just benefiting commercial fisherman. According to the McDowell Group, almost 700,000 PWSAC sockeye salmon were harvested in subsistence and personal use fisheries between 1999 and 2011, with 73% of these fish going to residents of Anchorage, Fairbanks North Star Borough, and the Matanuska-Susitna Borough. Further, VFDA hatchery production accounts for 75% of all coho and 90% of all pink salmon caught by sport fish anglers in the Valdez area, and the total sport fish economic output for VFDA is estimated at \$6.6 million annually.

Finally, I wish to voice a concern about process. Convening an emergency meeting on this issue during the middle of our commercial salmon fishing is unreasonable and poor process, especially when the same petition has already been denied due to not meeting emergency criteria. The board has scheduled a discussion on hatchery production at the October 2018 work session. By holding this meeting in Anchorage on July 17, you have denied me and my fellow PWS fishermen an opportunity for meaningful participation.

PLEASE DENY THIS EMERGENCY PETITION REQUEST

Signed,



CITY AND BOROUGH OF SITKA

RESOLUTION NO. 2018-19

A RESOLUTION OF THE CITY AND BOROUGH OF SITKA SUPPORTING THE ALASKA SALMON HATCHERY PROGRAM

WHEREAS, the City and Borough of Sitka benefits greatly from the State of Alaska Salmon Hatchery Program; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments, which receive raw fish tax dollars; and

WHEREAS, Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations; and

WHEREAS, Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans; and

WHEREAS, returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980; and

WHEREAS, there are no stocks of concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time; and

WHEREAS, Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade; and

WHEREAS, Alaska hatcheries accounted for 22% of the total common property commercial catch and 43% of the total ex-vessel value in the Southeast region in 2016; and

WHEREAS, a McDowell Group report identifies the economic contribution in 2017 of the Southern Southeast Regional Aquaculture Association (SSRAA) to be 680 jobs, \$32 million in labor income, and \$70 million in total economic output; and

WHEREAS, NSRAA's most recent 2009 McDowell Group report notes a first wholesale value of \$63.3 million in 2008, with a total economic output of \$100 million for that same year; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the state of Alaska by creating employment and economic opportunities throughout the state and in particular in rural coastal communities; and



WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery program **through the State Revolving Loan Fund** and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority; and

WHEREAS, Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC).

NOW, THEREFORE, BE IT RESOLVED by the Assembly of the City and Borough of Sitka that the City and Borough of Sitka affirms its support for Alaska's salmon hatchery programs; and

BE IT FURTHER RESOLVED that the City and Borough of Sitka supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023; and

AND, BE IT FURTHER RESOLVED that the City and Borough of Sitka calls on the Alaska Board of Fisheries to work with the hatchery community, the Alaska Department of Fish and Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska on this 25th day of September, 2018.


Matthew Hunter, Mayor

ATTEST:



Sara Peterson, MMC

Municipal Clerk

1st and final reading 9/25/18

Sponsors: Eisenbeisz and Knox



CITY AND BOROUGH OF WRANGELL

RESOLUTION NO. 09-18-1427

A RESOLUTION OF THE ASSEMBLY OF THE ASSEMBLY OF THE CITY AND BOROUGH OF WRANGELL, ALASKA, SUPPORTING THE ALASKA SALMON HATCHERY PROGRAM

WHEREAS, the City and Borough of Wrangell, and the fishermen, processors and businesses in Wrangell all benefit greatly from the State of Alaska Salmon Hatchery Program; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments, which receive raw fish tax dollars; and

WHEREAS, Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations; and

WHEREAS, Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans; and

WHEREAS, returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980; and

WHEREAS, there are no stocks of concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time; and

WHEREAS, Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade; and

WHEREAS, Alaska hatcheries accounted for 22% of the total common property commercial catch and 43% of the total ex-vessel value in the Southeast region in 2016; and



WHEREAS, a McDowell Group report identifies the economic contribution in 2017 of the Southern Southeast Regional Aquaculture Association (SSRAA) to be 680 jobs, \$32 million in labor income, and \$70 million in total economic output; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the state of Alaska by creating employment and economic opportunities throughout the state and in particular in rural coastal communities; and

WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery program and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority; and

WHEREAS, Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC);

NOW, THEREFORE BE IT RESOLVED that the City and Borough of Wrangell affirms its support for Alaska's salmon hatchery programs; and

FURTHER BE IT RESOLVED that the City and Borough of Wrangell supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023; and

FURTHER BE IT RESOLVED that the City and Borough of Wrangell calls on the Alaska Board of Fisheries to work with the hatchery community, the Alaska Department of Fish and Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

ADOPTED: September 25, 2018

ATTEST:

Kim Lane, MMC, Borough Clerk

Stephen Prysunka, Vice-Mayor





**CITY OF CORDOVA, ALASKA
RESOLUTION 09-18-24**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CORDOVA, ALASKA,
SUPPORTING THE ALASKA SALMON HATCHERY PROGRAM**

WHEREAS, the City of Cordova benefits greatly from the State of Alaska Salmon Hatchery Program; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments, which receive raw fish tax dollars; and

WHEREAS, Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations; and

WHEREAS, the Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans; and

WHEREAS, returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980; and

WHEREAS, there are no stocks of concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time; and

WHEREAS, Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade; and

WHEREAS, Alaska hatcheries contributed nearly 47 million fish to the commercial fisheries and \$162 million in statewide ex-vessel value in 2017; and

WHEREAS, Alaska hatcheries accounted for 57% of the total common property commercial catch and 60% of the total ex-vessel value in the Prince William Sound region in 2017; and

WHEREAS, a draft McDowell Group report on the Economic Impacts of Alaska's Salmon Hatcheries identifies the economic contribution in 2017 of the Prince William Sound hatcheries to be 2,135 jobs, \$101 million in labor income, and \$307 million in total economic output; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the state of Alaska by creating employment and economic opportunities throughout the state and particularly in rural coastal communities; and



WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery program and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority; and

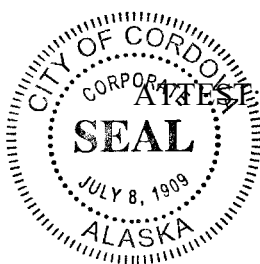
WHEREAS, Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC);

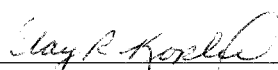
NOW, THEREFORE BE IT RESOLVED that the City Council of the City of Cordova, Alaska affirms its support for Alaska's salmon hatchery programs; and


BE IT FURTHER RESOLVED that the City Council of the City of Cordova, Alaska supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023; and

BE IT FURTHER RESOLVED that the City Council of the City of Cordova, Alaska calls on the Alaska Board of Fisheries to work with the hatchery community, the Alaska Department of Fish and Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

PASSED AND APPROVED THIS 19th DAY OF SEPTEMBER 2018.




Clay R. Koplin, Mayor

ATTEST:
Susan Bourgeois, CMC, City Clerk

Susan Bourgeois, CMC, City Clerk



Submitted By
Mayor Tim O'Connor
Submitted On
10/3/2018 7:56:52 AM
Affiliation
City of Craig

Phone
907-826-3275
Email
mayor@craigak.com
Address
PO box 725
Craig, Alaska 99921

Dear Alaska Board of Fisheries members:

The City of Craig supports existing hatchery production of salmon efforts in Alaska.

Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state. Residents of Craig benefit measurably from salmon hatchery production in the region. That production is sustainable economically and biologically, and provides benefits to all gear groups, seafood processors, and communities.

Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations. The Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans. To that end, the city supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023.

For its part, the City of Craig financially supports hatchery production of salmon locally. The city participates using cash and in-kind contributions through a cooperative agreement with the Southern Southeast Regional Aquaculture Association in the production of king salmon and chum salmon.

I will note here that returns of hatchery and wild salmon stocks follow similar survival trends over time; the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980. There are no stocks of concern where most hatchery production occurs. Adequate escapements to wild stock systems are being met in these areas over time.

Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade. Those hatcheries accounted for 22% of the total common property commercial catch and 43% of the total ex-vessel value in the Southeast region in 2016.

I encourage the Board of Fisheries to work with regional aquaculture associations, ADF&G, and fishing industry groups to build recognition of the need to appreciate the benefits of hatchery production and the considerable investment it represents.

Sincerely,

Mayor Tim O'Connor, City of Craig



October 2, 2018

Department of Fish and Game
Fax No. 907-465-6094

Hatchery's are not the problem in my opinion. Mid water trawlers harvest a lot of King Salmon as Bycatch as I understand. Yet only 30% of the trawl fleet has human observers on board. It is my understanding they are getting better at not catching Kings, another problem I see is catch and release, molesting spawning salmon in river, anchors drag through spawning beds and outboard motors.

I don't see any reports of Pink Salmon Bycatch by mid water trawlers, so it seems to me that if Pink Salmon were competing with Kings for food they would be caught by the mid water trawlers. No reports of that. No way to remove drugs that pass through sewage treatment plants into our oceans. Hatchery or wild strays salmon that don't return to river of origin, it is one of the ways salmon populate.

The Unalakleet River got a sockeye run no one complained about that. Years ago I was with Lowel Anagik on the Unalakleet River and I saw several sockeye salmon pairs there, Lowel told me there never used to be any sockeyes there and people were happy to have another food source.

Sustainability: the Kenai/Kasilof drainages are a zoo during the summer months; I only go there in September and October on week days even then certain places get crowded. Known King Salmon spawning areas should be closed to all boat traffic and all fishing once the salmon are paired up and nesting. I also feel the number of people on these waters need to be limited/reduced on years like 2018. I feel it will take several decades for the "big" (>50 lbs) King run's to recover.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Mclean", with a long horizontal line extending to the right.

Dan Mclean
Born in the territory of Alaska...
living in Homer

Submitted By
Dianne Dubuc
Submitted On
10/3/2018 2:28:47 PM
Affiliation

Phone
907-491-1328
Email
florette@arctic.net
Address
POB 584
Seward, Alaska 99664

I believe the current management plan for hatcheries leaves the public out of the process as only ADF&G and the hatchery managers are at the table.

I am also concerned about the carrying capacity of our oceans.

I would like to show my support for the Hatchery Committee 5AAC 39.222 Sustainable Salmon Fishery Policy and thank the board for considering this very important and timely issue.



From: elisay kuzmin
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Hatchery Fishing
Date: Wednesday, October 3, 2018 5:32:09 PM

As a PWS gillnet fisherman of 20 years I oppose shutting down production of the hatcheries. If it wasn't for hatchery fishing me and my family would be relying on welfare a long time ago.

Sent from my iPhone

Gale K. Vick
Fairbanks, Alaska 99709

COMMENTARY TO THE ALASKA BOARD OF FISHERIES

October 3, 2018

Regarding Alaska salmon hatchery production

My name is Gale Vick. I am a 50 year resident of Alaska, a former drift gillnetter in Prince William Sound, and for 27 years I have owned a business related to community fisheries policy. I have worked on salmon, crab, groundfish, and halibut issues. I have worked on commercial, subsistence and sports charter issues. I am currently working within the Yukon River drainage and I am on a SASAP team, a collaboration of scientists from all over the Pacific Coast, including Canada and Alaska, looking at salmon decline drivers. I was recently a member of a MAFAC subcommittee regarding aquaculture policy *only because I wanted to understand what the rest of the country was doing and what might constitute threats to Alaska.*

I am speaking today on behalf of myself and my very large extended family to address the need to have an institutionalized hatchery review process, on an on-going basis, at the Alaska Board of Fisheries.

My first caution is that all species of salmon in Alaska are in obvious trouble, with the exception of Bristol Bay sockeye. You do not need to be a scientist to fully appreciate this. Most of us who have fished all over the state know, for instance, that Chinook salmon abundance and size is dramatically decreasing. Our science supports this and our trajectories suggest that we have not hit bottom yet.

I had sort of an epiphany working on that MAFAC subcommittee. I realized that the rest of the world looked at our hatchery system as no different than the hatchery systems of Washington, Oregon or California. I started reading tremendous amounts of material about hatcheries in those areas, who had developed hatcheries for similar reasons Alaska has, to augment natural runs. Unfortunately, in most states, including the Canadian coast, hatchery and fish farm productions have been the public's default action when the modern world had so decimated wild salmon passage and habitat. And unfortunately, those states are now concerned with the unintended consequences of hatchery production.

We think of Alaska as the world's last stronghold of wild salmon. We think that our support systems are unique and that we are not going to fall prey to the problems of other places. And we are wrong. Of course we can have the same problems, some of which are human caused and some of which are environmental and may indirectly be or not be human-caused. It is just that we haven't hit the magnitude of those problems yet... but we could. We are well on our way. Our support systems and safeguards are not nearly as strong as people might think.



Even though, for the most part, in Alaska, we have not decimated our wild salmon passage by massive dams and channel diversions, etc., we have taken far too much for granted that our wild stocks will overcome our lapses of knowledge or our hubris. As well regulated as Alaska's fisheries are, we may have inadvertently helped the decline of salmon stocks, particularly Chinook - by gear type, lack of research, lack of enumeration in key spawning streams, lack of meeting our escapement goals, lack of monitoring quality of escapement, some intermittent poor management decisions, and an unknown factor of hatchery impacts.

Despite what occurs out in the ocean, or maybe because of it, our wild salmon need all the protections we can give them in protecting their passage and habitat, in helping them get to spawning grounds in sufficient numbers, monitoring sex ratios and year classes. And they need our protection in mitigating some of the key impacts of hatchery production.

Alaska has had salmon hatcheries since Territorial days. But we did not start operating commercial hatcheries, after statehood, until the 1970's. To my knowledge, we have never done a comprehensive EIS of any of our hatcheries. That would be going on 60 years.

I read and appreciate the hatchery annual enhancement reports. I learn a lot from these. For instance, in the 2016 report, the hatchery percentage of commercial harvest was 22%, with the ex-vessel value of the commercial hatchery harvest at \$85million dollars, the lowest since 2005. While it spiked in 2017, I can only imagine the 2018 report will be significantly lower. I often wonder what triggers hatcheries have to increase egg production in low abundance? While that is my ignorance showing, it leads to a greater question.

Because we have virtually operated with a fully integrated system and have not had independent on-going or even intermittent hatchery review, we find ourselves becoming more reliant economically on hatchery-produced salmon without benefit of knowing the real impacts to wild salmon. We can't seem to have a dialogue about this without pitting the needs of salmon against all the other factors of hatchery economic contribution to the state. That is not the contrast we need to draw.

I see a lot of unanswered questions. Chief among them:

- (1) Does the Alaska hatchery system have sufficient independent oversight?
- (2) Have hatchery salmon compromised wild production?
- (3) Have we over-reached the production of hatchery fish in relation to original requirements for limitations?
- (4) What do hatchery fish extract from an ecosystem without contributing back to it?
- (5) How have hatchery fish affected wild fish genetics where hatchery fish have strayed?
- (6) Are we looking at the best science?
 - a. Considering that we have extremely limited science on hatchery impacts of wild stock, maybe the better question is – what science do we need?
 - b. Has hatchery production contributed to the decline of stocks overall?



I have many questions about the cost/benefits ratio of hatchery production but that is a separate issue. Our first responsibility is to protect our wild salmon as separate from hatchery stock. However, the perceived net benefit to the state from a hatchery system is the driver in much of our policy and politics. Therefore, it would seem that we would want to fully understand the true costs of hatchery production and the true impacts.

- (7) What are the *real* costs of hatchery production? Both start-up and operational?
 - a. How does that change according to geography?
 - b. Who pays those costs and how?
- (8) What are the true economic benefits to Alaska from hatchery production?
 - a. The benefits to *Alaska fishermen and Alaska processors* vs the costs of production to PNPs
 - b. The benefit of sports stocking vs. commercial production

I know there is a current study in Prince William Sound regarding some of these questions, which may or may not get answered. But, regardless of the outcome, my *summary recommendations* are:

- (1) Institutionalize a subcommittee of the Alaska Board of Fisheries or a Committee-of-the-Whole that operates within the BOF cycle to review hatchery production in relation to state requirements for wild fish protection on a regular basis
- (2) Put together a team of non-hatchery related scientists, tribal fishermen, and others to provide oversight review recommendations to the Board of Fisheries
- (3) Create a dialogue that puts the needs of Alaska's wild salmon *before every other consideration, including any economic benefits to fishermen or processors or others*

I have a high regard for most of our fishery management, but understanding the real impacts of hatchery production will help us all to reach agreements and policies that better protect wild stock. And right now, they need all the protections they can get.

And we cannot, should not, look to hatchery production as our default for loss of wild stock because that might be a contributing factor. Just take lessons from the Pacific Northwest.

From: Casey Campbell
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Board of Fish Comments
Date: Wednesday, October 3, 2018 1:48:52 PM
Attachments: [Alaska Hatchery Impacts, Executive Summary.pdf](#)

Dear Chairman Jensen and Board of Fisheries Members,
The following hatchery operators would like to submit the attached document as public comment related to ACR #1 and ACR #2.

- Southern Southeast Regional Aquaculture Association
- Armstrong-Keta
- Douglas Island Pink and Chum, Inc.
- Northern Southeast Regional Aquaculture Association
- Prince William Sound Aquaculture Corporation
- Valdez Fisheries Development Association. Inc.
- Cook Inlet Aquaculture Association
- Kodiak Island Aquaculture Association

The attached document is an executive summary of the economic impact of the Alaska hatchery program, a full report will be available to those interested. We feel this information is important to further understanding the Alaska hatchery program and has been referenced in several comments submitted to the board.

We appreciate you considering this important information.

Kind Regards,

Casey Campbell
General Manager/CEO
Prince William Sound Aquaculture Corporation
casey.campbell@pwsac.com

[Developing Sustainable Fisheries for Alaska and the World](#)



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ECONOMIC IMPACT OF ALASKA'S SALMON HATCHERIES

EXECUTIVE SUMMARY

OCTOBER 2018



PREPARED FOR

- Southern Southeast Regional Aquaculture Association
- Armstrong-Keta
- Douglas Island Pink and Chum, Inc.
- Northern Southeast Regional Aquaculture Association
- Prince William Sound Aquaculture Corporation
- Valdez Fisheries Development Association, Inc.
- Cook Inlet Aquaculture Association
- Kodiak Island Aquaculture Association

PREPARED BY

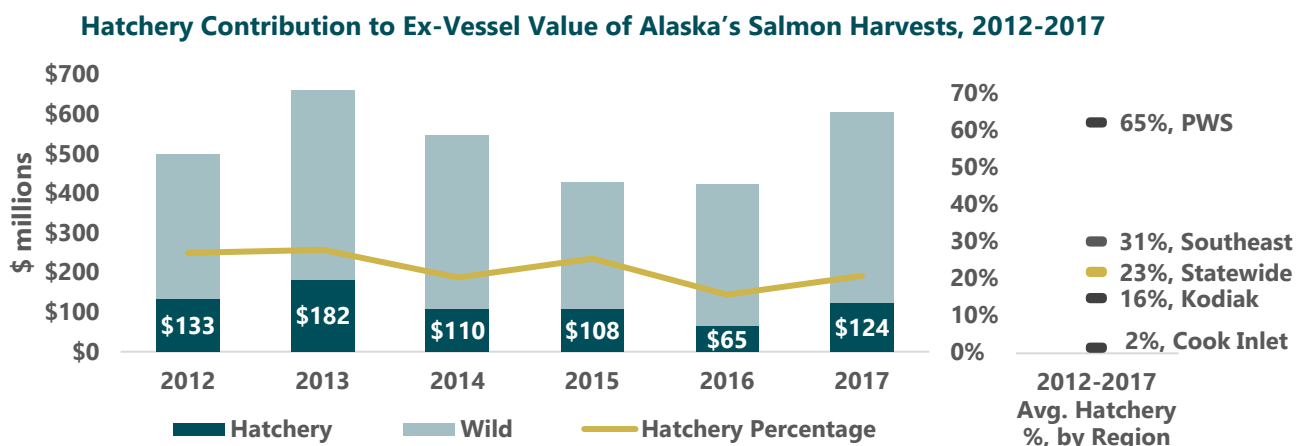
McDowell
GRO

Executive Summary

Alaska's salmon hatcheries contribute nearly a quarter of the value of our state's salmon harvests and generate \$600 million in economic output, with impacts throughout the economy. The scope of this report includes Alaska's eight private, nonprofit hatchery associations, including impacts resulting from hatchery-produced salmon as well as hatchery operations. Data sources include ADF&G, hatcheries, CFEC, DOLWD, and IMPLAN. Commercial harvest and processing data presented reflect annual averages across the six-year period 2012-2017. Sport harvest and related data reflects 2012-2016 averages due to a lag in ADF&G data availability.

Common Property Ex-Vessel Volume and Value

- Over the study period, commercial fishermen harvested an annual average of 222 million pounds of hatchery-produced salmon worth \$120 million in ex-vessel value.
- Chum and pink salmon are the most important species – responsible for 39 and 38 percent of ex-vessel value, respectively – followed by sockeye (16 percent), coho (4 percent), and Chinook (2 percent).
- More than half of hatchery salmon ex-vessel value went to seiners (57 percent). Gillnetters pulled in 38 percent, while trollers caught 5 percent of hatchery ex-vessel value over the study period.
- Regionally, Prince William Sound (PWS) harvests of hatchery salmon generated \$69 million in ex-vessel value annually. Southeast harvests earned fishermen \$44 million on average, followed by Kodiak (\$7 million) and Cook Inlet (\$0.5 million) harvests. It should be noted that Cook Inlet Aquaculture Association (CIAA) is currently building up their pink production and the full impact of these additional investments will not be seen for several more years. In addition, CIAA maintains several flow control structures and a fish ladder – efforts that lead to additional (though unquantifiable) salmon production.
- As a percentage of statewide harvest value, hatchery-derived salmon represents 22 percent of total salmon ex-vessel value over the study period. This percentage ranged from a high of 28 percent in 2013 to a low of 15 percent in 2016. Hatchery contribution was highest in PWS (65 percent) over the study period, followed by Southeast (31 percent), Kodiak (16 percent), and Cook Inlet (2 percent).

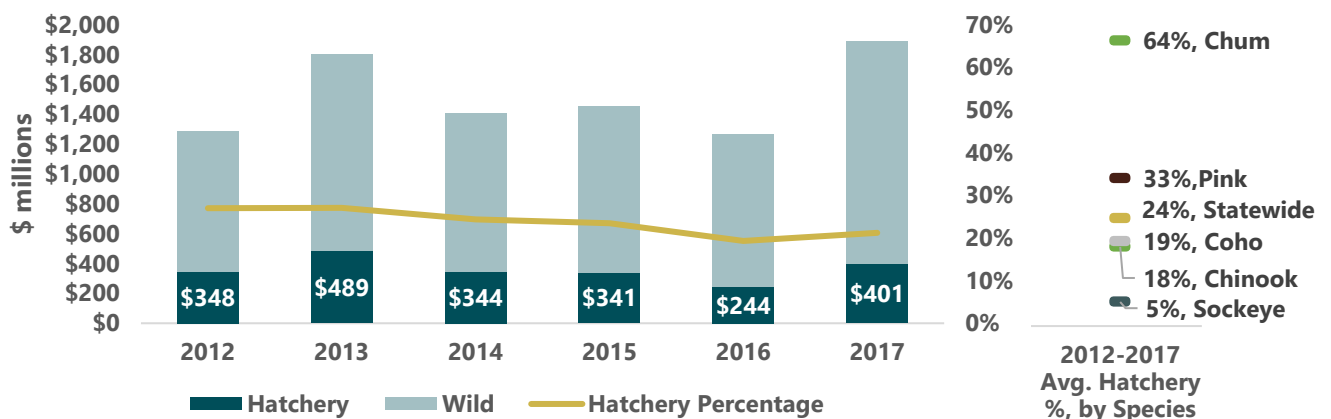


First Wholesale Value

- The first wholesale value – the value of raw fish plus the value added by the first processor – of hatchery-produced salmon averaged \$361 million annually across the study period.
- Nearly four-fifths (79 percent) of hatchery-produced first wholesale value is estimated to come from common property fisheries, with the remainder deriving from cost recovery harvests.
- Hatchery-derived first wholesale value represents 24 percent of total statewide salmon first wholesale value over the study period. By species, nearly two-thirds of chum, one-third of pink, and close to two-fifths of coho (19 percent) and Chinook (18 percent) wholesale production value was derived from hatchery salmon over the study period.

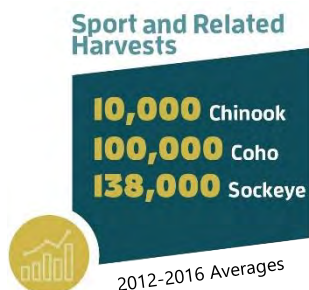


Hatchery Contribution to First Wholesale Value of Alaska Salmon Products, 2012-2017



Sport/Personal Use/Subsistence

- Coho, Chinook, and sockeye salmon are the most important hatchery-produced species for sport, personal use, and subsistence harvests. These species are produced in smaller numbers compared to pink and chum but are much more valuable on a per fish basis.
- On average, about 10,000 hatchery-origin Chinook, 5,000 chum, 100,000 coho, 19,000 pink, and 138,000 sockeye salmon were harvested annually in sport and related fisheries over the study period. These numbers are considered conservative due to limited sampling of sport and related harvests for origin (hatchery/non-hatchery), among other factors.



- Sport harvests accounted for over 99 percent of the sport/personal use/subsistence harvest of hatchery-produced coho and Chinook. By contrast, most non-commercial hatchery sockeye were harvested by personal use and subsistence fishermen (80 percent), with only 20 percent caught by sport fishermen.
- As a percentage of statewide sport-caught fish, hatchery-origin salmon accounted for 17 percent of sport coho harvests, 13 percent of sport sockeye harvests, and 8 percent of sport Chinook harvests.

Economic Impacts

- Alaska's salmon hatcheries account for the annual equivalent of 4,700 jobs and \$218 million in total labor income, including all direct, indirect, and induced economic impacts. A total of \$600 million in annual economic output is connected to Alaska salmon hatchery production.
- The employment impact of 4,700 jobs is an annualized estimate. The number of people who earn some income from the harvest of hatchery-produced salmon is several times the annual average. More than 16,000 fishermen, processing employees, and hatchery workers can attribute some portion of their income to Alaska's salmon hatchery production. Thousands of additional support sector workers earn wages connected to Alaska hatchery production.
- The economic footprint of Alaska's hatcheries includes \$95 million in labor income associated with commercial fishing, \$82 million in labor income associated with processing, and \$25 million connected to hatchery operations.
- Non-resident sport harvest of hatchery salmon accounts for \$16 million in annual labor income created directly or indirectly by Alaska's hatcheries. This number is limited to impacts resulting from non-resident sport harvest of hatchery salmon and should be considered conservative. Clearly, resident sport/personal use/subsistence harvests of hatchery salmon have additional economic impacts as well as very significant social and cultural impacts in Alaska.
- Southeast Alaska hatcheries account for 2,000 jobs (annualized), \$90 million in labor income, and \$237 million in total annual output, including all multiplier effects.
- Prince William Sound hatcheries account for 2,200 jobs, \$100 million in labor income, and \$315 million in total annual output, including all direct, indirect, and induced effects.

Annual Economic Impacts

4,700 Jobs
\$218 million
 labor Income
\$600 million
 economic output



Total Annual Statewide Economic Impact of Alaska Salmon Hatcheries

| | Direct Impacts | Indirect & Induced Impacts | Total Economic Impacts |
|-----------------------------------|------------------------|----------------------------|------------------------|
| Commercial Fishing | | | |
| Employment | 1,040 | 500 | 1,540 |
| Labor Income | \$70.9 million | \$23.5 million | \$94.4 million |
| Seafood Processing | | | |
| Employment | 1,360 | 820 | 2,180 |
| Labor Income | \$52.2 million | \$29.5 million | \$81.7 million |
| Hatchery Operations | | | |
| Employment | 345 | 270 | 615 |
| Labor Income | \$15.5 million | \$9.3 million | \$24.8 million |
| Non-resident Sport Fishing | | | |
| Employment | 285 | 90 | 375 |
| Labor Income | \$10.5 million | \$5.7 million | \$16.2 million |
| Total Economic Impact | | | |
| Employment | 3,030 | 1,680 | 4,710 |
| Labor Income | \$149.1 million | \$68.1 million | \$217.2 million |
| Output | \$386.1 million | \$216.0 million | \$602.1 million |



Kachemak Bay Conservation Society
3734 Ben Walters Ln, Homer, AK 99603
907 235.8214
kbayconservation@gmail.com



PC139
1 of 2

Submitted Electronically

October 2, 2018

Dfg.bof.comments@alaska.gov

Ref. Support for Hatchery Committee 5AAC5 39.222

Sustainable Fishery Policy

To Alaska Board of Fish

Greetings,

Kachemak Bay Conservation Society (KBCS) is a thirty-five year old nonprofit based in Homer, Alaska. Our mission is to protect the environment of the Kachemak Bay region and greater Alaska by encouraging sustainable use and stewardship of natural resources through advocacy, education, information, and collaboration.

We applaud the board of fisheries proceeding with an open and transparent public process sorely needed to address the hatchery issues in the state of Alaska.

KBCS agrees with the need to gather information on hatcheries and pursue science driven projects to answer pressing questions and agree strongly with creation of a Hatchery Committee. We feel this way for the following reasons:

1. This hatchery committee needs an external scientific review to gain the best available scientific information and ensure the environmental impact of these hatchery activities does not damage the public trust wild fish resources of the state.
2. The grave uncertainty of effects to the food web from the sheer magnitude of introduced fish into the marine ecosystems requires the BOF to assess these effects and interactions as per the Sustainable Salmon Fisheries Policy For The State Of Alaska 5 AAC 39.222
3. To ensure the wild fish priority, statutes, regulations and policy mandates are being upheld
4. Risk to wild fish from hatchery interaction is kept to a minimum
5. We understand adding this issue to your very full plate will require additional funding and we will be contacting our legislators to ask for support.

Thank you for fulfilling your oversight responsibility of hatcheries at this critical level, per your regulatory authority.

The Kachemak Bay Conservation Society's mission is to protect the environment of the Kachemak Bay region and greater Alaska by encouraging sustainable use and stewardship of natural resources through advocacy, education, information, and collaboration.



Kachemak Bay Conservation Society
3734 Ben Walters Ln, Homer, AK 99603
907 235.8214
kbayconservation@gmail.com



PC139
2 of 2

In conclusion, KBCS has concerns regarding the effects hatchery fish have on wild fish stocks. In addition, the time has come for collaboration with all sources to better understand the effects of the massive hatchery releases on the North Pacific. . The adverse effects from climate change & warming waters need to be understood along with ocean acidification.

From all KBCS members, young and old, we implore you to move swiftly on hatchery questions and attempt to preserve wild fish stocks for future generations.

Respectfully,

Roberta Highland

President, Kachemak Bay Conservation Society



From: kayley
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Hatcheries of Prince William Sound
Date: Wednesday, October 3, 2018 5:09:17 PM

My name is Kayley Babic, I am a fourth generation fisherwoman of Prince William Sound & The Copper River flats. Me and my brothers grew up fishing on our father and grandfathers boats learning the ways of the wild Alaskan waters . The majority of our seine fleets livelihoods are directly correlated with the hatcheries located in the Sound. I believe that the world and America is on the precipice of realizing what has gone wrong with our food industries (GMOs, pesticides, preservatives, etc.) and what is acceptable in standards to feed our growing families and the next generation of people. Wild Salmon is an exceptional organic food source that should be shared with all. It is incredibly important to the future of Alaskans, and the future of our rural communities to keep funding these hatcheries.

But also to help them have the best returns possible in order to sustain livelihoods of thousands of families and to spread the health and wealth of Wild Alaskan Salmon. It is vital to our economy, as a state and as the last frontier to not only maintain the standard of having the best wild salmon in the world, but to supply an abundance of these fish as well. Spreading the love of salmon, the love of real food, and the love of Alaska with the rest of the world is what we are all about and hope to continue our ways. Funding these hatcheries is crucial to our future. Thank you -

Kayley Babic

Sent from my iPhone

Sent from my iPhone



From: Between Beaches Alaska
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Hatchery comment
Date: Wednesday, October 3, 2018 4:55:17 PM

Kristi McLean

Re: Support for hatchery committee 5 AAC 39.222 Sustainable salmon fishery policy

I appreciate the board of fisheries looking into this and taking the time to address this issue and listening to fisherman like myself. We have to keep unnatural ways of reproducing salmon in our state to a minimum and make sure that the hatchery fish aren't contributing negatively.

I was born and raised in Alaska and have been in the fisheries for over 45 years. My family fished together and continue to participate in the fishery. I lived it, breathed it, and can look back at how things have changed and truly believe this is having an affect on our fishery.

The hatchery pink salmon are ruining our set net fishery in Kachemak Bay. Essentially the red salmon fishery has been replaced with a hatchery pink salmon fishery to benefit a small handful of fishermen. This strongly affects us 30 set netters who live locally year round here in Kachemak Bay.

This year there were just too many hatchery pinks to make the effort to continue fishing worth it. Because of our gear type, we hand pick our fish and because of the flooding of these hatchery pinks in our nets we had to quit fishing early the past few years.

Also, I believe these hatchery fish are affecting the food source of our wild fish, and we are noticing a size decrease of our wild stocks. This has forced us to invest in smaller mesh sized nets to catch the smaller reds, which in turn catches more of the pink salmon.

Another concern is the straying issue I witnessed in 2017 here at Kasitsna Bay. We had so many dead rotting pinks on our beach that were tested and shown to be from a PWS hatchery that we had to scrape them down the beach to get the smell away from the house.

Kachemak bay fishery is in a designated critical habitat area and to assure this natural wild stock fishery will stay healthy and will be around for future generations is basically what the decision you are making will decide. Please keep hatchery fish to a minimum.



Thank you for your time,

Kristi Mclean

Submitted By
Mike Mahoney
Submitted On
10/3/2018 2:16:24 PM
Affiliation

Phone
907 429 5405
Email
mjmahoney22@hotmail.com
Address
PO box 2416
Block 1, lot 13 Hartney Bay
Cordova, Alaska 99574

Dear Board of Fish,

The state hatchery program benefits all user groups and is vital to the health of coastal fishing economies. As a Cordova resident and an area E salmon gill net permit holder for the past 18 years I can honestly say I would not be in business today if there were no hatcheries producing salmon in PWS. There is no evidence that hatchery fish are damaging our wild stocks. Let's continue to manage our resources using the best science available to us. I support more research being done to assess the true impact of hatchery and wild fish interaction, but arbitrarily shutting down hatchery production will have terrible consequences for the commercial fleet and all user groups. Thank you.

Mike Mahoney



**NATIVE VILLAGE OF AFOGNAK
RESOLUTION NUMBER 2018-14**

IN SUPPORT OF THE ALASKA SALMON HATCHERY PROGRAM

WHEREAS, subsistence fishing is important to the members of the Native Village of Afognak; and

WHEREAS, the State of Alaska has increasingly emphasized the importance of tribal consultation for state agencies; and

WHEREAS, tribes are stakeholders in Alaska's fisheries as changes in policy have direct impacts on tribal members who subsist and otherwise rely on fish for the health of their families and communities; and

WHEREAS, members of the Native Village of Afognak benefit greatly from the State of Alaska Salmon Hatchery Program; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments, which receive raw fish tax dollars; and

WHEREAS, Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations; and

WHEREAS, Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans; and

WHEREAS, returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980; and

WHEREAS, there are no stocks of concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time; and

WHEREAS, Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade and account for 22% of the total common property commercial catch; and

WHEREAS, the Kodiak Regional Aquaculture Association (KRAA), headquartered in Kodiak, produced 3.2 million pink salmon (53%) of a total return of 6 million to the Kodiak Management Area in 2018; and whereas the preliminary ex-vessel value of the Kodiak hatchery pink salmon in 2018 is estimated to be approximately \$4.7 million; and



WHEREAS, the Kodiak Regional Aquaculture Association (KRAA) production resulted in \$7 million from hatchery production between 2012 and 2017, and over \$3 million on an annual average between 2003 and present; and

WHEREAS, preliminary ex-vessel values indicate chum, sockeye, and coho salmon produced by Kodiak Regional Aquaculture Association will contribute an additional estimated \$2 million to the commercial fishery of Kodiak in 2018; and

WHEREAS, the Kodiak Regional Aquaculture Association production results in over 3 million dollars annually in ex-vessel value, contributing significant economic benefits to local user groups, municipalities, and businesses; and

WHEREAS, the economic contributions of Kodiak Regional Aquaculture Association (KRAA) to the Kodiak management region resulted in 43 jobs, \$1.8 million in labor income, and almost \$1 million in total economic output in 2017; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the state of Alaska by creating employment and economic opportunities throughout the state and in particular in rural coastal communities; and

WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery program and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority; and

WHEREAS, Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC);

WHEREAS, Kodiak fisheries have been the target of recent Agenda Change Requests at the Alaska Board of Fisheries claiming it is an intercept fishery by others in Bristol Bay, Chignik, and Cook Inlet;


NOW THEREFORE BE IT RESOLVED, that the Native Village of Afognak affirms its support for Alaska's salmon hatchery programs; and

FURTHER BE IT RESOLVED, that the Native Village of Afognak supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023; and

FURTHER BE IT RESOLVED, that the Native Village of Afognak calls on the Alaska Board of Fisheries to work with the hatchery community, the Alaska Department of Fish and Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

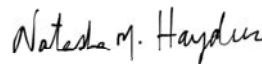


NATIVE VILLAGE OF AFOGNAK

By: 
Meagan Christiansen, Chairman
Native Village of Afognak Tribal Council

ATTESTATION

The foregoing Resolution was adopted by telephone poll of the NVA, on October 2, 2018 in Kodiak Alaska, during which all available members were polled and a quorum was achieved, by a vote of 7 FOR and 0 AGAINST, with 0 Abstentions.

By: 
Natasha Hayden, Secretary
Native Village of Afognak Tribal Council



**NATIVE VILLAGE OF PORT LIONS
PORT LIONS TRADITIONAL TRIBAL COUNCIL**

**RESOLUTION NO.: 2018-15R
A Resolution in Support of the Alaska Salmon Hatchery Program**

WHEREAS, the Native Village of Port Lions is a federally recognized Indian Tribe as defined in Section 3(c) of the Alaska Native Claims Settlement Act, as amended; and

WHEREAS, the Port Lions Traditional Tribal Council is the governing body of the Native Village of Port Lions; and

WHEREAS, subsistence fishing is important to the members of the Native Village of Port Lions; and

WHEREAS, the State of Alaska has increasingly emphasized the importance of tribal consultation for state agencies; and

WHEREAS, tribes are stakeholders in Alaska's fisheries as changes in policy have direct impacts on tribal members who subsist and otherwise rely on fish for the health of their families and communities; and

WHEREAS, members of the Native Village of Port Lions benefit greatly from the State of Alaska Salmon Hatchery Program; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, seafood processors, as well as state and local governments, which receive raw fish tax dollars; and

WHEREAS, Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations; and

WHEREAS, Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans; and

WHEREAS, returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have largely occurred since hatchery returns began in about 1980; and

WHEREAS, there are no stocks of concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time; and

WHEREAS, Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade and account for 22% of the total common property commercial catch; and

WHEREAS, the Kodiak Regional Aquaculture Association (KRAA), headquartered in Kodiak, produced 3.2 million pink salmon (53%) of a total return of 6 million to the Kodiak Management Area in 2018; and whereas the preliminary ex-vessel value of the Kodiak hatchery pink salmon in 2018 is estimated to be approximately \$4.7 million; and

WHEREAS, the Kodiak Regional Aquaculture Association (KRAA) production resulted in \$7 million from hatchery production between 2012 and 2017, and over \$3 million on an annual average between 2003 and present; and

WHEREAS, preliminary ex-vessel values indicate chum, sockeye, and coho salmon produced by Kodiak Regional Aquaculture Association will contribute an additional estimated \$2 million to the commercial fishery of Kodiak in 2018; and



WHEREAS, the Kodiak Regional Aquaculture Association production results in over 3 million dollar vessel value, contributing significant economic benefits to local user groups, municipalities, and businesses, and

WHEREAS, the economic contributions of Kodiak Regional Aquaculture Association (KRAA) to the Kodiak management region resulted in 43 jobs, \$1.8 million in labor income, and almost \$1 million in total economic output in 2017; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the state of Alaska by creating employment and economic opportunities throughout the state and in particular in rural coastal communities; and

WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery program and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority; and

WHEREAS, Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and Marine Stewardship Council (MSC);

WHEREAS, Kodiak fisheries have been the target of recent Agenda Change Requests at the Alaska Board of Fisheries claiming it is an intercept fishery by others in Bristol Bay, Chignik, and Cook Inlet;

THEREFORE BE IT RESOLVED that the Native Village of Port Lions affirms its support for Alaska's salmon hatchery programs; and

FURTHER BE IT RESOLVED that the Native Village of Port Lions supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023; and

FURTHER BE IT RESOLVED that the Native Village of Port Lions calls on the Alaska Board of Fisheries to work with the hatchery community, the Alaska Department of Fish and Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

CERTIFICATION:

We, the undersigned members of the Port Lions Traditional Tribal Council, do hereby certify that the foregoing resolution was duly adopted by the Port Lions Traditional Tribal Council, on the 2 day of October, 2018 with a quorum present and 5 votes for, 0 votes against, and 0 abstaining.

Nancy M Nelson

Nancy Nelson, President

Lester Lukin Jr.

Lester Lukin Jr., Vice-President



Submitted By
Nicholas Crump
Submitted On
10/2/2018 11:29:43 PM
Affiliation
PWS Seiner

Phone
9078316020
Email
nicholaswcrump@gmail.com
Address
PO Box 321
Valdez, Alaska 99686

Distinguished members of the Alaska Board of Fisheries,

My name is Nicholas Crump, I am a Commercial Salmon Seiner in Prince William Sound, and I am writing you in hopes of defending our Hatcheries. As a young boy I watched my father struggle through the oil spill, increased competition from salmon farming, and many other challenges of his time. Through hard work and dedication he persevered and successfully supported our family. Now it appears that defending our enhanced fisheries hatchery system will be one of the many challenges my generation will face.

Although there have been many highs and lows, Commercial Fishing has been good to me. I used the money I saved from working as a crewman to pay my way through college and eventually earn a Master's Degree in Business Administration. Thanks to my experience in PWS seining, my formal business education, and my unique local knowledge I was able to land a job with Valdez Fisheries Development Association as the Cost Recovery Manager. Although I recently resigned from VFDA to operate my own PWS Seine operation, I spent four years in that role and it was a truly remarkable experience. Getting to meet all the key industry players and helping to manage how the runs were harvested was both extremely fascinating and rewarding. I can personally attest to and vouch for the integrity of everyone involved. They all have the best interests and intentions at heart for both the industry and the environment. After all, if we don't protect our environment there won't be an industry. I believe that all parties involved, on both sides of this debate, care deeply about keeping our fisheries healthy and strong in a responsible and sustainable manner. Many commercial fishermen, hatchery workers, cannery workers, ADF&G employees, and other stakeholders are avid sports fishermen and would hate to inadvertently harm other stocks of salmon. I for one really enjoy rafting down the Russian-Kenai Ferry route and catching Rainbow Trout with a bead that resembles a salmon egg. It's world class fishing, a truly Alaskan experience, and I hope it can be preserved.

Although salmon are known for their ability to home back into the freshwater habitat they were born in, there has always been a percentage that stray into non-natal streams. However, I believe the acceptable range of natural stray interaction is still somewhat unknown and currently being studied. Straying can actually be considered a fundamental part of salmon's ability to strengthen genetic diversity, resilience, and colonize new habitats which have never had salmon before. Also, Pink Salmon from PWS hatcheries are all from ancestral PWS streams, which have been straying into and interbreeding with various local stocks well before hatcheries came into existence.

I'm all for protecting the Cook Inlet fisheries from environmental dangers, but I still don't believe PWS hatcheries are a threat to them. If all the PWS stakeholders get penalized for something that may not even be a problem in the first place it would be tragically unfortunate. All the investment made by hatcheries, canneries, fishermen, and other supporting businesses would be in vain because of something happening in an entirely different area that is likely completely unrelated. It's my humble opinion that many of the greatest statemen of all time have been savvy compromisers. This is why I'd recommend that instead of reducing the amount of eggs the hatcheries can incubate, or destroying already fertilized eggs, there be a moratorium placed on future expansions until studies with conclusive evidence can be produced to prove the theories of the KRSA. Meanwhile, there should be more localized studies done on those areas to determine if there are any actions that could be taken directly in Cook Inlet, rather than guessing what might be happening in the vast Gulf of Alaska.

Thank you for taking the time to read and consider my comments. I know you all have a tough decision in front of you and I respect the position of authority you're in. I think measured restraint is the prudent action in this case. Recognizing the presence of a theoretical problem based on circumstantial and anecdotal evidence without overreacting to it. I wish you luck with your decision and hope for the best.

Respectfully,

Nicholas Crump

Submitted By
olga von ziegesar
Submitted On
10/3/2018 7:51:14 PM
Affiliation
director of winged whale research

Phone
9072010160
Email
olgavonziegesar@hotmail.com
Address
po box 15191
fritz creek, Alaska 99603

I have been researching the humpback whales of Prince William Sound since 1980. I have watched the changes as the fishery has evolved from targeting wild stock to hatchery produced fish. I feel it would be best to reduce the number of fish created by the hatcheries. Many ocean species are declining because of the effects of ocean acidification and warming. it is really important to fully fund research as things are changing so rapidly.

sincerely, Olga von ziegesar and Shelley Gill, Directors of Winged Whale Research



From: Penelope Anne Haas
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Hatchery Committee 5 AAC 39.222 Sustainable Salmon Fishery Policy
Date: Wednesday, October 3, 2018 12:35:11 PM

Thank you for proceeding with a transparent public process to address the hatchery issues in the state of Alaska.

The state cannot shirk it's responsibility to protect wild stocks. Wild stocks are severely threatened by hatchery fish through competition and straying. There is strong evidence to support these claims in the scientific literature. This is extremely serious and cannot be ignored. Management decisions must be based on good, peer reviewed science if there is to be any future for Alaska salmon.

I hope the Board of Fish will continue to look into the matter and will seek to keep their proceedings unbiased and open to the public.

Thank you,
Penelope Haas
Homer, Alaska



**Petersburg Borough, Petersburg, Alaska
RESOLUTION #2018-12**

**A RESOLUTION IN SUPPORT OF THE ALASKA SALMON HATCHERY PROGRAM
AND URGING THE ALASKA BOARD OF FISHERIES TO FURTHER ITS
UNDERSTANDING OF THE IMPORTANCE OF THE PROGRAM TO ALL ALASKANS**

WHEREAS, the Petersburg Borough and our fishermen, processors and businesses in Petersburg all benefit greatly from the State of Alaska Salmon Hatchery Program; and

WHEREAS, Alaska's salmon hatchery program has operated for 45 years and supplements wild salmon harvests throughout the state; and

WHEREAS, Alaska's salmon hatchery program is an example of sustainable economic development that directly benefits subsistence fishermen, personal use fishermen, sport fishermen, charter fishermen, commercial fishermen, and seafood processors, as well as state and local governments which receive raw fish tax dollars; and

WHEREAS, Alaska's salmon hatchery program employs strong scientific methodology and is built upon precautionary principles and sustainable fisheries policies to protect wild salmon populations; and

WHEREAS, the Alaska Department of Fish and Game regulates hatchery operations, production, and permitting through a transparent public process and multi-stakeholder development of annual management plans; and

WHEREAS, returns of hatchery and wild salmon stocks follow similar survival trends over time and the largest returns of both hatchery and wild salmon stocks have mostly occurred since hatchery returns began in about 1980; and

WHEREAS, there are no stocks of concern where most hatchery production occurs, indicating that adequate escapements to wild stock systems are being met in these areas over time; and

WHEREAS, Alaska hatcheries contributed an annual average of nearly 67 million fish to Alaska's commercial fisheries in the past decade; and

WHEREAS, Alaska hatcheries accounted for 22% of the total common property commercial catch and 43% of the total ex-vessel value in the Southeast region in 2016; and

WHEREAS, Alaska's salmon hatchery program has proven to be significant and vital to Alaska's seafood and sportfish industries and the State of Alaska by creating employment and economic opportunities throughout the State and in particular in rural coastal communities such as Petersburg; and

WHEREAS, Southern Southeast Regional Aquaculture Association (SSRAA), a non-profit corporation whose mission is "to enhance and rehabilitate salmon production in Southern Southeast Alaska to the optimum social and economic benefit of salmon users", operates



salmon hatcheries at Whitman Lake near Ketchikan, Neets Bay in Behm Canal, Burnett Inlet in Clarence Strait, and Crystal Lake near Petersburg; and

WHEREAS, a McDowell Group report identifies the economic contribution in 2017 of SSRAA to be 680 jobs, \$32 million in labor income, and \$70 million in total economic output; and

WHEREAS, Petersburg's Crystal Lake Hatchery, owned by the State of Alaska and managed by SSRAA, releases 600,000 Crystal Creek King Salmon into Blind Slough, 500,000 Crystal Creek King Salmon at Anita Bay near Wrangell, 100,000+ Crystal Creek King Salmon at City Creek in Petersburg, 500,000 Chickamin River King Salmon at Neets Bay near Ketchikan, and 150,000 Crystal Creek Coho Salmon into Blind Slough annually, benefiting all fishing user groups in Southeast Alaska; and

WHEREAS, Northern Southeast Regional Aquaculture Association (NSRAA), a non-profit corporation whose mission is "to assist in the restoration and rehabilitation of Alaska's salmon stocks, and to supplement the fisheries of Alaska by utilizing artificial propagation to enhance the availability of salmon to all common property users", operates salmon hatcheries at Medvejie and Sawmill Creek near Sitka, Hidden Falls in Chatham Strait, and Gunnuk Creek in Kake; and

WHEREAS, Hidden Falls Hatchery, owned by the State of Alaska and managed by NSRAA, releases 45 million Chum Salmon, 400,000 King Salmon and 2.2 million Coho Salmon in Chatham Strait, 45 million Chum Salmon and 200,000 King Salmon at Southeast Cove in Keku Strait near Kake, 2 million Coho Salmon in lower Chatham at Deer Lake, and 25 million Chum Salmon in Thomas Bay near Petersburg annually, benefiting all fishing user groups in Southeast Alaska; and

WHEREAS, Alaska's salmon hatchery program is non-profit and self-funded through cost recovery and enhancement taxes on the resource and is a model partnership between private and public entities; and

WHEREAS, the State of Alaska has significantly invested in Alaska's salmon hatchery program and associated research to provide for stable salmon harvests and to bolster the economies of coastal communities while maintaining a wild stock escapement priority; and

WHEREAS, the Petersburg Borough Assembly supports unbiased and scientific methods to assess the interaction of Alaska's salmon hatchery programs with natural salmon stocks, such as the Alaska Hatchery-Wild Salmon Interaction Study which began in 2011 and is scheduled to conclude in 2023; and

WHEREAS, Alaska salmon fisheries, including the hatchery program, continue to be certified as sustainable by two separate programs, Responsible Fisheries Management (RFM) and the Marine Stewardship Council (MSC).

THEREFORE BE IT RESOLVED, that the Petersburg Borough Assembly affirms its support for Alaska's salmon hatchery programs; and

BE IT FURTHER RESOLVED, that the Petersburg Borough Assembly urges the Alaska Board of Fisheries to work with the hatchery community, the Alaska Department of Fish and



Game and industry leaders to further its understanding of the importance of the Alaska salmon hatchery program to all Alaskans.

Passed and Approved by the Petersburg Borough Assembly on October 1, 2018.


Mark Jensen, Mayor

ATTEST:


Debra K. Thompson, Borough Clerk





From: Robert Archibald
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for Hatchery Committee
Date: Wednesday, October 3, 2018 12:01:24 PM

Support for Hatchery Committee 5 AAC 39.222 Sustainable Salmon Fishery Policy

Greetings,

I fully support the creation of the Hatchery Committee investigate the science based issues to modern hatcheries.

We need to have a "Time Out" to further enhancements before we continue to raise the level of hatchery produced fish discharger into the North Pacific.

Respectfully,

Robert Archibald
PO Box 2460
Homer, AK. 99603



Submitted By
Rodger Painter
Submitted On
9/21/2018 9:15:02 PM
Affiliation
Independant

Phone
907-957-0704
Email
rodgerpainter@hotmail.com
Address
P.O. Box 195
Mooise Pass, Alaska 99631

I have been a close follower of Alaska's salmon hatchery program since it was first proposed during the Hammond years, as a reporter, executive director of UFA and later as an advocate for shellfish aquaculture. Salmon hatcheries have proven to be one of the best investment's the state has ever made. The economic return on investment is phenomenal, and they are vital to the future of many coastal communities. However, more is not always the best decision when considering the overall impacts to the marine environment. For instance, I understand there is evidence that the gut-balls of pink salmon showed a high percentage of shellfish larvae. This comes at a time when hardshell clam resources throughout the Gulf of Alaska are in serious decline. I am currently involved in my retirement years as a consultant to clam recovery research in Cook Inlet and Prince William Sound. These are complex issues where the whole ecosystem needs to taken into account. I am a member of the seafood industry, but I also trace my Alaska roots back to Aleuts, Athabaskan, Russian and the ennicity of other sailors or miners who stepped ashore. Pay attention to the health of our marine resources, not the politics of the moment.

October 3, 2018

Board of Fisheries
P.O. Box 115526
Juneau, AK 99811
dfg.bof.comments@alaska.gov

RE: October 15-16 Work Session

Dear Board of Fisheries,

Thank you for your service to Alaska, the amount of time and energy you put into making fisheries management decisions for our state is significant and we appreciate your dedication. We are writing to express our concern over the state's declining runs of salmon, and the domino of impacts that struggling salmon runs have on individuals, businesses, local and state economies and indigenous culture.

Trout Unlimited, is the nation's largest sportsmen's organization dedicated to cold-water conservation with more than 400 chapters and more than 300,000 active members across the country. Here in Alaska, TU has roughly 22,000 members and supporters. We have 8 Alaskan staff and TU has chapters in Juneau, on the Kenai Peninsula, in Anchorage and the Mat-Su Valley, and in Fairbanks. TU has more than 65 business supporters in Alaska, in addition to many of our individual members. These anglers and recreational fishing and hunting businesses rely on the important fish, wildlife and water resources found in the Bristol Bay region for fishing, hunting, subsistence, recreation, and for employment in related industries.

We know that myriad factors are likely contributing to the decline of our valuable wild salmon, and while there might not be one single obvious way to turn things around, history shows that continuing down our current path will lead us to fighting over Alaska's last fish. We are interested in brighter future for our wild salmon and think that the Board of Fisheries plays a key role in shaping that future. We urge the Board of Fisheries to keep the following in mind when making decisions:

- Let's take care of our wild salmon stocks first. We are the last state in the country where wild salmon still thrive. They are highly sought- after fish and contribute a significant amount to our state economy. As is laid out in the Sustainable Salmon Policy the Board of Fisheries and Alaska Department of Fish and Game recognize that, "*effects and*

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization

Alaska Office: 3105 Lake Shore Dr. Suite 102B, Anchorage, AK 99517

(907) 770-1776 • www.tu.org



interactions of introduced or enhanced salmon stocks on wild salmon stocks should be assessed; wild salmon stocks and fisheries on those stocks should be protected from adverse impacts from artificial propagation and enhancement efforts;” Hatcheries should be sized appropriately depending on carrying capacity, shouldn't negatively impact wild stocks, and science should be driving how they are managed.

- Let's not make things any worse. If we need to make temporary harvest reductions and not increase hatchery production until we have a better information upon which to make informed, science-based management decisions, so be it. While there might be short-term challenges inherent in doing so, the long-term benefit will be well worth it.

The issues put before the Board are often short-term, highly specified or geographically targeted and while we understand the need for board action on them, we encourage the Board of Fisheries to take a more comprehensive and proactive role in addressing some of the larger, long-term issues facing salmon in Alaska. Your leadership, expertise and energy are needed to address these complex issues. Tackling them will likely require creative new perspectives and changing the way salmon decisions in Alaska are typically made.

Nearly all Alaskans, regardless of what type of gear is used to fish with, are concerned about the state of our salmon – and certainly something that should be forefront in the minds of Board of Fisheries members when making decisions about salmon. We encourage the board not to grant any new increases in hatchery production until a better understanding of the situation is gained. If we want Alaska's prized salmon around for the long haul we need to acknowledge the complexity of the circumstances and take a wholistic, collaborative approach to the challenges facing them.

Sincerely,

A handwritten signature in cursive script, reading "Nelli Williams", is positioned above the typed name.

Nelli Williams
Alaska Director – Trout Unlimited
nwilliams@tu.org



Submitted By
Morgan Barrowcliff
Submitted On
10/3/2018 11:46:52 PM
Affiliation
Homer Spit Properties LLC

Phone
907-226-3180

Email
Morgan@homerspitmarineterminal.com

Address
3232 Homer Spit Road
Homer, Alaska 99603

This comment is intended to supplement our Agenda Change Request, number 5, submitted in regards to closing the barge basin at the Homer Spit Marine Terminal to sport fishing. The reasons and motivations are described in the ACR itself and here I am primarily addressing the ADF&G staff comments regarding our request. Primarily the following paragraph:

Language from the permits issued for the Homer Spit Marine Terminal barge basin by the Army Corp of Engineers in 1970 and 1976 states "That this instrument does not convey any property rights, either in real estate or material, or any exclusive privileges; and does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations, nor did it obviate the requirement to obtain State or local assent required by law for the activity authorized herein." Additionally, the permit stipulates "That no attempt shall be made by the permittee to forbid the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit."

Although I cannot speak as to the intentions of department staff, the clear implication seems to be that they believe this language in a permitting letter from the Corp of Engineers somehow applies to the current request at hand so I will attempt to address the somewhat complicated question of property rights as they pertain to a man-made body of water constructed well after statehood. To begin with, the initial statement *"That this instrument does not convey any property rights... ..nor did it obviate the requirement to obtain State or local assent required by law for the activity authorized herein."* is routine permitting language present on every permit issued by the Corp of Engineers. The permit in question is not giving property rights, the property and title rights to the land that was to become the barge basin were never in question and are currently held without challenge by Homer Spit Properties LLC. As some may be aware, in general in the state of Alaska, title rights to "Navigable Waters" are in fact held by the state, however this case is a very clear cut one in regards to "title navigability". It is both man-made, and it was not navigable at statehood. This barge basin, while being navigable, is owned by Homer Spit Properties LLC. All **land** involved is private property, this includes the bottom of the basin and all intertidal lands. For contrast if you compare this to the East Side Beach immediately adjacent, that land is only private above the mean high tide line. In practice this means that a member of the public has access only to the water in the basin itself. Dropping an anchor, or any contact with the shore, is trespassing.

As to the second statement from the permit. *"That no attempt shall be made by the permittee to forbid the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit."* This also is fairly standard permitting conditions and in context of a permit for initial construction of the barge basin would not have even been meant to apply to the barge basin itself which was actually a more or less undeveloped lot at the time. It would be a reference to obstructing Navigability of existing waterways during the construction of the basin. Furthermore, a public right to navigability of water has absolutely nothing to do with whether they can sportfish in it, it is solely a right to travel and passageway. All sport fishing regulations, restrictions, and yes even closures take place in navigable waters by default and none of them are restrictions of **navigability**. Even if closed to sportfishing, the public would still maintain right of passage over the water. We are not contesting this, or the state's right to administer sportfishing regulations for this water, but the quotes taken from the routine disclaimers made in the coversheet of a 40 year old permit did not appear to properly convey the reality of the situation.

We still feel strongly that is simply not an appropriate place for public sportfishing to occur. The increase in Department released Coho Salmon present on the east side of the spit has increased significantly in recent years and current regulations are insufficient. Exacerbating the problem this summer was both local sporting good stores and Department of Fish and Game staff recommending the basin as a fishing location and incorrectly informing people as to the property status of the intertidal waters. The overwhelming majority of fishing that took place was trespass, and it was a full time job for three weeks this summer asking people to leave and attempting to keep the property clear. Homer police assisted as they were able but they are not available to be there all the time and many people returned multiple times after being requested to leave the property. It remains a commercial property, and is not a safe spot for a family salmon fishing outing. Any assistance the Board can offer on this matter would be greatly appreciated.

Submitted By
Paul A. Shadura II
Submitted On
10/3/2018 11:57:37 PM
Affiliation

SOKI Will be submitting comments on ACR 6 prior to the October Worksession.

Please note that **5 AAC 39.220 Policy for the managment of mixed stock salmon fishereis.**

(b) In the absence of a regulatory managment plan that otherwise allocates or restricts harvest, and when it is necessary to restrict fisheries on stocks where there are known conservation problems, the burden of conservation shall be shared among all fisheries in close proportion to their respective harvest on the stock of concern. The board recognized that precise sharing of conservation among fisheries is dependent on the amount of stock-specific information available.

SOKI requests the Board to review the in-season managment assessment tools available for precautionary management of the Kenai River sockeye personal use fishery. The Department closed the PU fishery in July for conservation concerns yet did not stipulate what savings or what assessment tools or models were used to determine the rate of harvest or savings.

Our proposal asks for guidance for runs of Kenai River sockeye under 2.3 million and how the PU fishery will be managed for 39.222 (f) (4).

Thank you,

Submitted by Paul A. Shadura II, spokesperson for SOKI

Submitted By
E Bies
Submitted On
9/28/2018 4:19:23 PM
Affiliation
Resident

Phone
9075218179

Email
Bies_edward@yahoo.com

Address
2015 s nissel crl
Palmer, Alaska 99645

I strongly disagree with prp# 6 please don't takeaway from dipnetters if you need two restrict then restrict the commercial fleet thank you



Submitted By
Joseph Person
Submitted On
10/3/2018 11:59:40 PM
Affiliation
Kenai Peninsula Fishermen's Association

This comment is in regards to Agenda Change Request 6 pertaining to the giving of more in-season emergency order authority to the Department to manage the personal use fisheries on the Kenai and Kasilof Rivers, and to require daily reporting of harvest in these fisheries.

The Kenai Peninsula Fishermen's Association board voted to support this ACR and feels that there are multiple facets of the question worthy of discussion. The current lack of flexibility for the department offers them no "step downs" or in between measures to slow down harvest in the fishery short of a full closure. In times of low abundance this can result in them being required to close the fishery entirely as they did this year. Some sort of intermediary measures would allow them to hopefully keep it open for the entirety of the season and allow continued opportunity while sharing in the burden of the conservation as a significant user group of the resource.

The second component of the ACR, the daily reporting, is something that will inevitably have to be addressed at some point. The current situation in sport and personal use fisheries in the state where no real harvest data is available until months after the close of the affected seasons is completely untenable. Daily reporting would be difficult to achieve in an instant, but some sort of inseason reporting is absolutely required. Across multiple fisheries the Department holds a position that it "can't be done" and I am not really satisfied with that position. Game management across the state is done on a real time basis and many hunts require 3 day reporting. We cannot continue to manage sport fisheries in the way we have been for years, and something will have to change at some point.

Joseph Person

Submitted By
Richard Person
Submitted On
10/2/2018 3:06:46 PM
Affiliation
east side setnetter

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907-240-3678

Email
rpc@gci.net

Address
24120 Rambler Road
Chugiak, Alaska 99567

All UCI salmon fisheries should have adequate regulation in the hands of the managers to allow for useful in-season management. As stated in ACR 6, the PU fisheries for the Kenai and Kasilof Rivers do not. **Step down measures are a reasonable addition to managing these fisheries.**

In season reporting of harvest will assist managers of all departments in overall evaluation of run strength particularly in years with smaller returns.

I encourage you to accept ACR 6 and use it to improve the management of these rivers for the benefit of all users.

Submitted By
Amber and Travis Every
Submitted On
9/30/2018 11:02:40 AM
Affiliation

Phone
907-394-4451
Email
aevery45@gmail.com
Address
360 Dolchok LN
Kenai, Alaska 99611

Dear Members of the Alaska Board of Fisheries,

We have a commercial fishing set net operation located on North K-Beach. In March 2017 the BOF passed a 600 ft fishery on North K-Beach to help harvest surplus Kasilof sockeye. This 600 ft fishery consists of **29 Beach nets**, 9 family commercial fishing operations. The board passed this proposal with a 7-0 vote.

During the 2017 season, this fishery was not used one time. The Kasilof River exceeded the BEG of 160,000-340,000. North K-Beach fisherman had many conversations with ADF&G in season to figure out why this fishery was not used. Pat Shields from ADF&G stated there was a lot of confusion on this fishery. In March 2018 North KBeach fisherman decided to put in an ACR to help clarify the confusion. At that meeting Board member Ruffner states "I have stated my intent of the proposal several times on the record, I was looking for an option that would help you stay within the escapement goals and not have to resort to using the special harvest terminal fishery".

During the 2018 season, this fishery was used two times. The Kasilof River exceeded the BEG and the OEG of 160,000-390,000 and the special harvest terminal fishery was used. The North K-Beach 600ft fishery could have been used multiple times but once again Pat Shields states there was confusion.

ACR 7 will help ADF&G clarify the use of this 600ft fishery. The last two seasons North K-Beach fishermen have lost the ability to harvest an available surplus which has resulted in exceeding escapement goals and significant economic loss.

Thank you for your time,

Amber & Travis Every



Submitted By
Brian and Lisa Gabriel
Submitted On
10/3/2018 2:40:03 PM
Affiliation
Eastside Setnetters

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Address
2305 Watergate Way
Kenai, Alaska 99611

October 3, 2018

ATTN: BOF COMMENTS
Boards Support Section

Alaska Department of Fish and Game

P.O. Box 115526

Juneau, AK 99811-5526

Mr. Chairman,

We are Setnetters on Upper K-Beach in the Kenai Section (Statistical Area 244-32) of Upper Cook Inlet. **We are asking for your support for ACR7, which you will be considering at the Work Session on October 15-16, 2018 in Anchorage.**

ACR7 is asking to clarify that the "hours used" in the North Kalifornsky Beach (NKB) set gillnet 600 foot fishery should be **exempt** from the weekly emergency order (EO) restrictive provision in the Kenai River Late-Run King Salmon Management Plan (5 AAC 21.359) and the Kenai River Sockeye Management Plan (AAC 21.360).

The 600ft North Kalifornsky Beach fishery was adopted in 2017 at the Upper Cook Inlet Finfish meeting in Anchorage as Proposal 136. Proposal 136 was supported unanimously by the board with a 7-0 vote.

During the 2017 fishing season, the regulation was not used. During the 2018 fishing season, it was used twice. When the regulation was used in the 2018 season, the department concluded that since the hours used during the 600 foot North K-Beach fishery were **NOT** differentiated by the board, they would count against **all** EO hours used in the current plan. So, when the 600 foot North K-Beach fishery was used, the remainder of the fishing sections were penalized by having their fishing hours reduced. This interpretation is the reason for ACR 7.

During the 2017 BOF meeting, Proposal 136 was discussed very thoroughly, and several times it was stated by board members that the fishery should be used like the Kasilof Section 600 foot fishery to avoid using the Kenai River Special Harvest Area. After the adoption of Proposal 136, the board took up Proposal 101, which asked the board to **REMOVE** the "hours used" restriction in the Kasilof 600 foot fishery. The board approved Proposal 101 but did not go back and re-visit Proposal 136 to remove the "hours used" restrictions in the Kenai River 600 foot fishery.

With the restrictions in the plan, the local Department was very hesitant to use the North K-Beach 600 foot fishery in the 2018 season because it limited their ability to use the entire fishery to harvest surplus sockeye headed to the Kenai River. They used the 600 foot Kasilof fishery several times in 2018 season and still opened the Kasilof River Special Harvest Area to harvest surplus salmon headed to the Kasilof River. In 2018 with all three provisions used, the Kasilof River still exceeded the BEG and the OEG of 160,000-390,000.

We believe it was the boards intent, as stated several times during deliberations, to model the Kenai Section 600 foot fishery with the Kasilof Section 600 foot fishery, and that by the board not defining the "hours used" in the Kenai Section 600 foot fishery, their desired intent has not been accomplished. We ask that the corrective action carry forward with the approval of ACR 7.

Thank you for your consideration,

Brian and Lisa Gabriel

2305 Watergate Way

Kenai, AK 99611



Submitted By
Chris Every
Submitted On
10/2/2018 1:42:36 PM
Affiliation

Phone
907-394-0720
Email
cpevery58@hotmail.com
Address
37033 Minke Dr.
Kenai, Alaska 99611

Members of the Board of Fish,

I support ACR #7.

I am asking the board to help clarify this regulation and allow North Kalifornsky Beach (NKB) to fish
this 600' fishery when there is a harvestable surplus of Kasilof red salmon.

Chris Every



Submitted By
Gary L. Hollier
Submitted On
10/1/2018 9:12:47 PM
Affiliation
NKB settnetter

These comments pertain to ACR #7. I am setnetter on North Kalifonsky Beach statistical area 244-32, in Cook Inlet. I have fished there since 1971. I submitted proposal 136 at the 2017 Upper Cook Inlet BOF meeting. The BOF passed 7-0 amended 136. Basically this proposal asked to may let NKB setnetters fish beach nets up to 600 ft from mean high water when the Kasilof Section was fishing on or after July 8. Genetic studies by ADF&G have shown that Kasilof stocks are abundant on North Kalifonsky beaches most of the season. This area for decades has traditionally harvested these Kasilof stocks. Due to management changes in 1999, NKB was severally restricted to have the ability to harvest Kasilof stocks. When the BOF passed amended 136 the intent was to let NKB harvest Kasilof stocks to help keep the Kasilof stocks within their management goals and more importantly not have to use the Kasilof River Special Harvest area. In 2018 the Kasilof BEG and OEG was exceeded for sockeye, resulting in the opening of the Kasilof Special Harvest Area. In 2017 this regulation was not used. In 2018 it was used twice. It could have been used more, except ADF&G managers did not have clear intent from the BOF and thus concluded that any hours fished in the 600 ft fishery would count toward hours for the entire section. As the proposer of 136 this certainly was not my intent. In 2018 there were 149 set net permits (447 nets) registered in the Kenai section. The 600 ft fishery on NKB totals 29 beach nets, or 10 permits. It definitely was a unintended consequence of this regulation that the whole section's hours would count when 10 permits were fishing limited time and area. I would like the BOF to pass ACR 7 and give clear intent to ADF&G that hours fished in the 600 ft fishery on NKB would not count for hours fished in the Kenai River Sockeye and King salmon management plans. This would be similar to the exemption for the hours in the 600 ft. fishery in the Kasilof section. Thank you, Gary L. Hollier Kenai, Ak.

Submitted By
Greg Johnson
Submitted On
10/2/2018 9:20:26 PM
Affiliation

Chair Jensen and Board Members

I would like to lend my support to ACR 7 . My family fishes just North of the Blanchard Line in the North KBeach Subsection(244-32). We hold six Cook Inlet setnet Permits three of the Nets we fish are within the 600 ft. referenced in this ACR. The majority of our fish site is closer to the Kasilof River than it is to the Kenai River. I have attended four Upper Cook Inlet BOF meetings in an attempt to gain some directed opportunity on Kasilof Sockeye. The 600 foot fishery that was adopted at the last UCI board cycle was both conservative and directed at providing access to Kasilof Sockeye. It is critical that any hours fished within 600 ft in the North KBeach subsection not be included in the weekly hourly limitation. Inclusion of hours fished in the weekly hours limitation has lead to not utilizing this area the past two years

Thank for your consideration. Greg Johnson and Family



Submitted By
JoAnn Wichers
Submitted On
10/3/2018 5:42:14 PM
Affiliation

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dnjwichers@gmail.com
Address
PO Box 1728
Kenai, Alaska 99611

I support ACR7. This will clear up the original intent of this regulation. My husband, myself and our two sons are set net commercial fisherman in North K-Beach. Our family have been set netters in this area for over 30 years. Last year we had the opportunity to harvest surplus fish using the 600 foot set net fishery, but we were shut down early because of the ambiguous nature of the regulation which caused our local fish and game to link it to the entire Kenai section. ACR7 will clear up any confusion that local fish and game authority would have on hours used.



Submitted By
Andy Hall
Submitted On
10/3/2018 9:23:25 AM
Affiliation
Kenai Peninsula Fishermen's Association

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kpfa@alaska.net
Address
43961 Kalifornsky Beach Road
Soldotna, Alaska 99669

October 1, 2018

ATTN: BOF COMMENTS
Boards Support Section

Alaska Department of Fish and Game

P.O. Box 115526

Juneau, AK 99811-5526

Mr. Chairman,

The Kenai Peninsula Fishermen's Association (KPFA) has been a commercial fishing advocacy group since 1954, primarily comprised of setnet salmon limited entry permit holders. We also include other Cook Inlet (CI) gear types, crewmembers, fish processors, local businesses and general interest in our membership.

KPFA submits these comments in support of ACR 7, for consideration by the Board at its Work Session in Anchorage October 15-16, 2018.

During the 2017 Upper Cook Inlet Finfish meeting in Anchorage, the Board deliberated on Proposal 136, which sought to create a fishery within 600 feet of the mean high tide mark on North KBeach in the Kenai Section (Statistical Area 244-32), which may be used in conjunction with openings occurring in the Kasilof section. After discussion and debate during that meeting, the Board unanimously passed Proposal 136 with a 7-0 vote.

Subsequent to the meeting, the question arose regarding the hours fished during the 600 foot fishery in the Kenai Section and their application to the hours fished by the entire Kenai section. For example, if the Kenai section had a weekly compliment of 36 hours which could be used within the plan, and the Upper KBeach 600 ft. fishery were to open during that week, would those hours be deducted from the entire Kenai section's compliment of hours?

After reviewing the recording of the 2017 meeting, the question of application of hours, though inferred, was not specifically mentioned. This summer, the local Department of Fish and Game Commercial Fish Biologist referred the question to the Department of Law for direction. The apparent conclusion was that if the application of hours was not specifically adopted by the Board, then the hours fished were to be attributed to the entire Kenai section hours allotted in the plan.

This conclusion seems incongruous with the way the 600 foot fishery is prosecuted in the Kasilof section. Since the 2017 BOF meeting, those hours fished are NOT attributed to the entire section. When the hours fished in the Kenai section are counted towards all, it inhibits the use of this important 600 foot tool. It was stated numerous times during deliberations on Proposal 136 that they wanted to model it the same as the Kasilof 600 foot fishery, which in the 2017 BOF meeting, removed the hours restrictions when the board approved Proposal 101 at a later date in the meeting. Proposal 136 was not re-visited after Proposal 101 was passed. It is our contention that the omission of "hours used language" was an oversight by the Board when it passed Proposal 101 and then did not re-visit proposal 136.

Should the Board not entertain ACR 7 it will reduce potential use of this valuable tool intended to help harvest excess Kasilof sockeye. A further benefit, which the Board did discuss, was that by using the Upper K-Beach 600 foot option, an opening in the Kasilof River Special Harvest Area was less likely to occur.

Therefore, KPFA supports ACR 7 and urges the Board to take corrective action relative to "hours used" in the North K-Beach 600 foot fishery in stat area 244-32.

Thank you,



Andy Hall, President

Kenai Peninsula Fishermen's Association

Submitted By
Pat Zurfluh
Submitted On
9/18/2018 10:11:59 AM
Affiliation
NKB Fisherman

Phone
907-227-3924

Email
Kristipatzurfluh@gmail.com

Address
7601 E. Indian Bend Rd.
Apt 1006
Scottsdale , Arizona 85250

I support ACR 7 proposed by Gary Hollier. I fish just outside of the 600 foot area and was only allowed 3 days of fishing in 2018. I agreed this area should not go against my fishing time for Kenai Sockeye, since it is primarily a Kasilof fishery. Please modify as he requested.



From: Sarah Hollier
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: BOF comment ACR
Date: Wednesday, September 19, 2018 5:17:49 PM

Board Members,

I am in favor of Gary Hollier's ACR, which as described; "Hours used in NKB set gillnet 600 ft fishery should be exempt for weekly EO hours in 5 AAC 21.359 or 5 AAC 21.360"

Time spend in the 600 ft fishery targeting Kasilof River fish, I feel should not count towards time used in the same sub-unit(district) intended for targeting Kenai River fish. In the 244-32 fishing district, any tool available used to target the over plentiful run, Kenai or Kasilof, I fell shall be taken into consideration and utilized to its maximum potential as intended.

Respectively,
Sarah Pellegrom
(907) 252-6316

Submitted By
Alan Otness
Submitted On
10/1/2018 6:10:41 PM
Affiliation

Dear Board of Fisheries

I am writing in opposition to the agenda change request to consider closing the Sitka sound sac roe herring fishery. I would like to see why the subsistence herring needs have not been met. In order for anyone to evaluate whether this is an accurate statement I would like to have the data that supports this. I believe that an issue like this needs to be debated during a normal board cycle.

Sincerely

Alan Otness



Submitted By
alannah alber
Submitted On
10/3/2018 4:24:33 PM
Affiliation
crew member

i am writing to let my opposition to ARC 10 be known, the sitka sac roe fishery is one of the healthiest fisheries in the state of alaska, it is a big part of my income as well as many other crew members and Sitka residents, It would be wrong to not have this fishery because tribal members dont harvest their susistance quota, We should explore other solutions to the problem.



ALASKA GENERAL SEAFOODS

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October 3, 2018

Alaska Board of Fisheries
Attn: Chairman John Jensen

Re: ACR 10 – Close Sitka Sound commercial sac roe herring fishery.

Chairman Jensen and Board Members:

In January, Alaska General Seafoods commented on many of the proposals regarding the Sitka Sound sac roe fishery.

ACR 10 has the same theme as some of those January proposals that sought to modify the way the fishery is managed. At the January meeting, ADF&G presented, one more time, to the Board and public, its efforts to manage the fishery around subsistence needs and conservation concerns. The Board took action to close more area to address subsistence issues at that time. **We urge that further action is not needed.**

Management of the Sitka Sound sac roe fishery by ADF&G is conservative and based on sound scientific information to evaluate and manage the fishery. As a processor, we are fully dependent on sustainable management to carry Alaska's fisheries into the future. ACR 10 does not provide the adequate science based reasons for the authors request to close the fishery. **We oppose any action on ACR 10.**

Thank you for the opportunity to present our comments.

Sincerely,

Sandy Souter
Manager – Fishing Operations
Alaska General Seafoods Inc.

Submitted By
cassidy alber
Submitted On
10/3/2018 4:24:12 PM
Affiliation
crew member

i am writing to let my opposition to ARC 10 be known, the sitka sac roe fishery is one of the healthiest fisheries in the state of alaska, it is a big part of my income as well as many other crew members and Sitka residents, It would be wrong to not have this fishery because tribal members dont harvest their susistance quota, We should explore other solutions to the problem.



Charles P. Fogle
5722 Campbell Lake Road
Anacortes, WA 98221
♦Cell: (907) 230-7977
E-mail: *philfogle@hotmail.com*

October 3, 2018

John Jensen, Chairman
Alaska Board of Fisheries
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526

Mr. Jensen and Members of the Board:

As a Southeast Alaska herring seine sac roe permit holder, I am requesting that you reject ACR 10 since it clearly does not comply with the requirements of 5 AAC 39.999 'Policy for changing board agenda'. As noted by RC2, Staff Comments, a) there is **no** fishery conservation purpose or reason; b) it does **not** correct an error in regulation; c) the agenda change request does **not** address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted. The proposers' claim that there is a conservation purpose or unforeseen effect is not backed up with any previously unreviewed information by this board and many previous boards.

Since the board reviewed the fishery in-cycle during the January 2018 SE finfish meeting in Sitka, the only new information available would be the 2018 harvest information and spawn data. The proposal is also allocative in its nature claiming that the "Subsistence availability has collapsed...". The board 'not accept' ACR10 under section(a) part (2) of the 'Policy'.

Sincerely,


Charles P. Fogle



Submitted By
Clyde Curry
Submitted On
10/3/2018 5:22:06 PM
Affiliation
Fisherman

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Email
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Address
PO Box 572
Petersburg, Alaska 99833

Clyde Curry

PO Box 572

Petersburg, AK 99833

October 3rd, 2018

Chair John Jensen and Board of Fish members,

OPPOSING ACR 10, SITKA HERRING. I oppose efforts to shut down the Sitka herring fishery in an ACR. The proposal isn't an emergency. Fisheries fluctuate up and down, so there is no conservation concern. There is no new information. Listen to the Department, they have the science.

My name is Clyde Curry, and I am an initial issuant of a Southeast Alaska sac roe permit. I was there before the Sitka herring sac roe fishery got started. I started fishing in Alaska in 1963. I grew up fishing on Lummi Island in Puget Sound at my family reef net operation. My brother and I began gillnetting salmon when I was 12, and by the time I was 16 we had bought a boat and headed to Alaska. In 1966, we purchased our first salmon seine boat, the Puget, and fished it together in Southeast Alaska. I bought my own salmon seiner, the Louie G in 1968. In 1970, I married a local Petersburg fisherwoman and we began building a business and starting a fishing family.

My first experience with herring was on the tender Howkan around 1970 in Sitka, at that time it was a bait fishery. The season was just open, so people could fish whenever they wanted- guys were too impatient to wait for the roe to ripen up, so it all went to bait for halibut. I went on the Howkan to Prince William, the fishery up there was just getting started. I took my own seiner the Louie G to Sitka around 1972 or 1973 to fish herring in Sitka. After that, I also started fishing herring in Auke Bay, Seymour, Behm Canal and other areas. I fished herring in Ketchikan, Sitka, Juneau, Prince William Sound, Resurrection Bay, and Togiak. All those fisheries were managed differently than Sitka.

Sitka herring started as a small group of about five of us, and grew really fast after that. I was one of the initial issuants when the sac roe fishery went limited entry. When I first started going to Sitka before limited entry, I saw no effort to harvest roe on branches. When the sac roe fishery started there were many Alaska native permit holders. I can remember 9 off the top of my head. The native permit holders used to harvest branches to bring back to communities. That doesn't happen as much anymore.

I've watched the Sitka herring fishery go through ups and downs. There was NOT as much fish when we started the fishery as there is now. ADF&G managers can also tell you that I didn't always agree with the way they were managing the fishery. But that doesn't change the facts, that they keep the fish coming back. From the early 1970's to the early 1990's the biomass was small, nothing like it is today. After the Sitka pulp mill closed in 1993, I watched as herring really started to take off. Herring also got a lot bigger after the pulp mill closed. They were able to grow larger and live longer. Just look at the yearly graphs from the beginning of the fishery, and you'll see the huge increase in the size of herring and population after the pulp mill closed.

Submitted By
Daniel Castle
Submitted On
10/3/2018 12:46:13 PM
Affiliation

Phone
9076175500
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castlefisheries@gmail.com
Address
4430 S. Tongass Hwy.
Ketchikan, Alaska 99901

I am a Sac-roe permit holder and have taken part in the herring fishery in Sitka and elsewhere since 1988.

I am opposed to ACR10

The proposers of ACR10 have not provided the board with any new information that was not already discussed at length during the 2018 regular board cycle. Mountains of testimony and documents were carefully reviewed on this topic. Although I disagree with the Board action taken, more territory was set aside for traditional harvest.

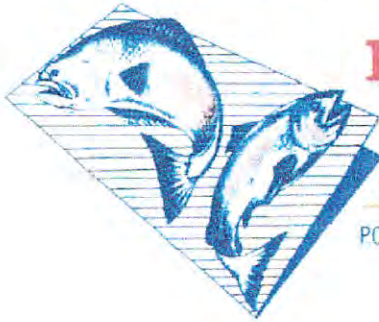
Nothing that happened during the spring herring spawning season was not forecasted or considered by the Board this January. All adjustments to fishing regimes, if needed, are covered by the management plan.

This proposal needs to be rejected. It can safely be disposed of without wasting any more Board resources.

If the Board takes up the issue, it should be to reverse the unnecessarily restrictive scheme adopted earlier this year.

Sincerely,

Dan Castle



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October 3, 2018

Board of Fish
Alaska Department of Fish & Game

Subject: OPPOSE- ACR 10 to close the commercial sac roe herring fishery

We oppose ACR 10 regarding the closing of the commercial Sitka Sac Roe Herring Fishery for the purpose of re-allocating all herring to one user group.

Over the years ADF&G and the commercial herring fleet have made significant changes to the fishery in order to address concerns raised by the Sitka Tribe. This includes funding the harvesting and transport of roe on branches from the harvest grounds. ADF&G and the commercial herring fleet have been providing the Sitka Tribe with crucial information regarding herring distribution, location, and spawning activities. In 2018, historical fishing grounds were closed to commercial harvest to also address the Sitka Tribe concerns.

The fishery is heavily supported by a science based fishery management process to promote a sustainable fishery. This is important to the Sitka Tribes subsistence goals as well sustainability of the fishery. It is our understanding that the Sitka Sac Roe Herring Management is the "Gold Standard" for herring management in Alaska and possibly throughout the world.

ADF&G Sac Roe Herring data clearly indicates that herring populations have increased significantly since the start of the commercial fishery in the 1970s and especially following the closure of the pulp mill in 1993. Natural fluctuations in biomass and spawning behavior do not indicate a collapse in stocks, all species are cyclical in nature, good return years with not so good return years for unknown reason.

We oppose the ACR 10 to close the commercial sac roe herring fishery for any reason that is not supported by science based fishery management.

If there are any questions regarding our position on this issue, please do not hesitate to contact us.

Regards,

E.C. Phillips & Son Inc.



From: Gary Haynes
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: ACR10
Date: Tuesday, October 2, 2018 1:19:00 PM

Dear Board of Fish Members,

My name is Gary Haynes, I am a commercial fisherman from Ketchikan, Alaska. I grew up fishing on my parents' boat in the 1960's. I started fishing in Sitka in 1973 as a crewman for my father. I worked my way to the tophouse running the sonar, while my dad ran the boat. In 1995 my wife & I purchased the 'North Cape' from my folks & continued to fish Sitka. In 2002, I became a permit holder, & still fish today.

I have a lot of history in the fishery. I've also been involved in the SE seine salmon fishery since 1973 to present as both boat owner & operator.

I am NOT in support of ACR 10, to close the commercial SacRoe herring fishery.

This is not an unforeseen circumstance-this is not an emergency, it is an allocation grab.

The Sitka tribe has had a reasonable opportunity for subsistence harvest, the 2017 Subsistence Division report supports this.

From 2008-present, supplemental harvest of herring eggs by the industry averaged 40,000 pounds. An average from 35,000-75,000 pounds.

We have lost significant historical fishing areas & opportunity in order to address concerns of the tribe.

We did not reach our GHL for the fishery in 2018, however, there was still over 50 nautical miles of spawn.

There will always be natural fluctuations in biomass & spawning.

We rely on science based and sustainable fisheries management for our business and the future of our fisheries.

The state of Alaska is doing a great job of managing our herring sac roe fishery. The stocks have increased significantly since I started fishing in Sitka in 1973.

This is not an unforeseen circumstance-this is Not an emergency-this is an allocation grab!

Thank you,

Gary L Haynes

Ketchikan, Ak

Sent from my iPhone



From: James Burton
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: ACR 10
Date: Wednesday, October 3, 2018 3:44:08 PM

To the Alaska BOF members:

My names is James Burton, I am a commercial salmon fisherman in PWS, I own an operate a purse seiner and a drift gillnet operation. I am also a sport, personal use, and subsistence user of multiple finfish and shellfish species.

I oppose ACR 10:

ACR 10 is not backed by any scientific research, unlike the fisheries that occur in Sitka Sound. Arguably, the Sitka Sound Sac Roe fishery is the most heavily managed, and critiqued fishery in the State of Alaska. Clear and convincing research, ongoing stock assessments and spawn surveys contradict the claims made by the proposers of ACR 10. In fact, although there were only 33 miles of spawn in Sitka Sound, the spawn deposition survey revealed that the spawn extended twice as far offshore, and egg density was higher.

"Therefore, due to exceptional spawn along the Kruzof Island shoreline, the 2018 herring spawning biomass was much higher than was apparent from the spawn mileage alone."
- <http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/903692282.pdf>

It is worth noting that management of Sitka Sound Herring, and cooperation with the Sac Roe industry is what led to the closure of the 2018 fishery. As fishermen, we understand and advocate the value of leaving smaller fish in the water as they are the "recruitment" classes of fish for fisheries in later years. We have a vested interest in the long term conservation of these stocks. The approach proposed in ACR 10 fails to acknowledge this. Please deny ACR 10.

Thank you,

James Burton



From: James Burton
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: ACR 8
Date: Wednesday, October 3, 2018 2:49:59 PM

To the Alaska BOF members:

I support ACR 8 despite the fact that ADF&G have stated in staff comments that they do not find that it fits ACR requirements for fishery conservation concern or an unforeseen impact by a change of regulation.

In the ACR, Ahtna outlines concerns for King Salmon stocks by dipnetting from a boat in an area where that pressure was previously minimal. Under the C&T practices of the Ahtna, clearly, operating a dipnet from a boat with the assistance of fish finding technology does not fit. Multiple sport fishing guides were posting photos and updates on their social media pages this year, showing images of larger targets, claiming they believed to be seeing king salmon on their depth sounders, and targeting those fish. It is undeniable that this type of harvest differs from passive fish wheels in the Glenallen Subdistrict.

By shifting pressure from the personal use Chitina subdistrict, to the Glenallen subsistence subdistrict, I believe this meets the criteria for an unforeseen change caused by a change of regulation. The proposal is not to limit or prevent dipnetting, it is to prevent dipnetting from a boat. Finding and targeting kings using boats and employing today's fish finding technology does not align with normal C&T findings.

Thank you,
James Burton
Cordova, AK

Submitted By
London Alber
Submitted On
10/3/2018 4:24:54 PM
Affiliation
crew member

i am writing to let my opposition to ARC 10 be known, the sitka sac roe fishery is one of the healthiest fisheries in the state of alaska, it is a big part of my income as well as many other crew members and Sitka residents, It would be wrong to not have this fishery because tribal members dont harvest their susistance quota, We should explore other solutions to the problem.

Submitted By
Louie Alber
Submitted On
10/3/2018 3:47:39 PM
Affiliation
permit holder

Phone
2067187508

Email
louiealber@hotmail.com

Address
po box 111
cordova, Alaska 99574

I want to express my opposition to ACR 10, The Sitka Sac Roe fishery is one of the best managed fisheries in the State of Alaska. The biomass is healthy as shown by science provided by the Alaska Department of Fish and Game. This fishery provides a great portion of my families living as well as my 3 crew members and many many others including tendermen, processors and residents of Sitka. It would be a devastating to those people and the market to put this fishery on hold for a few who don't take advantage of their right to the fishery.

Sincerely,

Louie Alber F/V Leading Lady

Submitted By
Marina Alber
Submitted On
10/3/2018 5:04:40 PM
Affiliation
crew member

i am writing to let my opposition to ACR 10 be known, the sitka sac roe fishery is one of the healthiest fisheries in the state of alaska, it is a big part of my income as well as many other crew members and Sitka residents, It would be wrong to not have this fishery because tribal members dont harvest their subsistence quota, We should explore other solutions to the problem.

Submitted By
Ronald Blake
Submitted On
10/3/2018 4:44:17 PM
Affiliation

Dear chairman Jensen and members of the Board,

I am a commercial fishermen of the Sitka sac roe fishery from Cordova Alaska. I am a member of a traditional Native home. This means Native children are raised in our home in a traditional Native manner. My wife is a strong advocate of protecting the Native heritage. We understand the challenges of preserving the Native culture, we understand the importance of subsistence to this.

We don't believe that any further restrictions would help in any of this. The spawn's of the last decade have been many in several decades prior, yet subsistence continues to be a big problem. We believe that like in our community the problem is with a lack of interest by the youth, a lack of tools and equipment to harvest the resource and a loss of elders and their knowledge.

Due to this we are opposed to ACR 10

Ronald Blake

F/v Ace

SOUTHEAST HERRING CONSERVATION ALLIANCE



P.O. BOX 61
Sitka, Alaska 99835
Tel. No. 907-738-3509

October 3, 2018

Alaska Board of Fisheries
Work Session Comments
October 15 & 16, 2018, Anchorage

Dear Chairman Jensen and Alaska Board of Fisheries Members:

The Southeast Herring Conservation Alliance (SHCA) submits these comments on Agenda Change Request (ACR) 10 that you will be considering at the Board of Fisheries (BOF) October 2018 Work Session. Thank you for the opportunity to comment on this important issue. SHCA is a 501 (c)(6) nonprofit organization that represents the interests of herring fishermen, processors, tender men, crew, and families associated with herring fisheries throughout Southeast Alaska. SHCA members participate in the Sitka Sound herring sac roe fishery and other herring fisheries in Southeast. Forty-four sac roe permit holders of the 48 total permits in the Sitka Sound herring sac roe fishery are SHCA members.

SHCA strongly opposes ACR 10, which seeks to close the Sitka Sound commercial sac roe herring fishery. SHCA recommends that the Alaska Board of Fisheries confirms Alaska Department of Fish and Game's (ADF&G) assessment of ACR 10, including: a) there is not a fishery conservation purpose or concern, b) the agenda change request does not correct an error in regulation, and c) the agenda change request does not address an effect of regulation on a fishery that was unforeseen when the regulation was adopted. Apart from consideration of technical arguments in opposition to the proposers' arguments, SHCA does not believe that this ACR meets the criteria for being heard outside of its regular cycle.

Argument 1: there does not exist a fishery conservation purpose or concern

SHCA argues that conservation and protection of Sitka Sound herring are built into the age-structured-analysis (ASA) model through which multiple data sources are used with a formula to determine the fishery's harvest threshold. Currently no harvest can occur in the Sitka Sound commercial sac roe fishery until the biomass reaches 25,000 tons (adopted by the Alaska Board of Fisheries in 2009). As the biomass rises above 25,000 tons the formula provides for a harvest rate that begins at 10% and rises to a 20% harvest rate maximum. Most herring stocks in Southeast Alaska are considerably smaller than the minimum threshold of the Sitka Sound stock. The minimum threshold enabling the fishery has increased for the Sitka stock from 6,000 tons in



1977 to 7,500 tons in 1983 and then was raised to 20,000 in 1997 as the biomass continued to increase and political pressure surrounding the fishery continued unabated. This was presented as a conservation action, but then always raised by an amount to further accommodate subsistence uses – even though there was no discernable biological need, nor had ADF&G recommendation either the 20,000- or 25,000-ton threshold. By way of compromise to minimize loss of commercial harvest, the board adopted the “2+8” formula during the 1997 board cycle. In 2009 the Board of Fisheries again increased the minimum threshold, this time to 25,000 tons for added conservation at lower stock levels, although there was no conservation need demonstrated nor was this supported by ADF&G. This was done at a time when the herring expanded to nearly 90,000 tons in stock biomass.

Time and again the BOF has shown a willingness to interject increasingly restrictive approaches towards managing the Sitka Sound commercial herring fishery to accommodate political pressure from some subsistence users, including during the most recent regular board cycle culminating in Sitka during the board’s January 2018 Southeast and Yakutat Finfish and Shellfish meeting. We argue that there have been no new developments with the Sitka Sound herring fishery resource to warrant out-of-cycle regulatory action. Although the preliminary estimates reported by ADF&G indicate lesser Sitka Sound total spawn mileage in 2018 relative to the previous 10-year average, initial indications are for spawn deposition extending nearly twice as far offshore in 2018 as was the case in 2017, and with higher egg density. Due to exceptional spawn observed along the Kruzof Island shoreline, the 2018 herring spawning biomass was much higher than was apparent from the spawn mileage alone, according to ADF&G. Final results from ADF&G’s 2018 herring stock assessment for Sitka Sound will be available in November 2018, although the department currently estimates that the Sitka Sound herring population size did not change appreciably between 2017 and 2018.

As per the department’s Staff Comments (RC2) in response to ACR 10, the Sitka Sound herring stock’s abundance is currently about twice that of the 25,000-ton threshold. In ten of the past eleven years the population grew from an estimated 52,985-ton biomass to 145,042 tons and has more recently returned to the 50,000-ton range. According to ADF&G, recent downturns in Sitka Sound herring biomass is attributable to two weak three-year-old age classes (2012 and 2014). However, the 2013 age three fish were strong, and a review of the historical data shows the 3-year-old component has had multiple years of strong, weak, and moderate recruitment. None of this information specific to the Sitka Sound herring stock are indicative of the need for a fishery conservation purpose or concern.

Further, although it has been reported to the Alaska Board of Fisheries in past meetings that herring are important prey items in the diet of Chinook salmon, although Kemp (2014) demonstrates that adult herring can also have a direct and significant impact through predation of juvenile Chinook salmon. Kemp (2014) states that:

“Because herring were much more abundant than salmon species, the population-level consumption by herring exceeded consumption by salmon, sometimes by orders of



magnitude. If shared prey items are a limiting resource, there is considerable potential for herring to negatively affect salmon growth, particularly for Chinook salmon.”

Recent downturns in Chinook salmon abundance throughout Alaska have been well documented, although the cause for such declines is unknown. Further, preliminary estimates from the 2018 season indicate upticks in productivity and escapements for Copper River Chinook salmon in Southcentral Alaska, and for Chilkat River, Unuk River, and some hatchery Chinook salmon stocks in Southeast Alaska as well. Arguing that herring are needed to support Chinook salmon stocks is far too simplistic, in our opinion. We argue that ACR 10 makes a blanket statement about the importance of herring in the diets of halibut, lingcod and salmon without any supporting evidence, and encourage further exploration of this issue by board members.

Argument #2: there is no need to correct an effect on the fishery that was unforeseen when a regulation was adopted

The proposers state that low subsistence and commercial fishery harvests in 2018 require a reconsideration of the fishery. SHCA disagrees with ACR 10s assertions that the failure to harvest the 2018 season’s Guideline Harvest Level (GHL) in the Sitka Sound commercial herring fishery is indicative of biological concern for the fishery resource. Instead, it should be noted that 60% of the forecast biomass in 2018 was below industry’s minimum size threshold to satisfy market requirements, thereby making shortfalls in commercial harvest likely during the 2018 season. As the board knows, GHLs are a guideline by definition and design, and are not a guarantee for harvest.

Likewise, shortfalls in subsistence harvest in 2018 can be largely attributed to the majority of spawning taking place along the shorelines of Kruzof Island, Hayward Strait, and the Siginaka Islands, and not in the islands near Sitka. It is undeniable that this abnormal distribution of herring spawn in Sitka Sound led to a reduction in the subsistence harvest of herring eggs. However, as is the case with GHLs, amounts necessary for subsistence (ANS) are also guidelines that cannot be guaranteed through neither management nor regulatory action.

Instead, we argue that there is reasonable opportunity to achieve the ANS in Sitka Sound, but that there is insufficient participation. Supporting evidence can be found in Holen et al. (2011) and Sill and Cunningham (2017), both of which attribute recent downturns in Sitka Sound subsistence herring harvests to a “...general decrease in the participation of the subsistence herring egg harvest over the last 12 years...” Gmelch et al. (1985) reported that, in 1985, subsistence herring egg harvest in Sitka Sound was practiced by a small proportion of the community. Twenty-five years later, Holen et al. (2011) report that the number of harvesters has declined even further. Sill and Lemons (2017) report that several well-known elder “high harvesters” in the 80s, 90s and 00s were commercial fishermen (sac roe and salmon) who harvested herring eggs for Sitka and outlying communities, and who have since either retired or have died. Despite such low participation, Sill and Cunningham (2017) report that since 2006 the

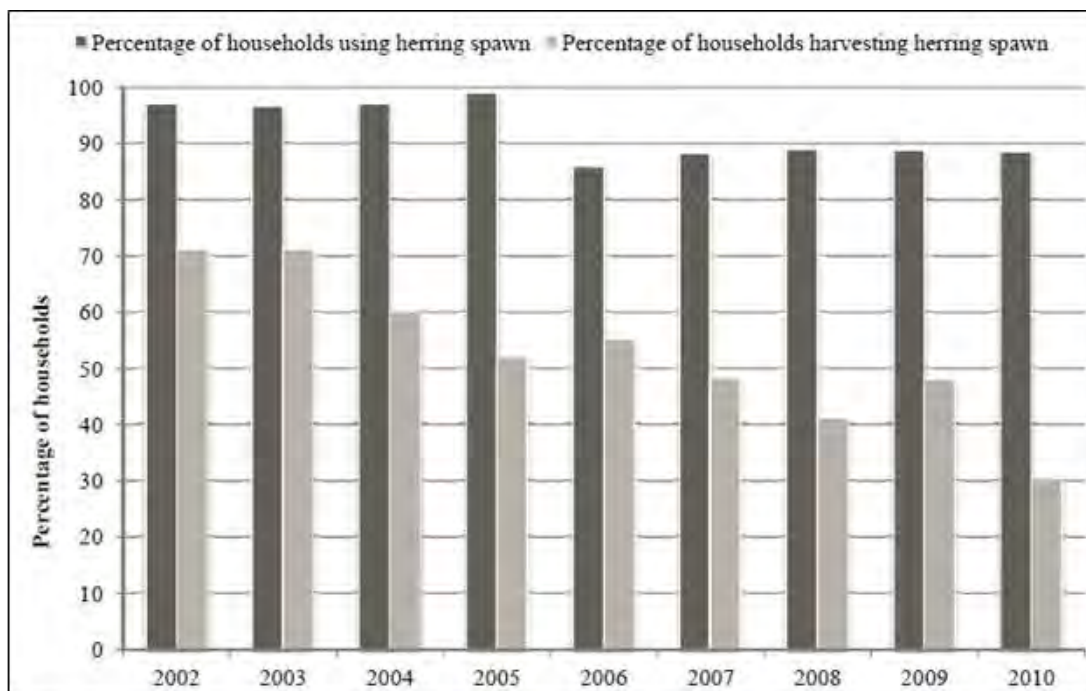


Figure 1.—Percentages of households harvesting and using herring spawn, 2002–2010 (from Holen et al., 2011).

amount necessary for subsistence (ANS) of herring spawn harvest was met in 2006, 2009, 2010, and 2014, and was close to being met in most other years. Holen et al. (2011) document a continued desire to receive herring eggs, although fewer and fewer households are participating in herring egg harvesting activities (Figure 1).

A valid question, then, is whether expansion of the “Core Area” or any part of the Core Area was necessary to provide a “reasonable opportunity” for subsistence, as defined in AS 16.05.258(f). That term is defined as “...allows a subsistence user to participate in a subsistence hunt or fishery that provides a normally diligent participant a reasonable expectation of success....” Accordingly, SHCA asserts that reasonable opportunity is available every year. Based on ADG&G survey transects, heavy spawn densities have been documented at locations along and/or within several miles of the Sitka road system in most years of the past decade (ADFG 2018; Appendix 10). According to Holen et al. (2011) the ANS guideline has been met six of the nine years documented in their report. In 2005, 2007, and 2008 when the lower ANS guideline was not reached, we argue that it was not due to lack of reasonable opportunity, but rather to reduced effort and participation, weather, and/or fuel costs, and a lack of transparency for reported numbers. Further, we argue that spawn distribution does have a role in success of harvest, as the herring do not spawn with the same intensity at all given locations every year. We believe that this was a factor in 2018, when the majority of meaningful herring spawn took place far from Sitka. Additionally, Holen et al (2011) acknowledge further uncertainty surrounding ADF&G harvest reporting since ADF&G’s methodology was changed in 2010. The report does not discuss what the overhaul in methodology means to previous subsistence harvest estimates,



however. The change certainly begs validation of, or qualification of previous results. Much additional work needs to be done to develop a scientifically defensible and transparent methodology.

Additional points for the board to consider: the ANS range is set artificially high and does not reflect verified weights and measure

SHCA's work in 2009, 2010, and 2012–2017 demonstrates that there is reasonable opportunity for subsistence harvest of herring in Sitka Sound. Determining the total weight of herring eggs (measured weights) required to meet subsistence needs is a different question. However, based on SHCA harvest data and monitoring, the actual usage demand appears to be closer to 50,000 lbs. for Sitka (SHCA 2009).

In the decade preceding closure of the “Core Area,” the department made a concerted effort to exclude commercial fisheries from the Core Area when possible, although it has not always been possible. However, most openings in the recent history of the fishery have been conducted outside of the Core Area based on ADF&G reporting. From 2002 to 2012, approximately 80% of the sac roe harvest has been taken outside of the Core Area, with all harvest having occurred outside the closed Core Area since 2013. Regardless, the Core Area has had abundant spawn in most years. It is the one constant. In some years, herring spawn in the Redoubt area or Deep Inlet but other years they do not. ADF&G (2018; Appendix 10) spawn maps show spawn in the Core Area most of the time, but not always. Certainly, there is variability in the spawn density but Kasiana, Middle, Crow, and a portion of the roadside most often have annual spawn.

In our opinion, closing the Core Area was intended to diminish the commercial fishery and its harvest. The proposers claim that subsistence needs cannot be met with the current sac roe fishery management plan. We believe that this is untrue and assert that there is good evidence to demonstrate otherwise.

If realizing ANS is used to curtail a fishery then that information needs to be transparent and verifiable

If subsistence harvest information is used to curtail a fishery, then we believe this information needs to be transparent and verifiable, similar to commercial fishery harvest data. There is no information to support that subsistence opportunity has been diminished in recent years. To the contrary, given increasing stock abundance and review of spawn distribution, one can only conclude that subsistence opportunity has been greater in recent years than it has been since the department began managing the Sitka Sound herring stock in the 1970s when the biomass was ten percent of recent biomass estimates (ADF&G 2018; Appendix 10).

It appears to many as though the ability for subsistence users to collect herring eggs may have declined for a variety of reasons, but there are groups and individuals ready to help with meeting that need. In 2008–2010 and 2012–2017 the herring fishermen, processors, tender men, and community members got behind a program to help meet this need. SHCA's herring egg harvest



data is supplied to ADF&G Subsistence Division each year and used in their analysis of Sitka Sound herring egg harvest. Through this work, SHCA has demonstrated that there was reasonable opportunity prior to closure of the Core Area.

SHCA and ANITA Collaborative Action Plan

During the January 2018 Southeast and Yakutat Finfish and Shellfish Board of Fisheries meeting in Sitka, SHCA and Alaska Native Inter-Tribal Association (ANITA) began exploring opportunities for improving dialogue among fishery stakeholders, with the intent of improving the quantity and quality of subsistence herring egg harvests in Sitka Sound, while also addressing misunderstandings and/or disagreements regarding the science supporting the management of this fishery resource. These discussions were received favorably by industry, representatives of Sitka Tribe of Alaska, and BOF members. Additional details may be found in the appendices of this letter and are submitted for fishery stakeholder consideration at the October 2018 Board of Fisheries Work Session.

In closing, SHCA strongly believes that there is no biological basis for closing the fishery and argues that this proposal is allocative. ADF&G has been meticulous in seeking outside consultants and experts to review its ASA model, including University of Alaska professor Ted Cooney and a recent Ph.D. candidate at University of Washington. In fact, in 2011 Canada's Department of Fisheries and Oceans (DFO) invited ADF&G to participate in a two-day workshop with DFO modelers and biologists, and to meet with modeling experts from the University of Washington (Dr. Andre Punt) and University of British Columbia (Dr. Steve Martell) in Nanaimo, B.C. (per. comm. Dr. Sherri Dressel). The scope of the workshop included model functions, inputs, outputs, mortality factors, review of precautionary approaches, and many esoteric modeling factors. The Canadian herring model was reviewed, and frequent questions were asked of the Alaska team to bore into model criteria. Based on the review it is apparent to SHCA that ADF&G is doing its due diligence to keep abreast of the latest modeling recommendations and science.

SHCA asserts that ACR 10's underlying arguments stand to unnecessarily harm the commercial fishery and those associated with it. This would include the communities of Sitka, Petersburg, Craig, Kake, Craig, Hydaburg, and Ketchikan; permit holders, crew members, tender operators and crews, processors and associated service providers in Southeast Alaska, and throughout the state. SHCA strongly recommends that the board take no action on this proposal and instead encourages all fishery participants to continue with their cooperative and collaborative efforts as previously outlined in RCs 379 and 380.

Thank you for your time and commitment to the board process and the opportunity to comment.

Sincerely,

Chip Treinen
President, SHCA

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SOUTHEAST HERRING CONSERVATION ALLIANCE



P.O. BOX 61
Sitka, Alaska 99835
Tel. No. 907-738-3509

October 3, 2018

Alaska Board of Fisheries
Work Session Comments
October 15 & 16, 2018, Anchorage

The Southeast Herring Conservation Alliance (SHCA) and Alaska Native Inter-Tribal Association (ANITA) submits these comments on Agenda Change Request (ACR) 10 that you will be considering at the Board of Fisheries (BOF) October 2018 Work Session, and thanks you for the opportunity to comment on this important issue. SHCA is a 501 (c)(6) nonprofit organization that represents the interests of herring fishermen, processors, tender men, crew, and families associated with herring fisheries throughout Southeast Alaska. SHCA members participate in the Sitka Sound herring sac roe fishery and other herring fisheries in Southeast. Forty-four sac roe permit holders of the 48 total permits in the Sitka Sound herring sac roe fishery are SHCA members. ANITA is an Alaska Native organization that focuses on issues that affect Native fisherman throughout Southeast Alaska. It is ANITA's goal to help protect and promote the commercial opportunities of Alaska Natives that participate in the region, while also keeping subsistence needs in mind.

We believe that there are meaningful updates to report to the BOF since the board deliberated on this fishery during its January 2018 Southeast and Yakutat Finfish and Shellfish meetings in Sitka. Namely, during this meeting, SHCA submitted RC 379 for public consideration, which was received favorably by industry, representatives of Sitka Tribe of Alaska, and BOF members:

http://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2017-2018/se/rcs/rc379_Southeast_Herring_Conservation_Alliance_Subsistence_Herring_Eggs.pdf

Similarly, RC 380 was also submitted by Alaska Native Inter-Tribal Association (ANITA) and SCHCA to the BOF for consideration as a mechanism to protect the Sitka Sound herring fishery resource in perpetuity for all users including subsistence herring egg harvesters, commercial fishermen, and the community of Sitka:

http://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2017-2018/se/rcs/rc380_Southeast_Herring_Conservation_Alliance_Subsistence_Herring_Eggs.pdf



RC 380 was simultaneously provided to STA representatives with the intent of (1) tying the biomass of Sitka herring to financial contributions to STA, while (2) ensuring that these contributions had no strings attached. Further, (3) it was proposed that a contribution formula of \$10 per ton be utilized, which, using the 2018 Guideline Harvest Level (GHL) of 11,000 tons would equal \$110,000. Finally, SHCA offered to continue to assist the community of Sitka with the harvest of herring eggs using commercial fishing boats and/or tenders.

In response to this offer, STA expressed gratitude for industry's willingness to work with the Tribe in a cooperative and collaborative manner, and further recommended good faith actions for SHCA herring egg harvest activities to decrease potential conflict between subsistence harvesters and SHCA boats, including (1) spreading out the area of SHCA harvests, (2) marking buoys, and (3) adjusting the harvest practices of SHCA boats. SHCA and industry made good faith efforts to abide by these requests, and though the Tribe did not enter into an agreement with SHCA and ANITA, it is our understanding that they did agree to present this offer to a working group who will make a recommendation to the Tribal Council.

With regards to RC 379's "Workforce Development" component, ample opportunities remain in Sitka for collaboration between industry, STA, and others to better utilize local fisheries as educational platforms for local students. For example, the University of Alaska Southeast Fisheries Technology Program has a history of working with industry and Native organizations to promote fisheries education for high school students and has recently been awarded a National Science Foundation (NSF) grant for a project called "Enhancing Aquaculture: education for underserved Alaskan communities to promote workforce development in fishing industries." The main goal of the grant is to develop a semester-long aquaculture intensive in Sitka, Alaska, in partnership with local hatchery programs operated by Northern Southeast Regional Aquaculture Association (NSRAA) and Sitka Sound Science Center (SSSC):

<http://salmonculturesemester.alaska.edu/index.html>

Further, a planned March 2019 Alaska Chapter American Fisheries Society conference in Sitka presents an excellent opportunity to achieve RC 379's "Improved community relations through collaborative educational/social event" component. SHCA recommends that industry and STA work together to ensure that this event provides an educational opportunity for all parties to include scientific presentations, and social/community gathering(s) designed around the conference's format.

SHCA and ANITA submit this letter for the board's and fishery stakeholder consideration at the October 2018 Board of Fisheries Work Session. Thank you for the opportunity to comment on this important issue.

Sincerely,

Chip Treinen, SHCA
John Carle, ANITA

SOUTHEAST HERRING CONSERVATION ALLIANCE



P.O. BOX 61
Sitka, Alaska 99835
Tel. No. 907-738-3509

January 20, 2018

Alaska Board of Fisheries

January 15 – 23, 2018
Sitka, Alaska

Dear Chairman Jensen and Alaska Board of Fisheries Members:

Mission for agreements: protection of the Sitka Sound herring resource in perpetuity for all users including subsistence herring egg harvesters, commercial fishermen, and the community of Sitka by identifying solutions and opportunities for collaboration.

The draft long-term action plan featured below seeks to improve the quantity and quality of subsistence herring egg harvests in Sitka Sound, while also addressing misunderstandings and/or disagreements regarding the science supporting the management of this fishery resource.

Potential local collaborators to assist with the successful prosecution of this action plan include, but will not be limited to: Sitka Tribe of Alaska (STA), Sitka Sound Science Center (SSSC), University of Alaska Southeast Fisheries Technology Program (UAS-FT), Sitka School District (SSD), and the Southeast Herring Conservation Alliance (SHCA).

DRAFT Sitka subsistence-commercial herring action plan

Industry support of subsistence herring egg harvest

- Conceptual agreement regarding financial contributions to STA (provided separately);
- Multi-processor collaboration and funding;
- Use of seiners and/or tenders to facilitate subsistence herring egg harvest, performed to STA's cultural standards;

Workforce development

- Collaboration between UAS-FT, SSD, SSSC, STA, and SHCA to develop and prosecute high school and undergraduate curricula dedicated to traditional foods, highlighting collaboration among

commercial and subsistence users (includes application and contributions of aquaculture and mariculture);

- Industry to co-fund (with STA) course development and program costs, including establishing scholarships and creating internships for participation in field activities;

Improved community relations through collaborative educational/social event

- Development of a collaborative preseason forum (herring festival/conference) to include Alaska Department of Fish and Game, STA, industry, and other outside entities to be determined;
- Co-funded by industry and STA;
- Forum will serve as an educational opportunity for all parties, to include presentations, and social/community gathering(s) designed around the forum's format.

Sincerely,



Steve Reifenstuhl
Executive Director SHCA

SOUTHEAST HERRING CONSERVATION ALLIANCE



P.O. BOX 61
Sitka, Alaska 99835
Tel. No. 907-738-3509

January 20, 2018

Mission of Agreement: Protection of the Sitka Sound herring resource in perpetuity for all users including subsistence herring egg harvesters, commercial fishermen, and the community of Sitka.

Representing **Alaska Native Inter-Tribal Association (ANITA) & SHCA**

Concept of agreement

1. Tie biomass of Sitka herring to STA contribution
2. Contribution to STA with no strings attached (teaching youth, subsistence eggs for elders were mentioned as important traditions)
3. Contribution formula \$10/ton (Example using '18 GHL ~11,000 tons equals \$110,000)
4. SHCA continues to help with community harvest of herring eggs using fishing boats and/or tenders. We would like to collaborate with STA harvest as much as possible and this can take many forms as defined by STA. Goal would be for SHCA vessel(s) to harvest 40,000 to 50,000 pounds

We have more thoughts for collaboration but this is the essence of the offer.

Sincerely,



Steve Reifensstuhl & John Carle ANITA
Executive Director SHCA



Sitka Tribe of Alaska

Tribal Government for Sitka, Alaska

March 16, 2018

Steve Reifentstahl
Southeast Herring Conservation Alliance
PO Box 61
Sitka, Alaska 99835

Dear Mr. Reifentstahl:

This is in response to your letter of January 20, 2018, in which Sitka Herring Conservation Alliance (SHCA) offered to enter into a cooperative agreement with Sitka Tribe of Alaska regarding collaborative harvest activities and funding. At this time, the Tribe is not prepared to enter into an agreement with the items that you have proposed; I have presented your offer to a working group who will make a recommendation to the full Council in due course. It is good, however, that you have indicated a willingness to work with the Tribe and I take this opportunity to suggest on behalf of the Tribal Council some avenues for increasing good will. Conflicts have arisen in previous years between individual and Tribal subsistence herring egg harvesters and those hired to harvest herring eggs for SHCA, and I would appreciate your help in reducing the possibility for conflict in this year's harvest. SHCA could show good faith by agreeing to actions outlined below that will decrease conflict between subsistence harvesters and the commercial industry during this year's harvest, including (1) spreading out the area SHCA harvests, (2) marking buoys, and (3) adjusting the harvest practices of SHCA boats.

First, the Tribe requests that SHCA harvest boats refrain from placing sets along western Kasiana Island and the waters from the most southeastern point of Middle Island along its western shoreline to the narrowest point in Crow Pass. SHCA harvest boats regularly place many of their sets in the core subsistence area, represented in 5 AAC 27.150. Most of these sets are placed in the water well before the spawning begins and the sets carpet areas that have historically produced larger harvests of quality herring eggs. The carpeting of these areas has led to the displacement of individual and Tribal subsistence herring egg harvesters. As is often referenced in Board of Fish testimony and discussion, SHCA has a very capable fleet that can travel and harvest anywhere. Focusing the efforts of large industry vessels into areas that are not as safe for the average tribal harvesters (due to distance and exposed weather conditions) may reduce conflict and allow for a dispersal of the subsistence harvest, which in turn should be a more successful harvest for all. The attached map specifically defines the areas included in this request.

Second, the Tribe requests that the boats harvesting herring eggs for SHCA clearly mark all their sets with buoys that contain the name of the harvester, the boat name or

(907) 747- 3207 • Fax: (907) 747- 4915 • 456 Katlian Street • Sitka, Alaska 99835



registration number, and city in which the harvester resides, and that they take care to harvest only those sets that SHCA has placed. During last year's subsistence harvest, numerous individual and Tribal subsistence harvesters witnessed their sets being pulled by the *FV Katlian*. We hope this was an inadvertent error caused by confusion on the part of the *Katljan* captain due to his sets being inadequately marked. Clear marking of SHCA sets will avoid the possibility of inadvertent harvest of sets that do not belong to SHCA. STA will also advise individual and Tribal harvesters to mark their sets.

Third, the Tribe requests that SHCA boats refrain from retrieving sets by dragging them out to deeper water to haul on board larger vessels. Over the last few years, the Tribe has received complaints from individual and Tribal subsistence herring egg harvesters about this practice of SHCA boats. In many cases, when these sets are dragged to deeper water they get tangled with other sets made by individual and Tribal subsistence harvesters. This results in many of these harvesters not being able to locate their sets due to their markers no longer being visible after being dragged into deeper water. It would decrease conflict between non-commercial subsistence harvesters and SHCA if SHCA boats refrain from this type of harvest practice when there is potential to impact individual and Tribal subsistence harvesters.

Thank you for your attention to these issues and for reaching out to the Tribe as you have done. Please feel free to contact General Manager Lisa Gassman (747-3207) if you would like further clarification.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kathy Hope Erickson'.

Kathy Hope Erickson
Tribal Council Chairman

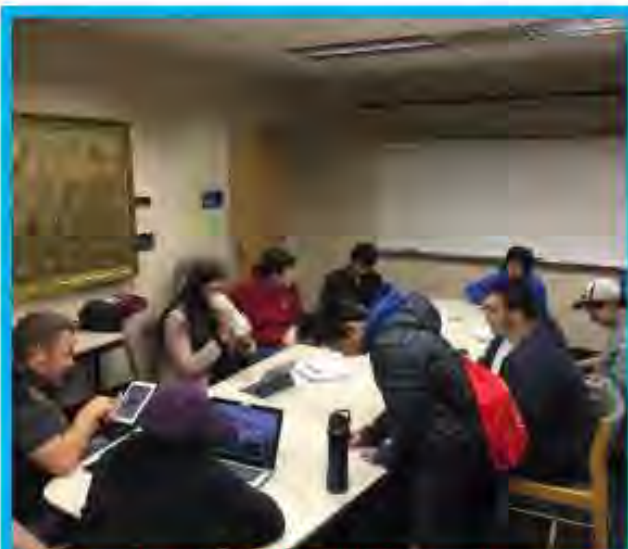
Sika Topo Map, Sika County AK (Sika A-4 Area)





Fisheries Technology Newsletter

SITKA CAMPUS UPDATES, FALL 2017



A group of high school students in Juneau participating in Oceanography 101 through Goldbelt Inc. sit with Professor Brewer to learn about their iPads.

(Photo provided by Ana Christine Tayofa.)

Industry and Native organizations promote fisheries education for high school students

This fall, 36 high school students are taking UAS courses, thanks to financial assistance from the At-Sea Processors Association (APA) and Goldbelt Inc. Most of the students are taking courses for dual-enrollment (high school and college credit), while others are simply getting a headstart on their college careers! APA also assisted with a pilot program in spring 2017, during which 13 high school students completed 4 credits of college coursework during the school day. Goldbelt Inc. has worked to engage Juneau-based Alaska Native students in the sciences, beginning with a summer 2017 oceanography learning experience and culminating with 22 students taking the iPad-based Introduction to Oceanography class for University of Alaska General Education credit. This year, APA and Goldbelt have helped 50 high school students take on university-level coursework all over the state: from Kodiak, Juneau, and Sitka to Unalaska, Galena, and Petersburg. Thanks to APA and Goldbelt for supporting the next generation of fisheries and/or marine scientists!



9/30/2018

UAS Fisheries Technology program receives NSF grant to enhance aquaculture education in Alaska – UAS Fish Tech



UAS Fish Tech

Connecting You with the Alaskan Fishing Industry



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UAS Fisheries Technology program receives NSF grant to enhance aquaculture education in Alaska

[fishtech](#) • June 28, 2018 • Alaska, News, UAS, Uncategorized

The University of Alaska Southeast Fisheries Technology (Fish Tech) program just received word that NSF will be funding a project called *Enhancing Aquaculture: Education for underserved Alaskan communities to promote workforce development in fisheries industries* or just *Enhancing Aquaculture*. The \$567,326 grant will allow the Fish Tech program to hire a three-year term funded faculty member that will focus on teaching UAS courses in aquaculture and mariculture. The main goal of the grant is to develop a semester-long aquaculture intensive that will be taught in Sitka, Alaska (<http://salmonculturesemester.alaska.edu/>). Though Fish Tech will continue to offer distance courses, this semester intensive will primarily be hands-on with students taking courses in Alaska Salmon Culture, Field Safety, Vessel Operator, Outboard Maintenance, and more. Some other unique aspects of this intensive include a 300-hour internship that will be performed at one of three local hatcheries, visits to at least one remote hatchery, and a job fair near the end of the semester so that students going through the program can make plans for working in the salmon enhancement industry the following summer. For more information contact the Fish Tech Program Director Reid Brewer (rsbrewer@alaska.edu, or 907-747-7799)




UNIVERSITY of ALASKA SOUTHEAST

Salmon Culture Semester

A Hands-On Learning Experience
Spring 2019 (January 14 - May 3)

Salmon Culture Semester Core (13 Credits)

Fisheries Technology 122: Alaskan Salmon Culture I (3 Cr)

The first of a two-course sequence, this course introduces students to the principles, concepts and methods used in the production of Pacific Salmon. The course addresses all aspects of fry and smolt production, with an emphasis on modern fish culture techniques used by Alaskan producers. Topics include water quality, brood stock management, egg collection and incubation, egg and live fish transport, fresh and saltwater rearing techniques, feeding practices, growth, record keeping, and fish health management.

Fisheries Technology 222: Alaskan Salmon Culture II (3 Cr)

The second course of the Alaskan Salmon Culture sequence. In this class, methods used to enhance and rehabilitate the five species of Pacific salmon harvested in the commercial, sport and subsistence fisheries of Alaska and Northwestern United States will be covered in detail, and students will be provided with a thorough understanding of regulations and guidelines established by the state of Alaska to administer salmon enhancement programs through private non-profit aquaculture association. Prerequisite: successful completion of FT 122.

Fisheries Technology 230: Alaskan Salmon Culture Lab (1 Cr)

This intensive course focuses hands-on learning, as students put salmon enhancement techniques and skills into practice. Topics include egg incubation techniques, feeding techniques, rearing, pathology and tagging and marking techniques. Course includes an in-class lecture portion, hands-on lab activities, and visits to local salmon hatcheries.

Fisheries Technology 291: Fisheries Technology Internship (3 Cr)

This course is an opportunity for students to apply their Pacific salmon enhancement coursework in a professional aquaculture setting. Students will be matched with local facilities to further practice and develop their hands-on hatchery and fish culture techniques and skills.

Fisheries Technology 193: Cold Water Survival (1 Cr)

Students will learn the basic skills to survive in cold water. This course consists of classroom instruction, pool skills, and ocean experiences. Topics include: Hypothermia, Dressing for cold, Types of PFDs and their uses, Retrieving someone who falls overboard, Radio calls, Survival suit and raft training, and other related topics.

Marine Transportation 119: Small Vessel Operator (1 Cr)

Learn to safely operate a small vessel in Alaskan waters. Covers navigation, rules of the road, trip planning including weather, radio operation, line handling and vessel operation including a practice session on the water. Foul weather/rain gear may be required.

Marine Transportation 120: Outboard Motor Maintenance (1 Cr)

An introduction to outboard systems that need maintenance and upkeep for efficient operation. Ignition, carburetion power head and lower unit systems will be studied emphasizing preventive maintenance.

Enrollment is open until filled, for 20 participants maximum.
October 15, 2018 is the deadline for priority consideration.
The University of Alaska Southeast has been accredited by the Northwest
Commission on Colleges and Universities since 1983.
UAS is an AA/EQ employer and educational institution.

For more information, contact:
Dr. Reid Brewer
rbrewer@alaska.edu
907-747-7799
Or visit www.diversimaster.alaska.edu



AFS Alaska Chapter Annual Meeting 2019 Sitka, AK March 19 - 21

Location: Sitka, AK
Dates: March 19-21, 2019
*Continuing Education: March 18
*Field Trips: March 22



Save The Date!

American Fisheries Society Alaska Chapter Annual Meeting 2019

Location: Sitka, AK

Dates: March 19-21, 2019

*Continuing Education: March 18

* Field Trips: March 22

Call for Symposia coming soon

Call for Abstracts shortly after



ALASKA DEPARTMENT OF FISH AND GAME DIVISION OF COMMERCIAL FISHERIES FISHERY UPDATE



*Sean Coffey, Commissioner
Scott Ralley, Director*



Contact:
Eric Coonradt

Sitka Area Office
304 Lake Street, Room 103
Sitka, Alaska 99835

Phone: (907) 747-6688
Fax: (907) 747-6693

Date: April 27, 2018
Time: 1:15 p.m.

SITKA SOUND SAC ROE HERRING FISHERY ANNOUNCEMENT

Sitka. The Alaska Department of Fish and Game has mapped 32.0 nautical miles (nmi) (Figure 1) of herring spawn in 2018 through April 27, including 1.0 nmi of active spawn in Salisbury Sound today. Spawn deposition surveys were conducted on April 7-11 and on April 24-25. Final results from this year's stock assessment will not be available until November 2018, however, some general information can be derived from the data collected to date.

Nearly all spawning this year occurred along shorelines of Krusof Island, Hayward Strait, and the Sigmak Islands. Very little spawning was observed in the islands near Sitka, which typically receive substantial spawn. The lack of spawn in the islands near Sitka and the lower than typical spawn mileage are unusual and have not been observed for many years. However, preliminary results of the spawn deposition survey revealed that although spawn mileage was approximately half that of 2017, the spawn extended nearly twice as far offshore, and egg density was higher. In 2005 and 2006, a similar situation occurred where the spawn extended far offshore on Krusof Island due to the very wide shelf of herring spawning habitat. Therefore, due to exceptional spawn along the Krusof Island shoreline, the 2018 herring spawning biomass was much higher than was apparent from the spawn mileage alone.

The total harvest this season is 2,926 tons with an average of 11.2% mature roe. This harvest is 8,202 tons short of this season's GHLL of 11,128 tons. The department announced the season closure on the VHF radio at 11:00 a.m., April 3, 2018. Multiple factors were considered in closing the fishery. The completion of the first spawn event with documented spawn totaling 13.3 nmi; the minimum size limit by processors (125 gram average) was higher this year than past years and 60% of the forecast biomass was below the size necessary to satisfy market requirements; although herring were available, due to the higher market requirements, herring meeting these requirements were not found despite extensive vessel and aerial surveys conducted in the last several days prior to the closure. The decision to close the fishery was made in consultation with industry representatives.

In 2017, 62.3 nmi of herring spawn was mapped; peak spawn occurred on April 6 and the last spawn was observed on April 21. The 2017 model estimated post fishery biomass was 49,347 tons.

Sitka Herring NR

page 1 of 2

April 27, 2018



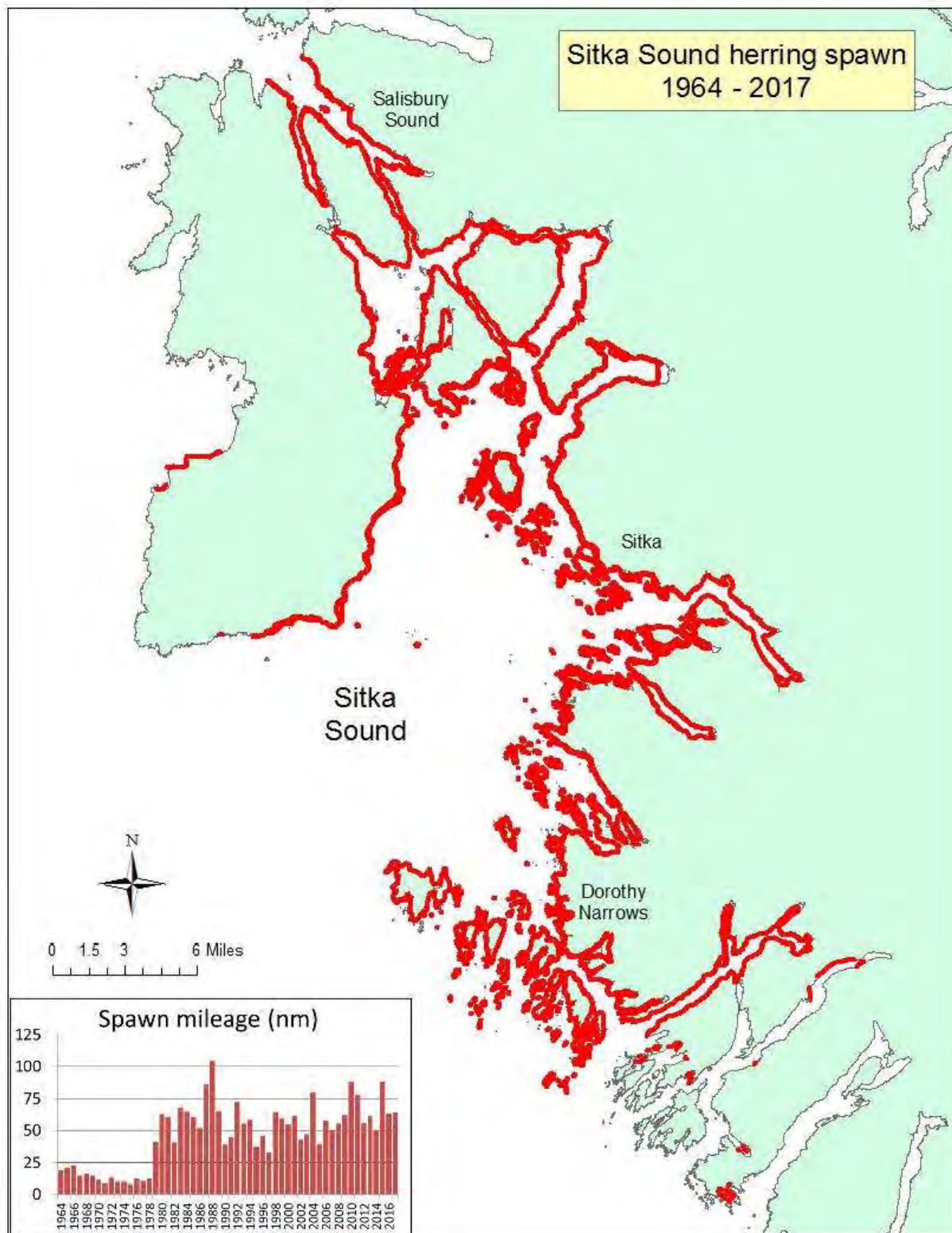
Sitka Herring NR

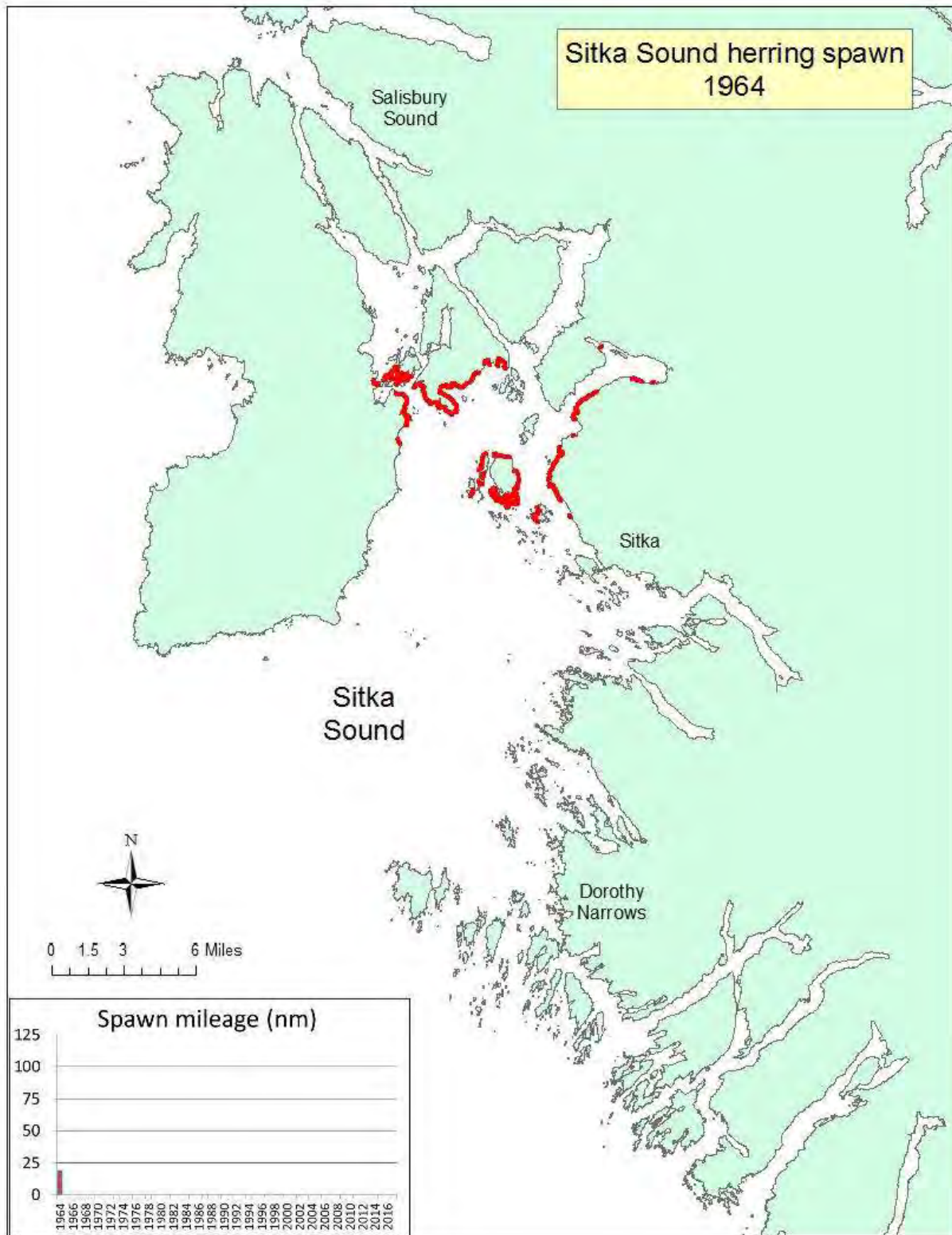
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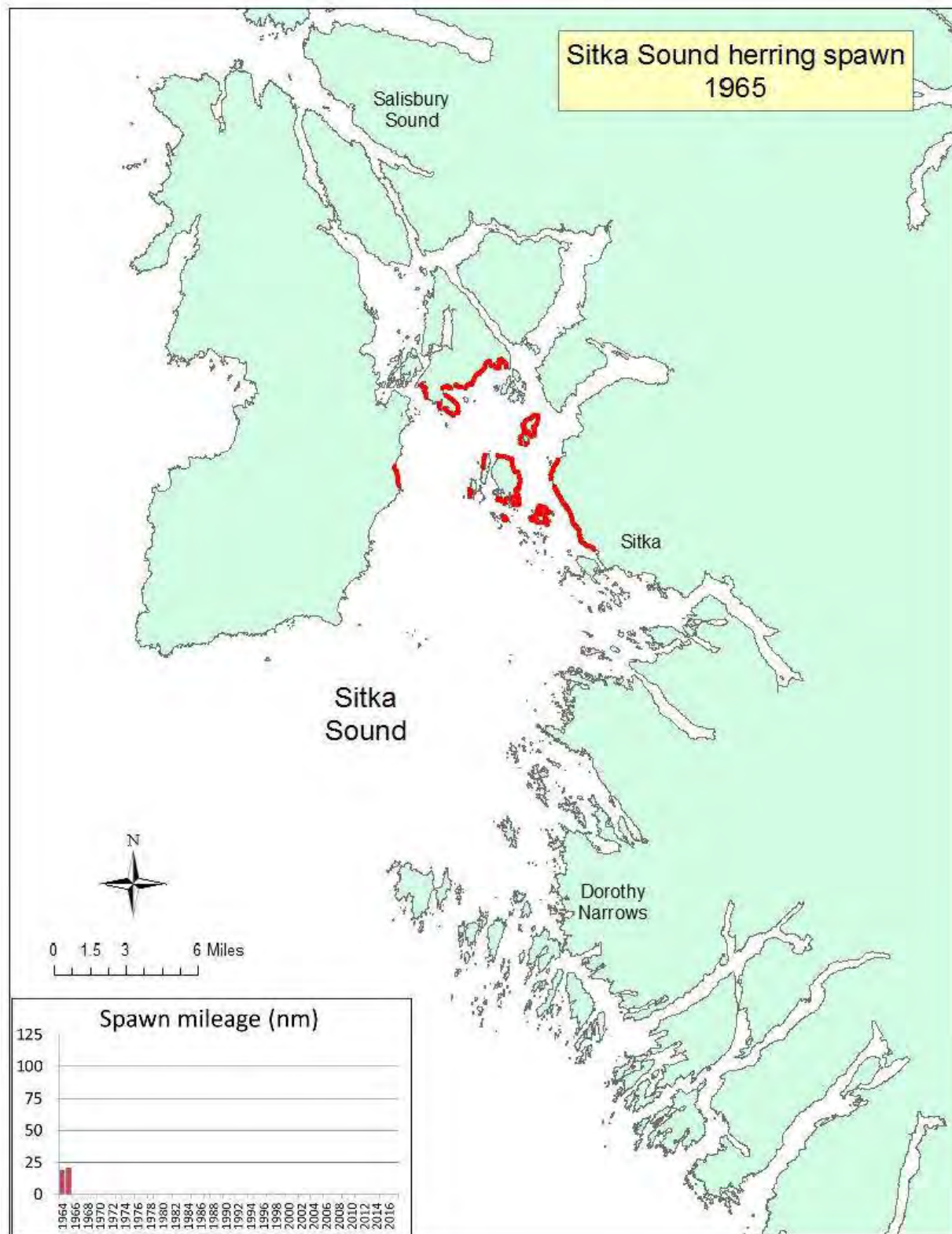
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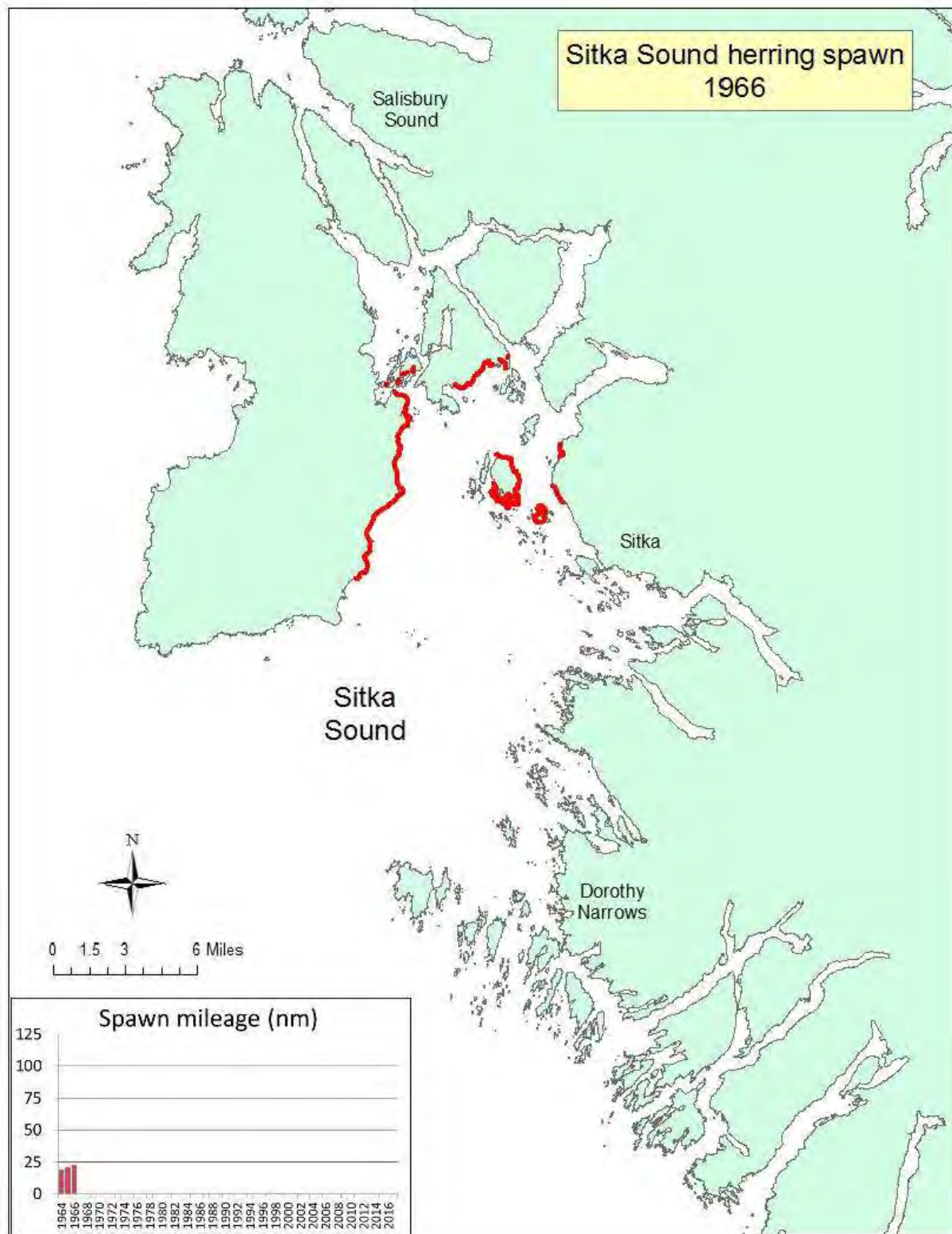


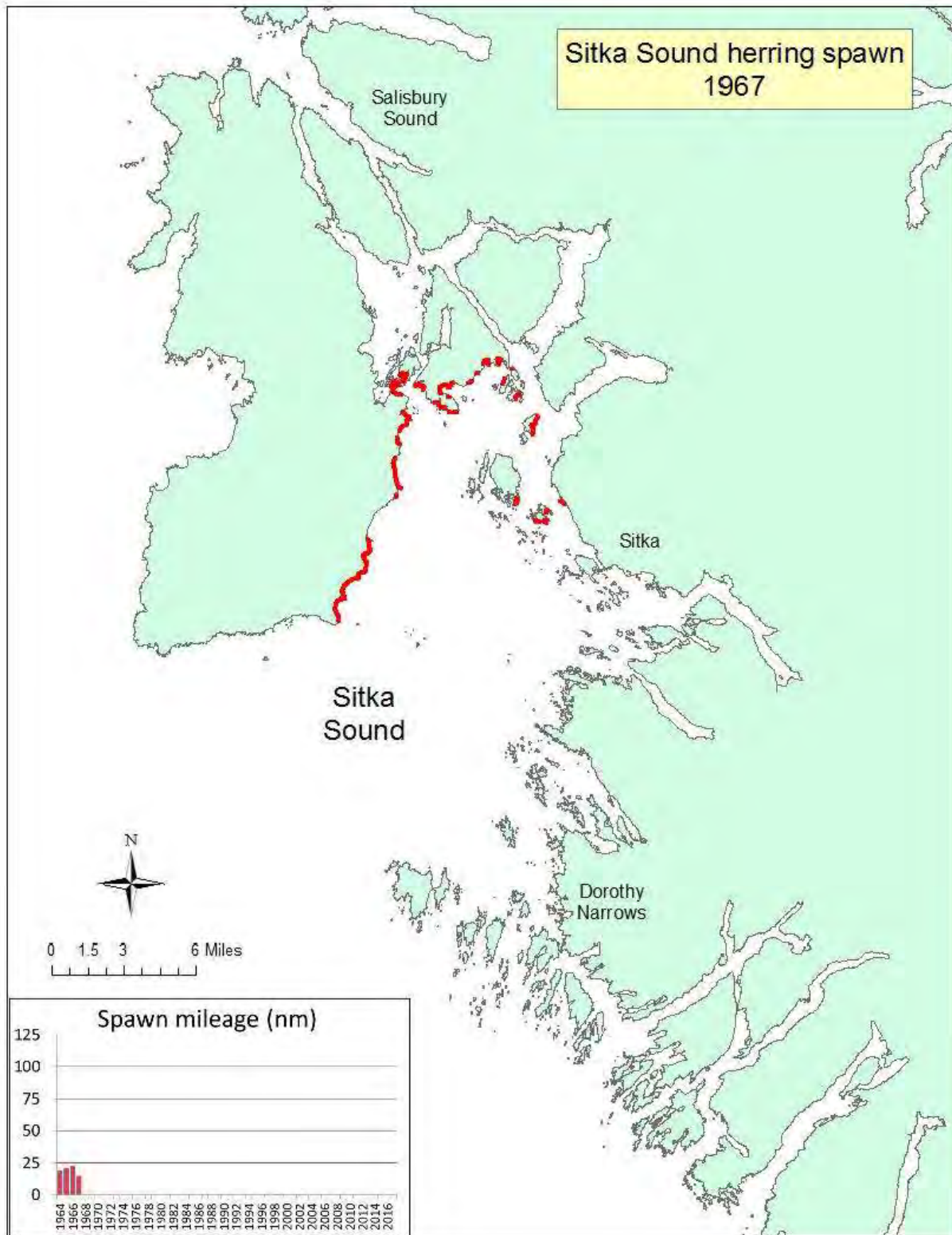
Figure 1. 2018 Sitka Sound herring spawn.

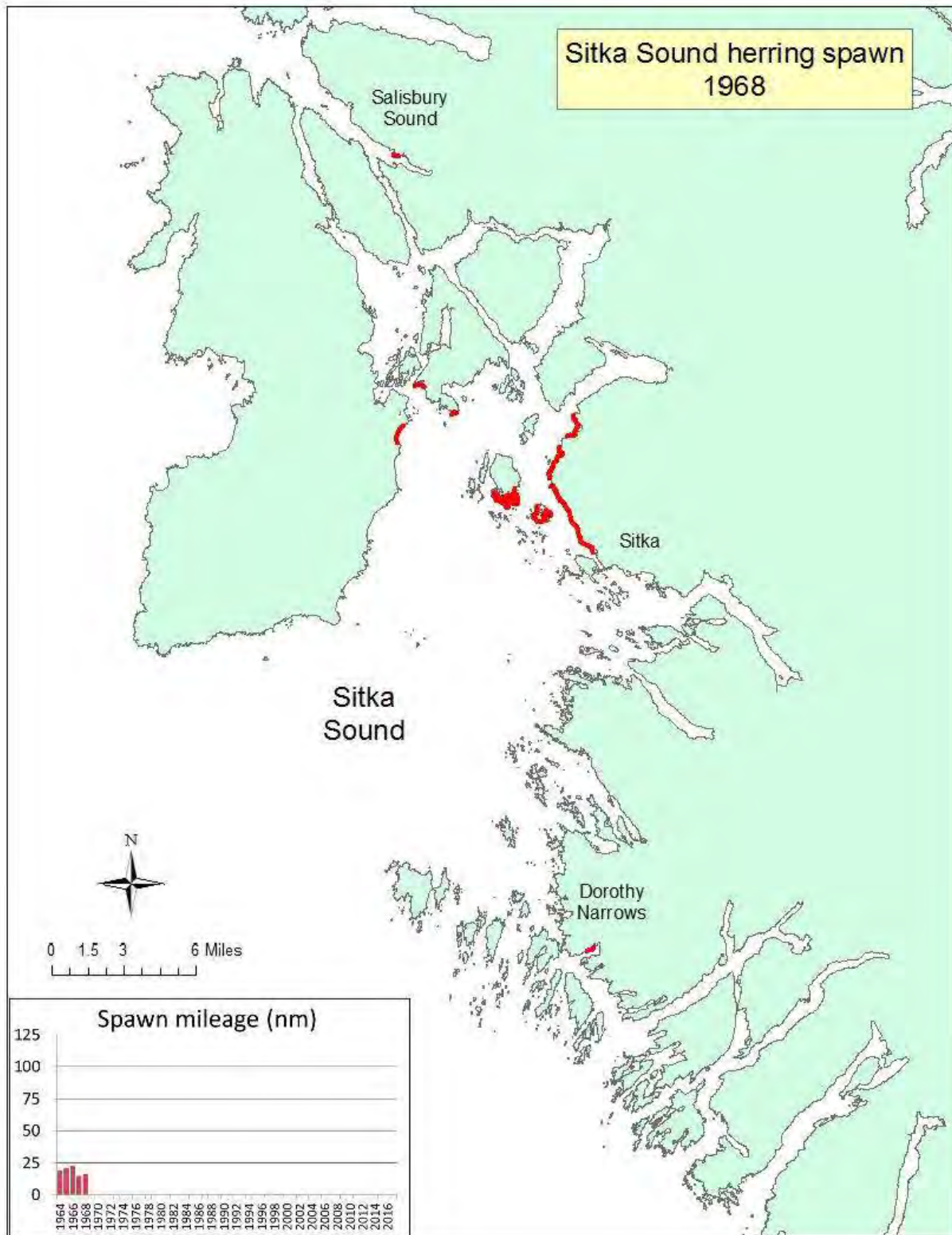


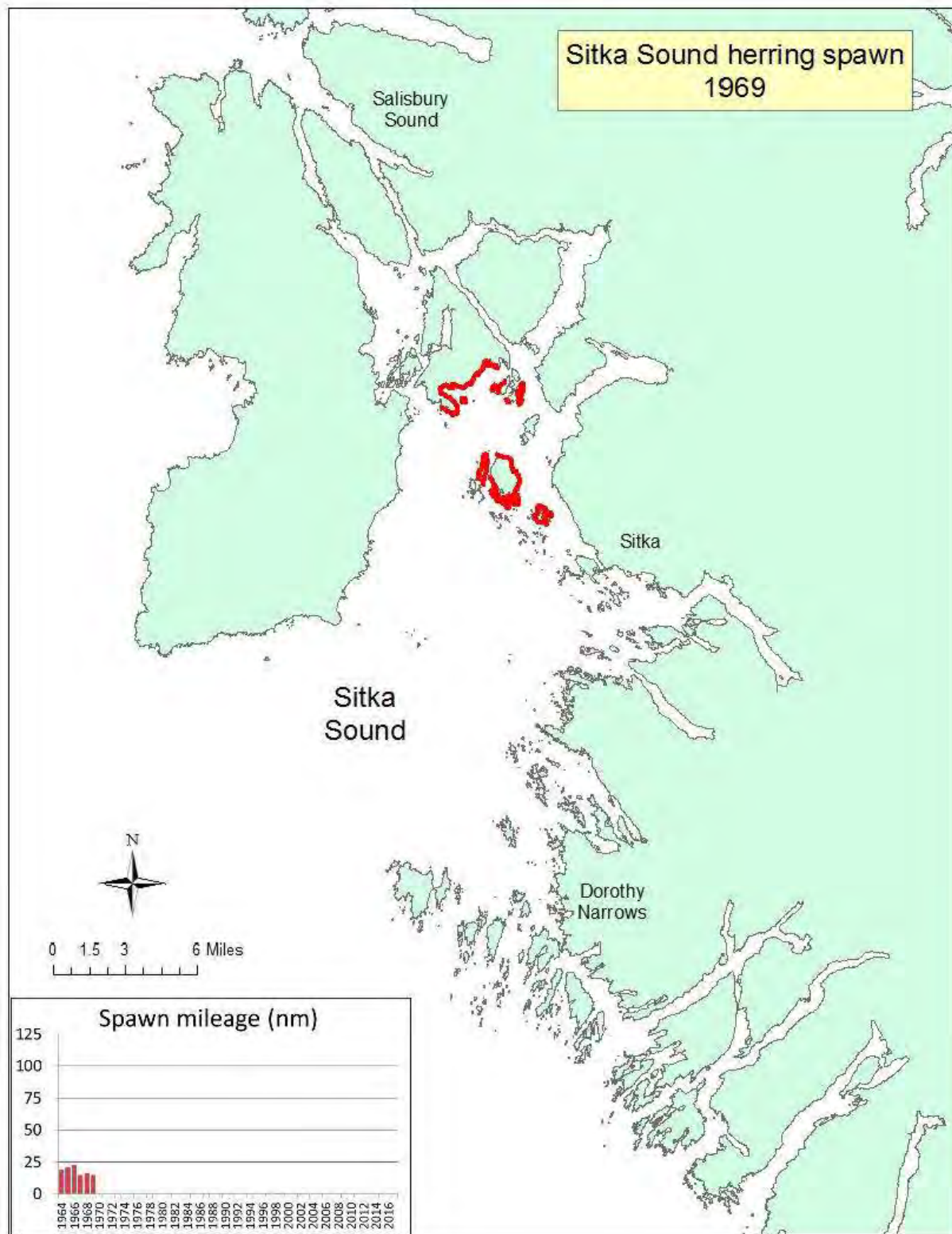


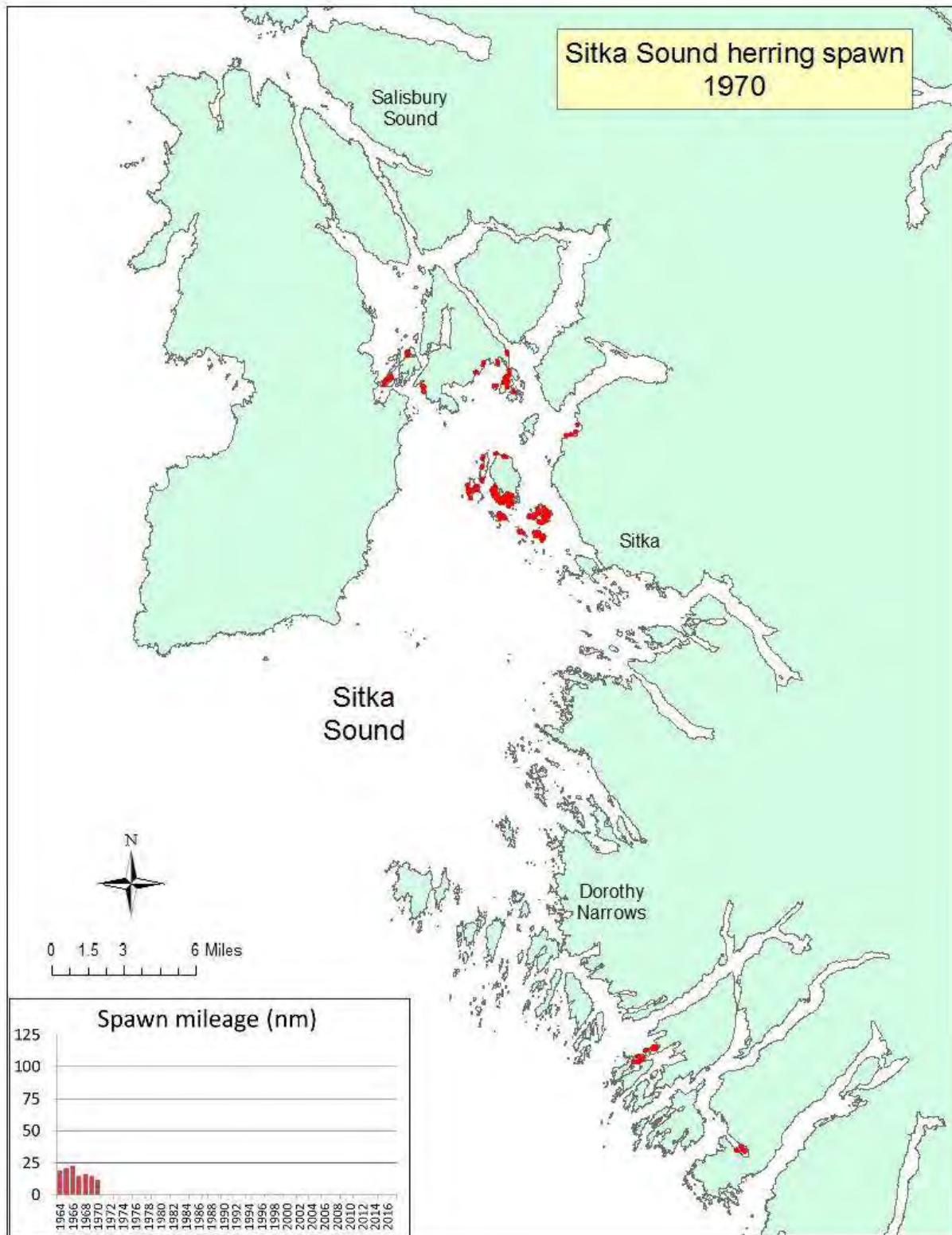


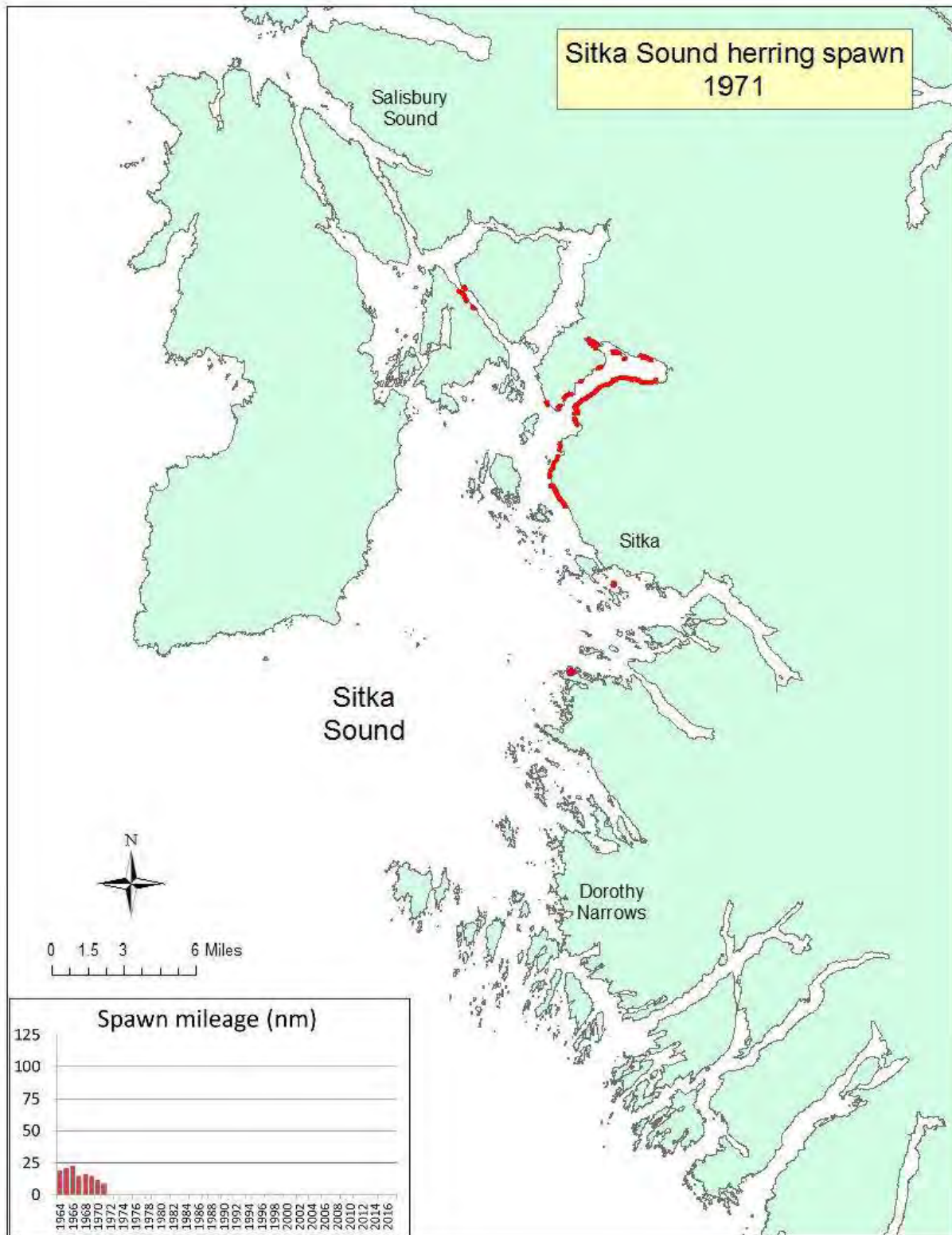


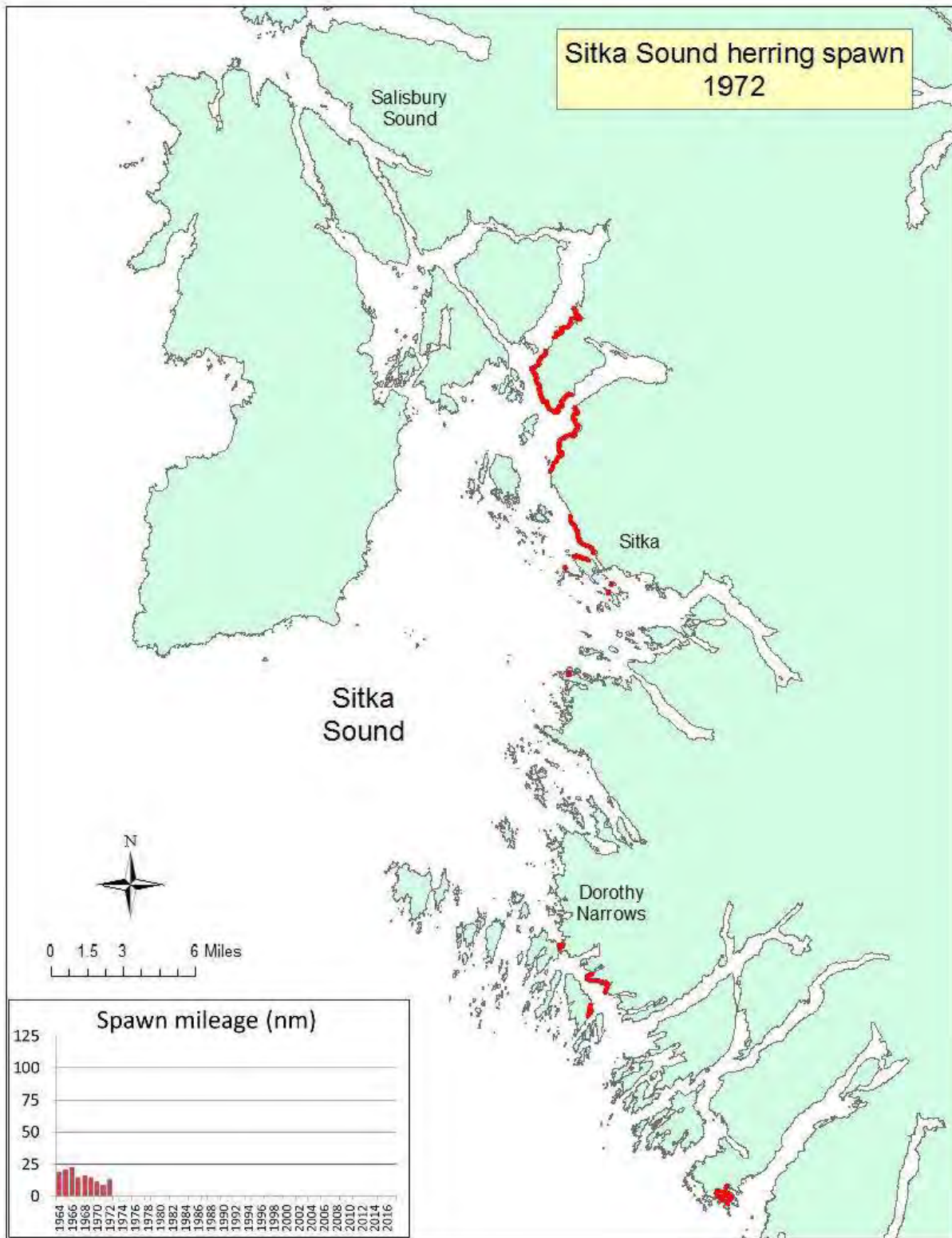


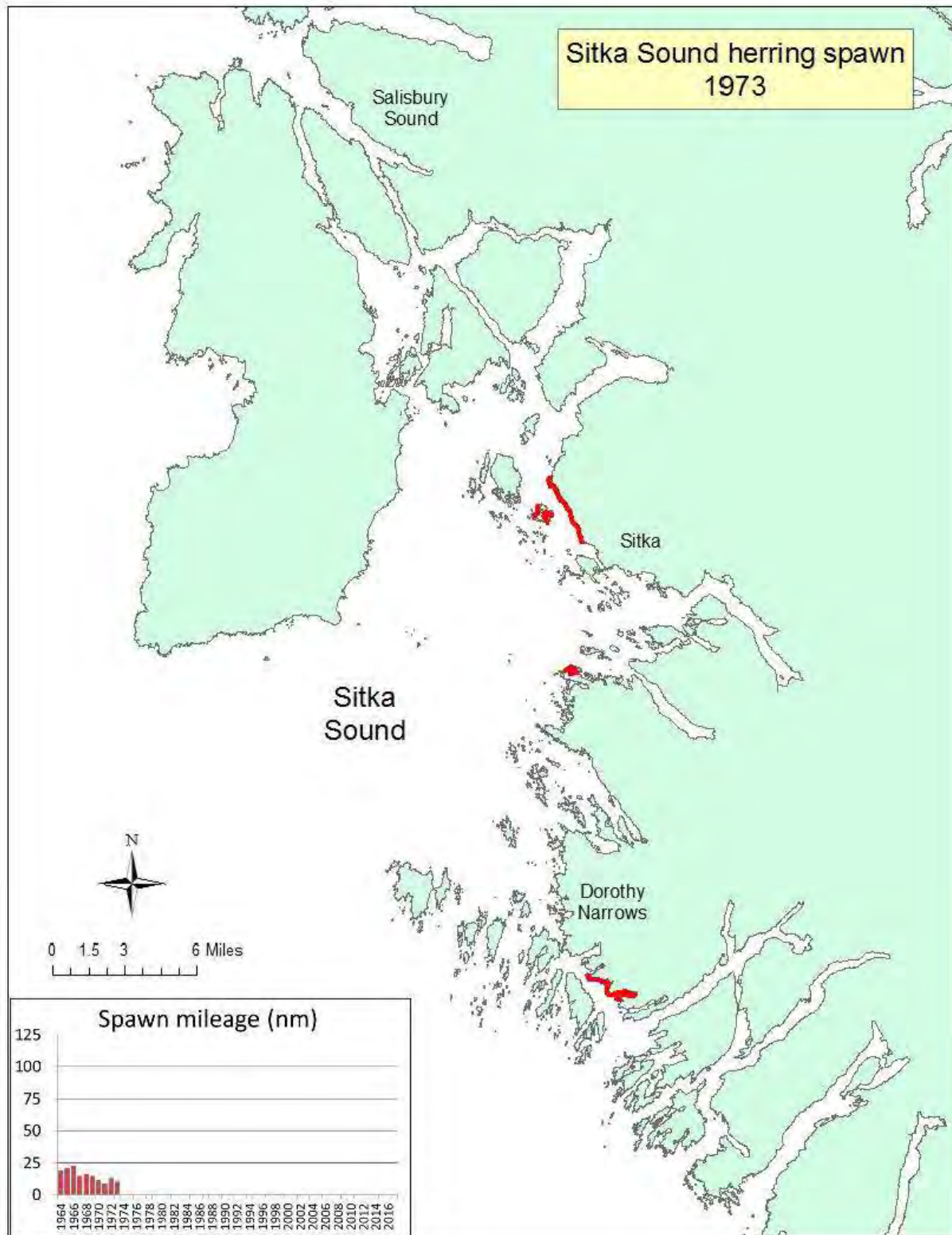


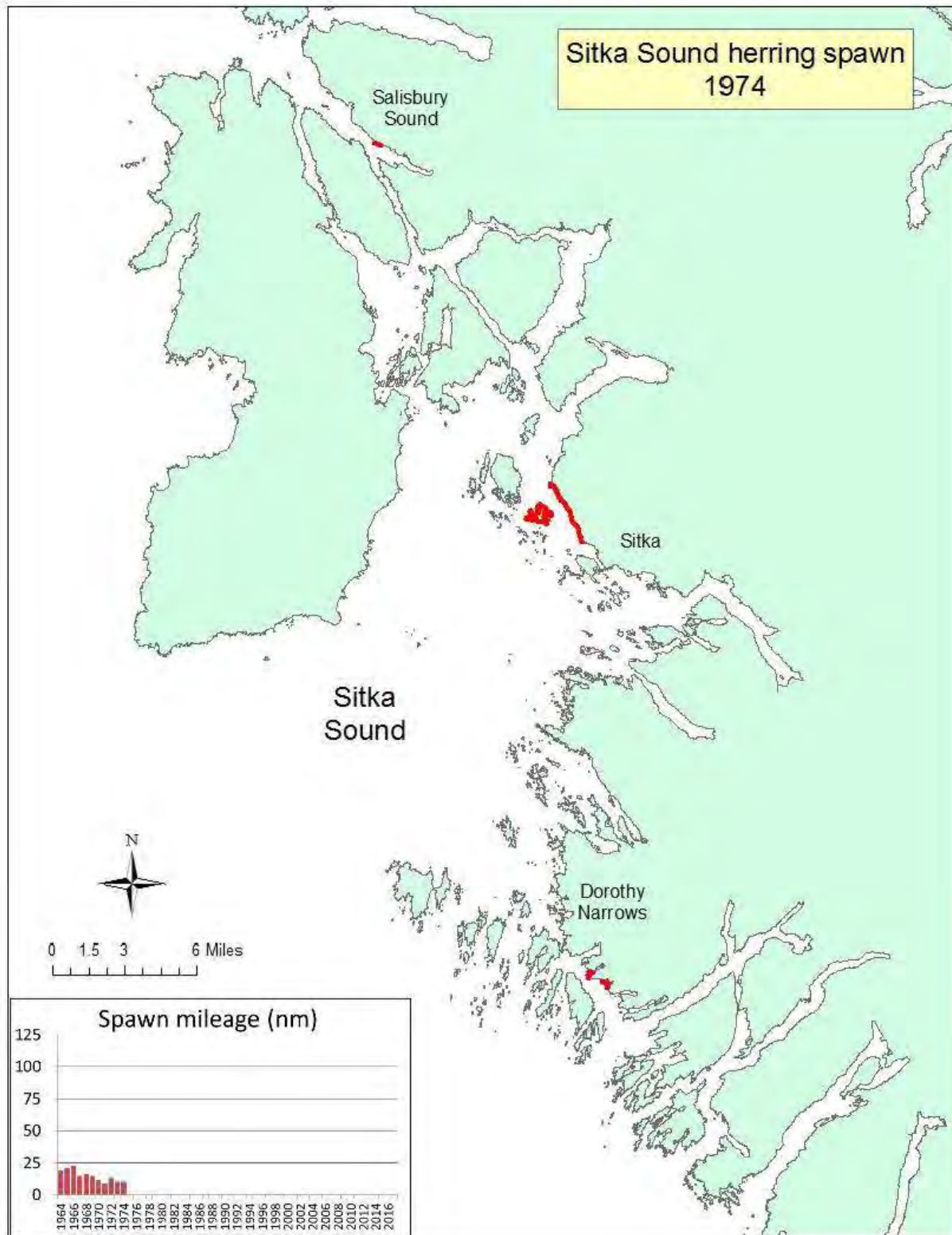


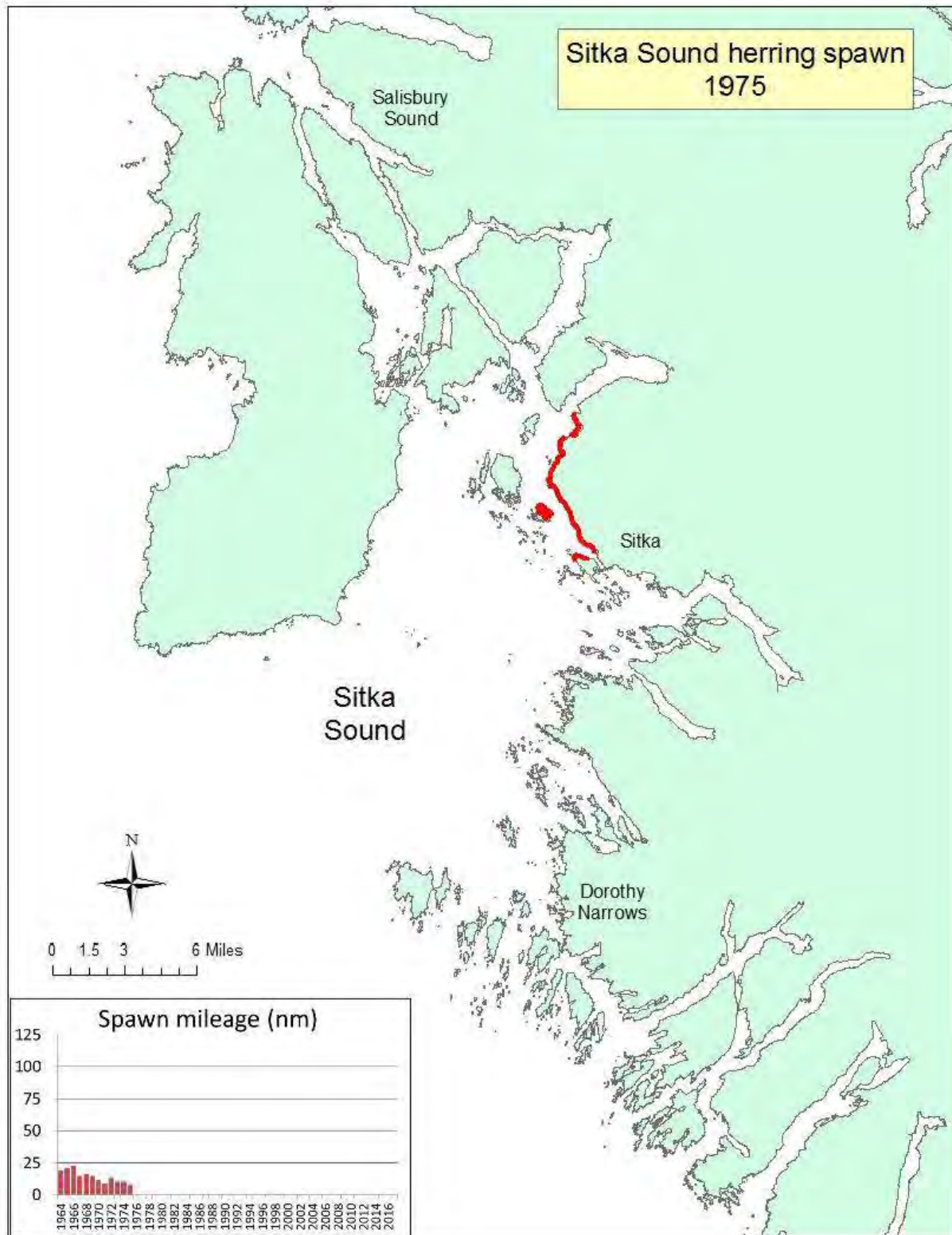


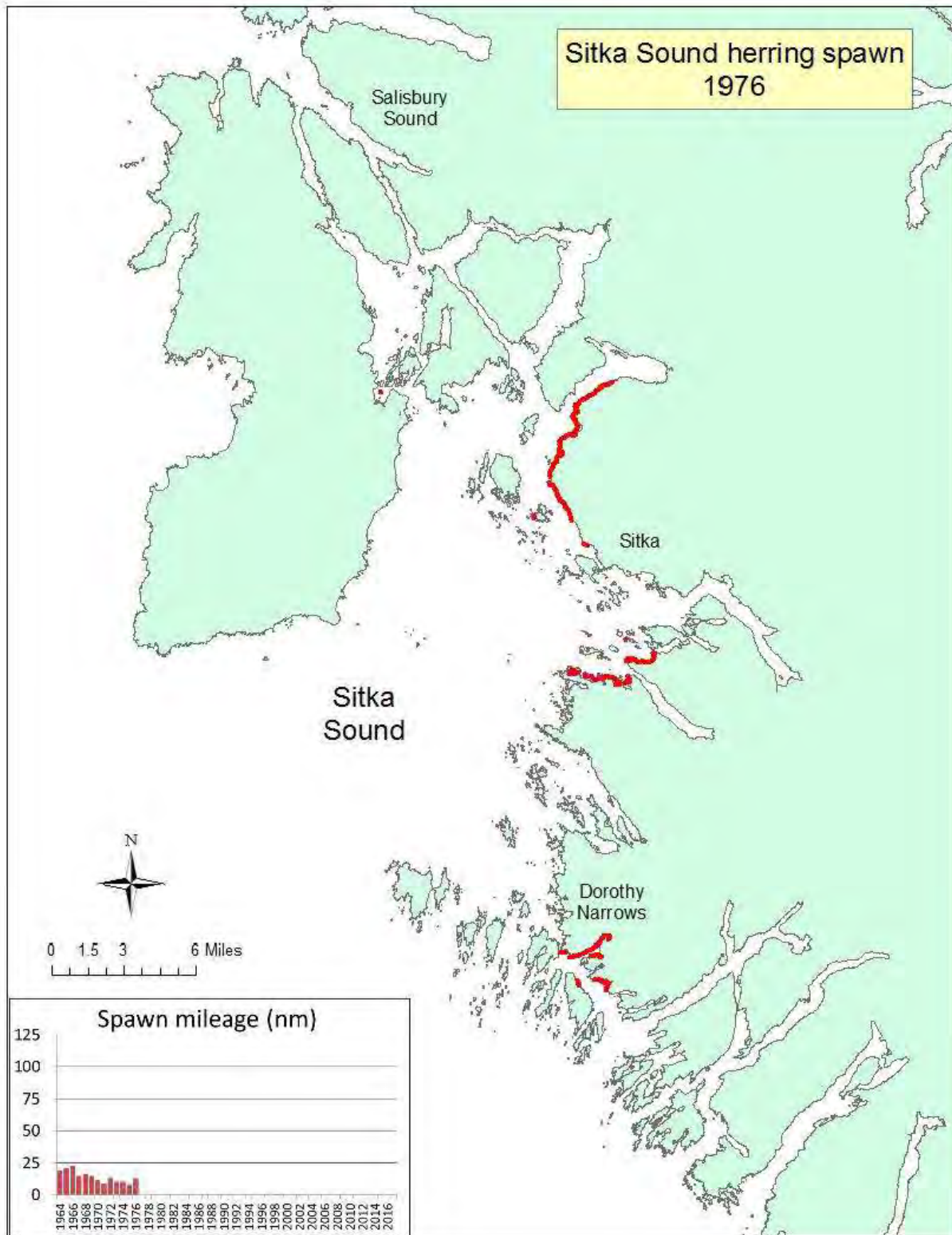


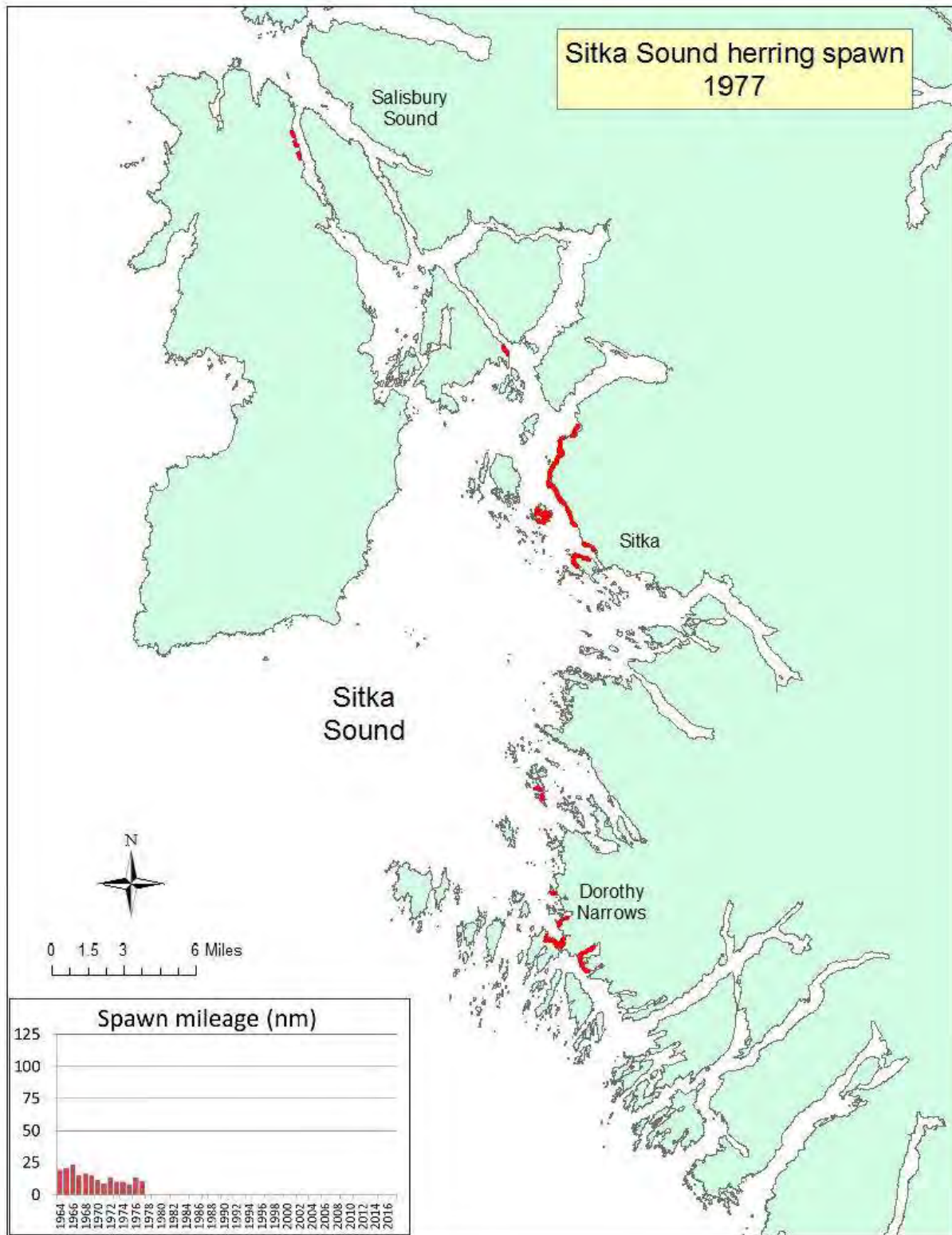


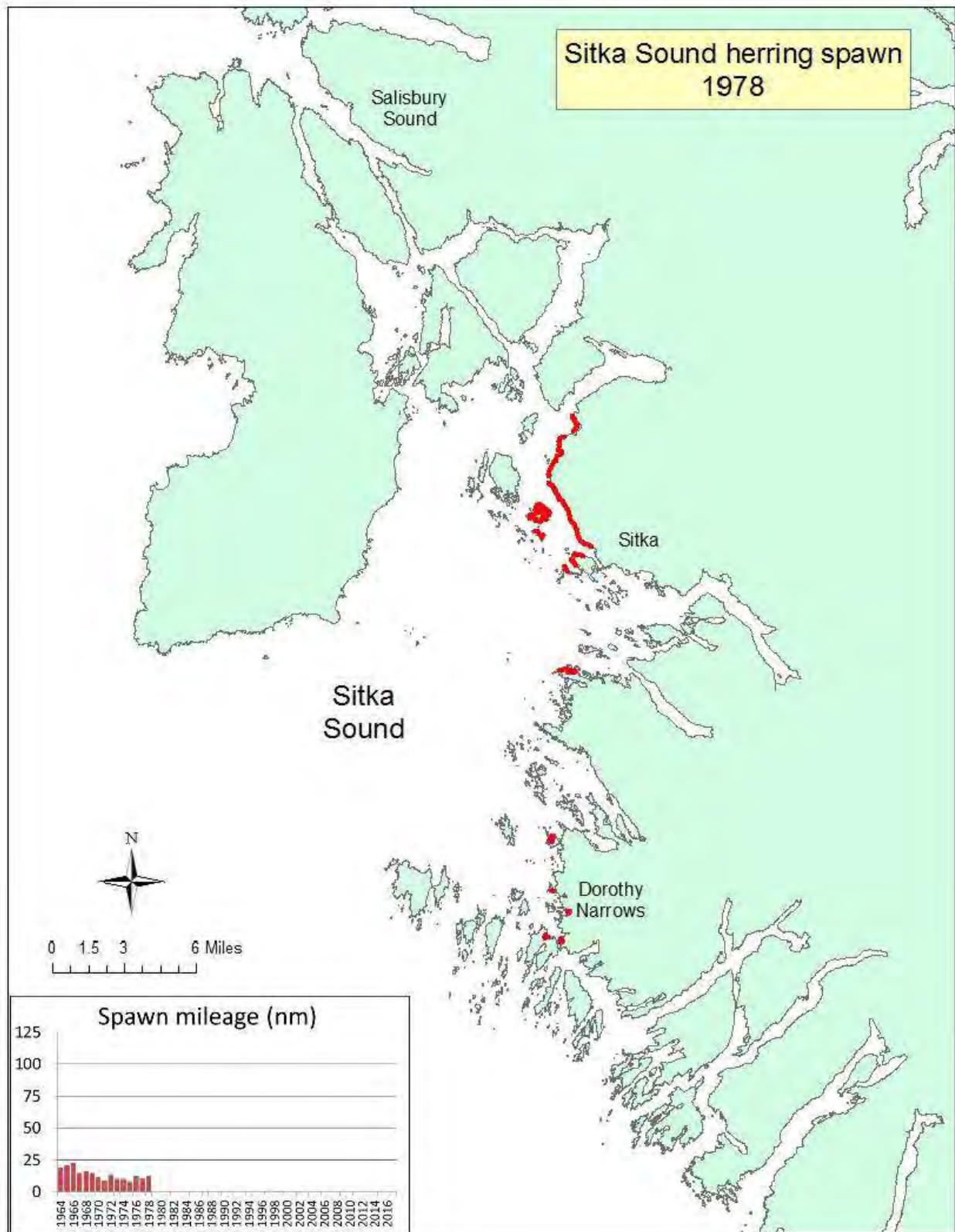


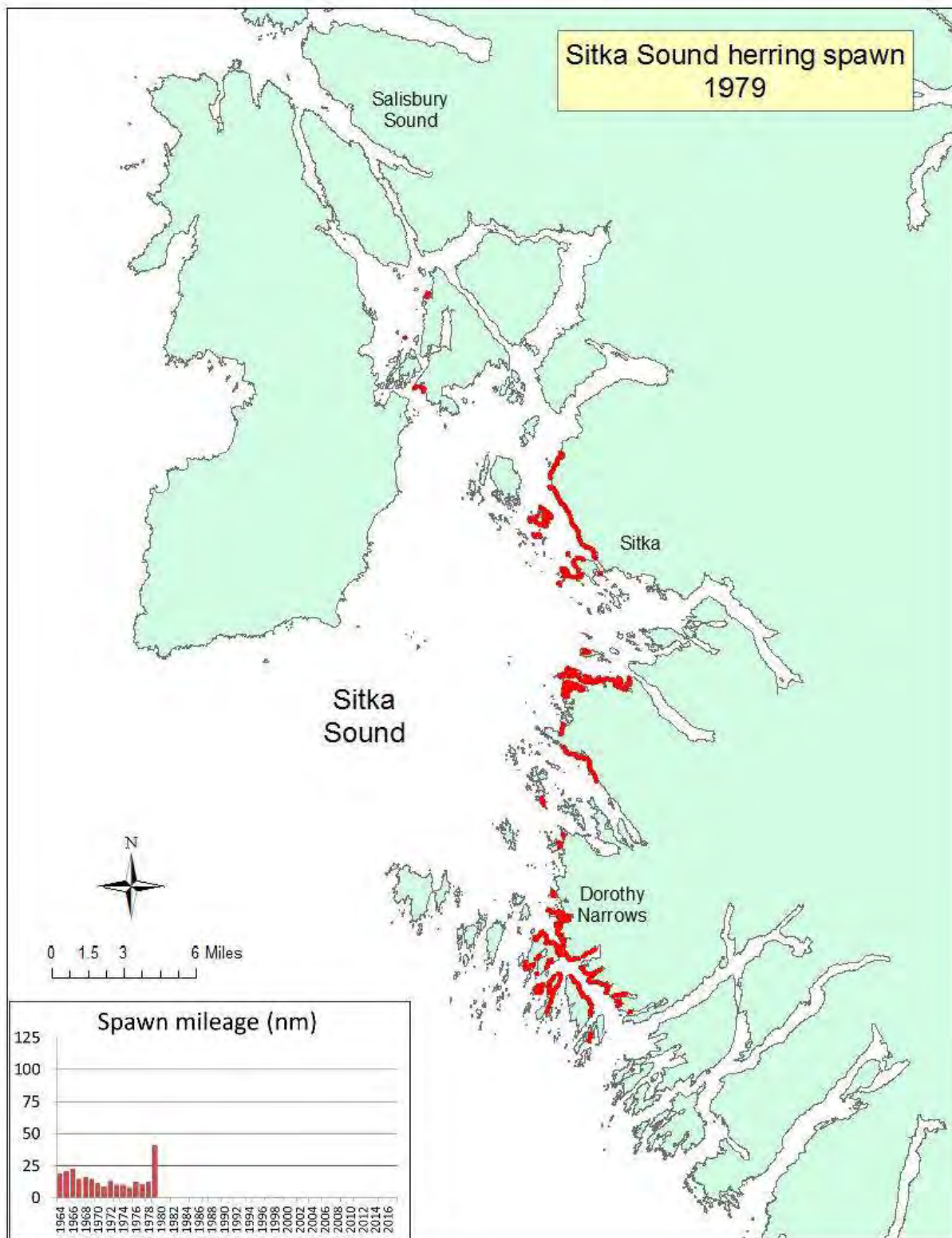


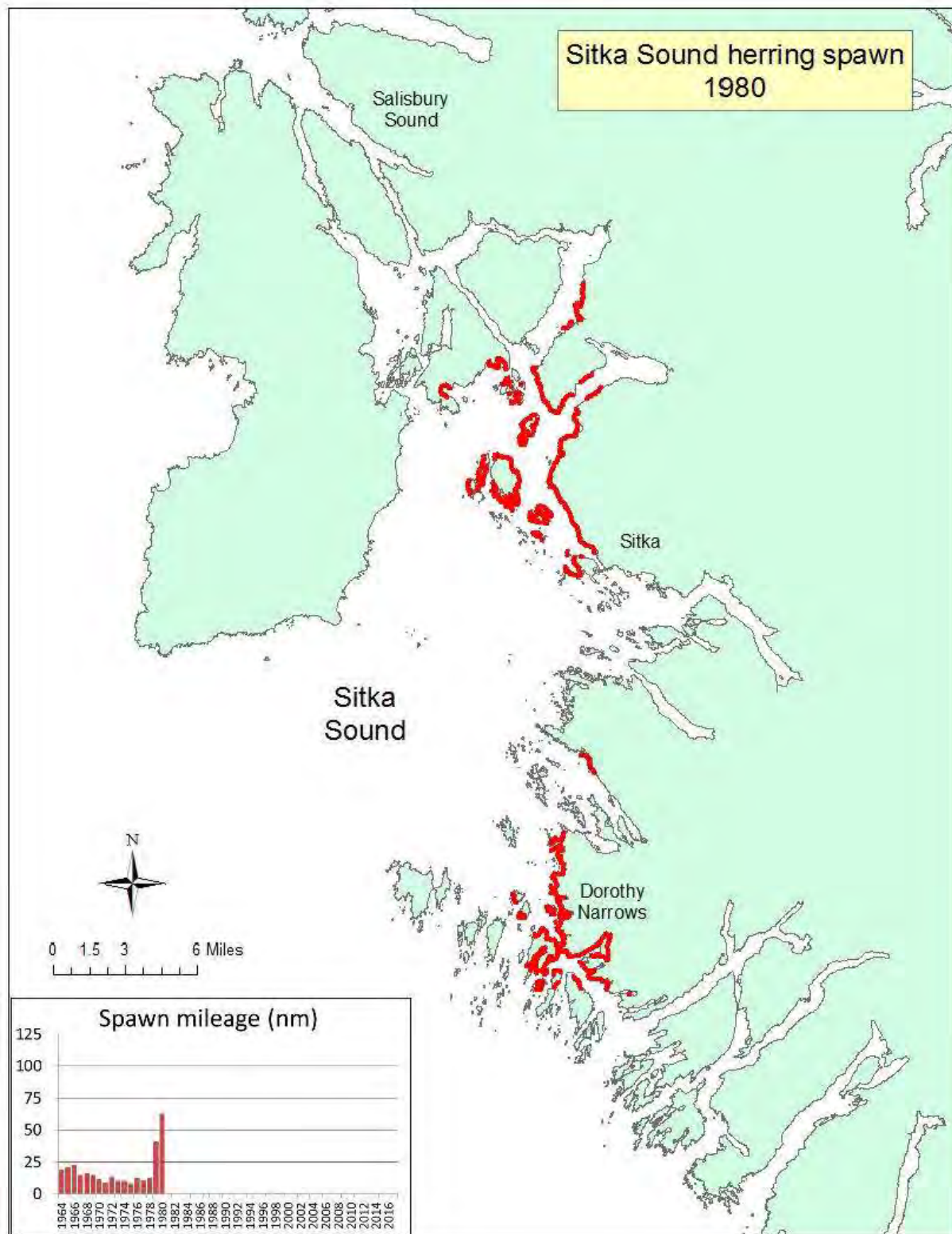


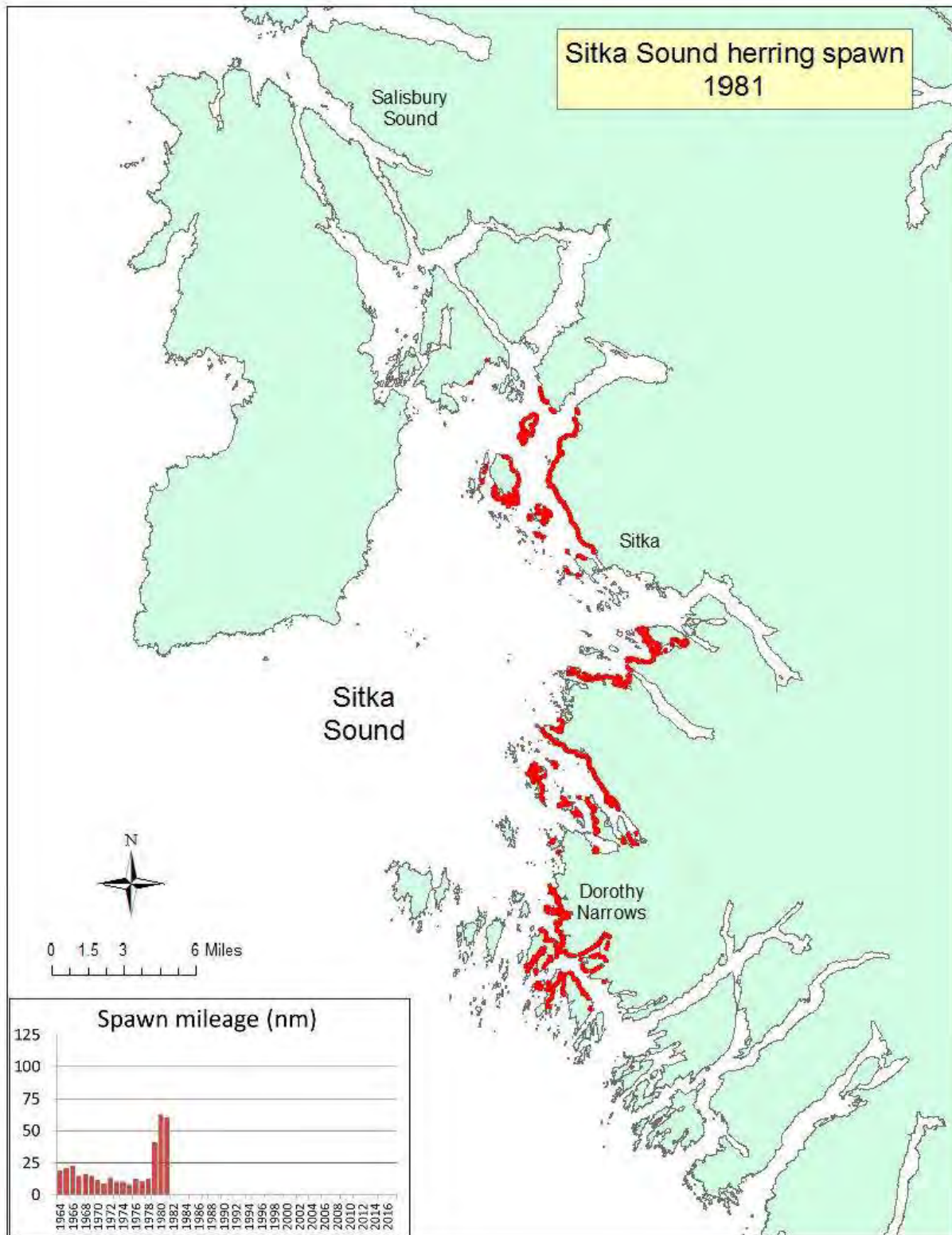


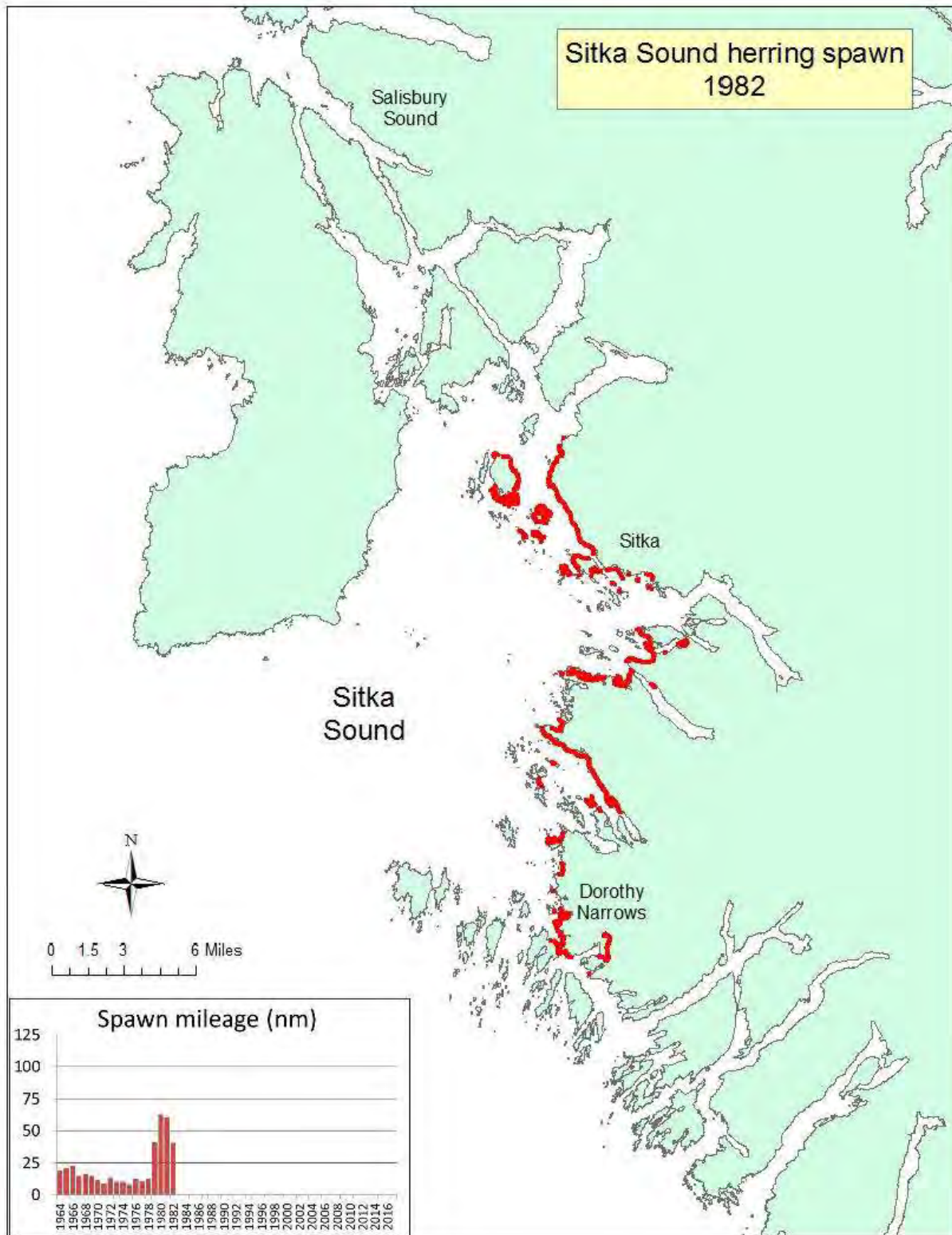


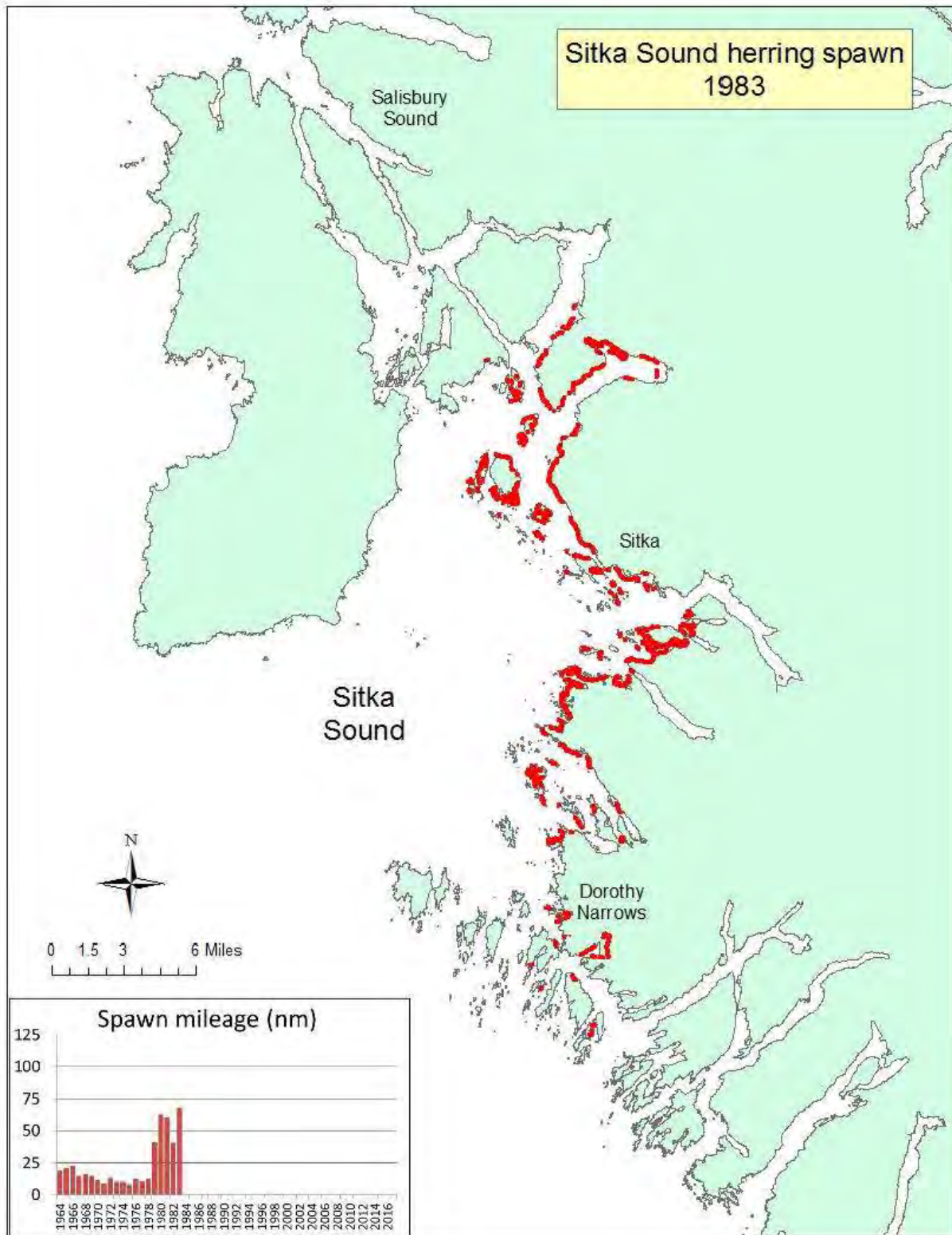


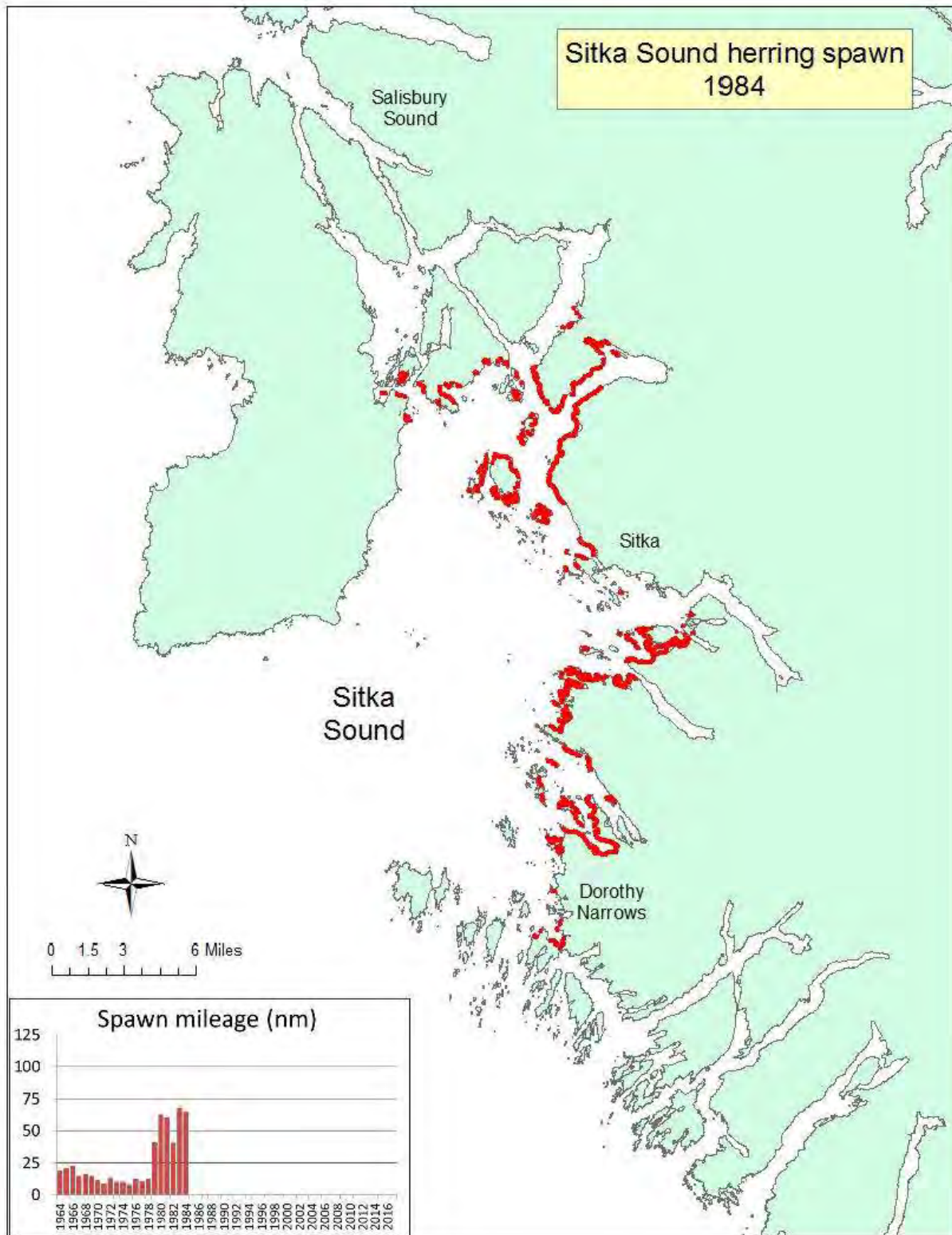


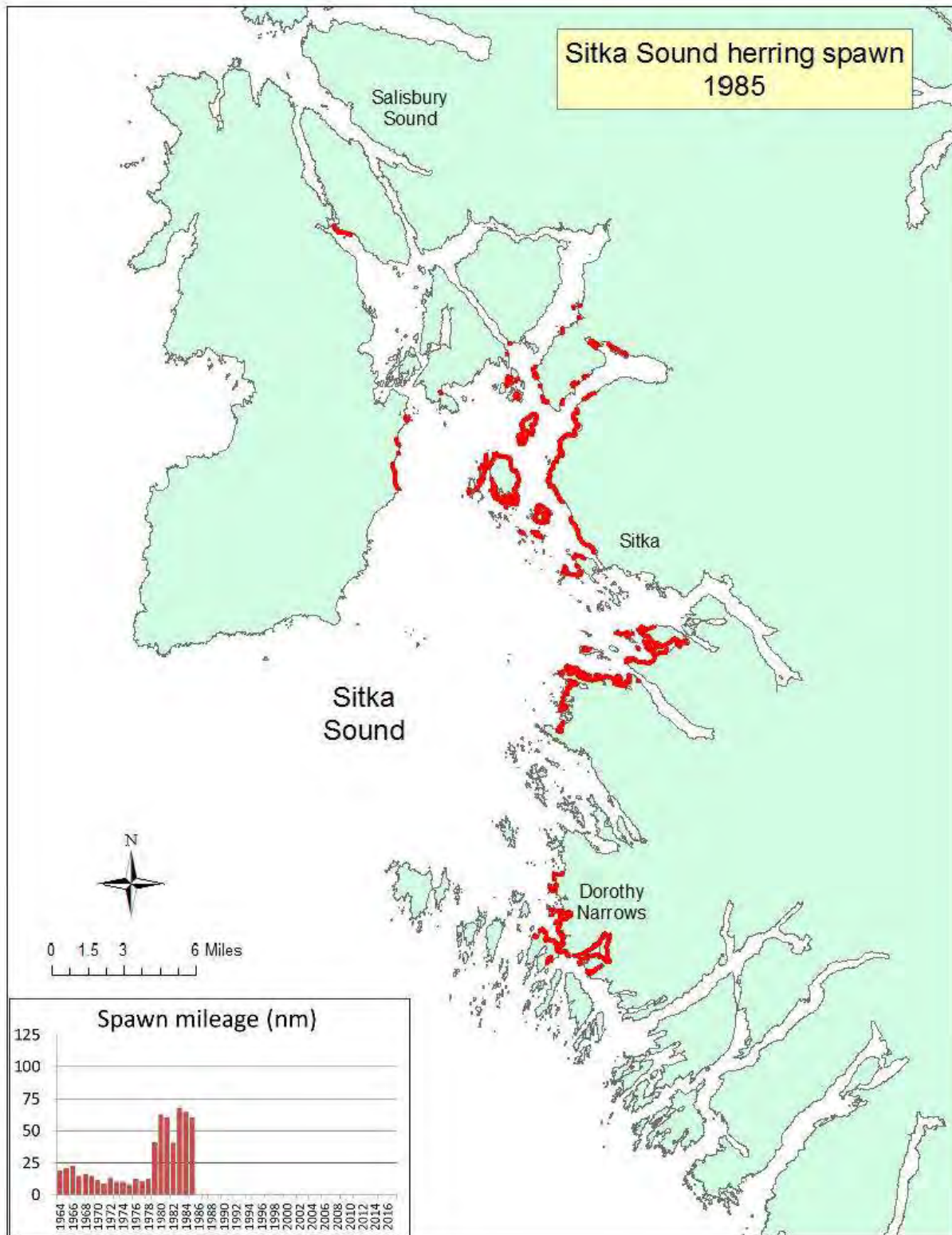


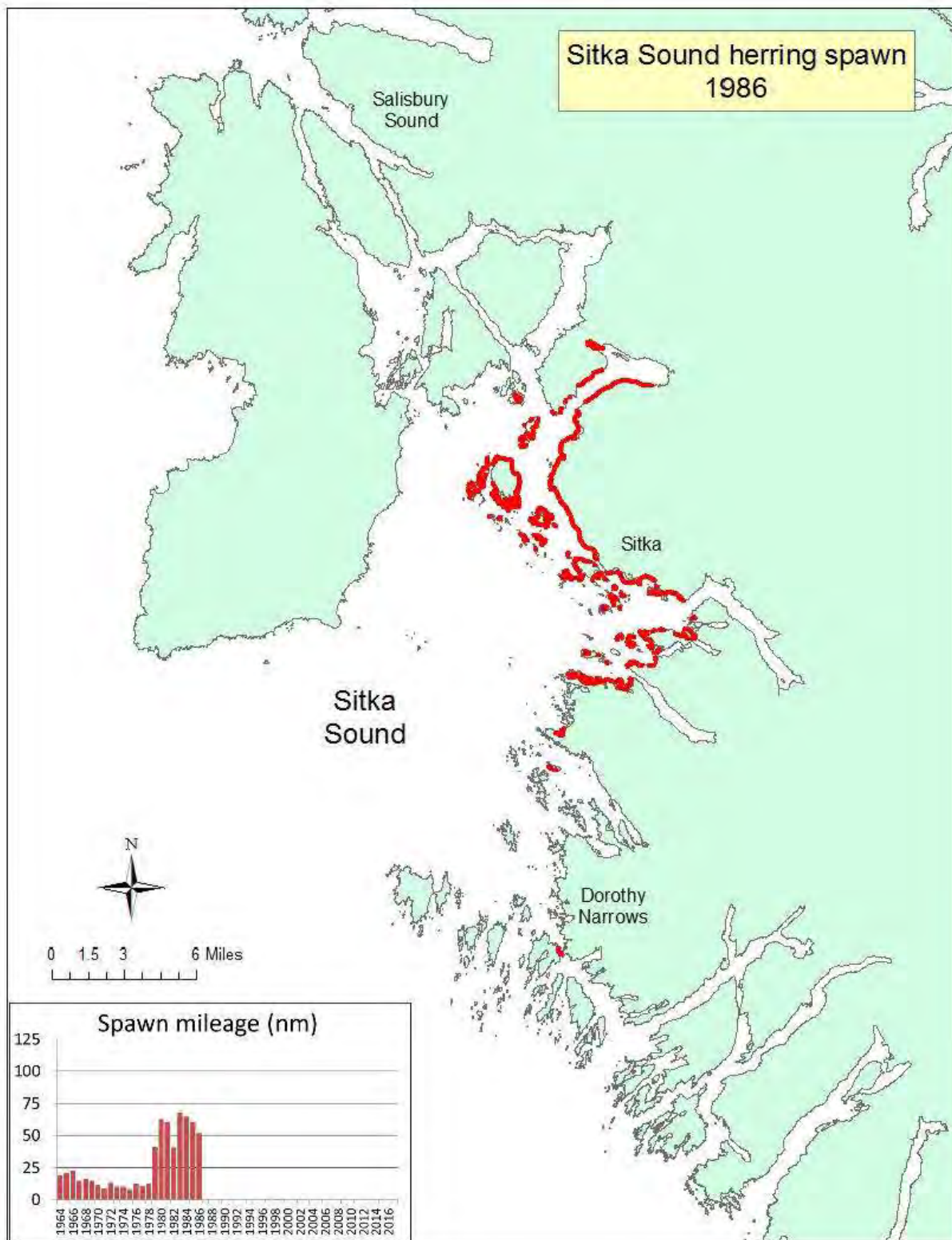


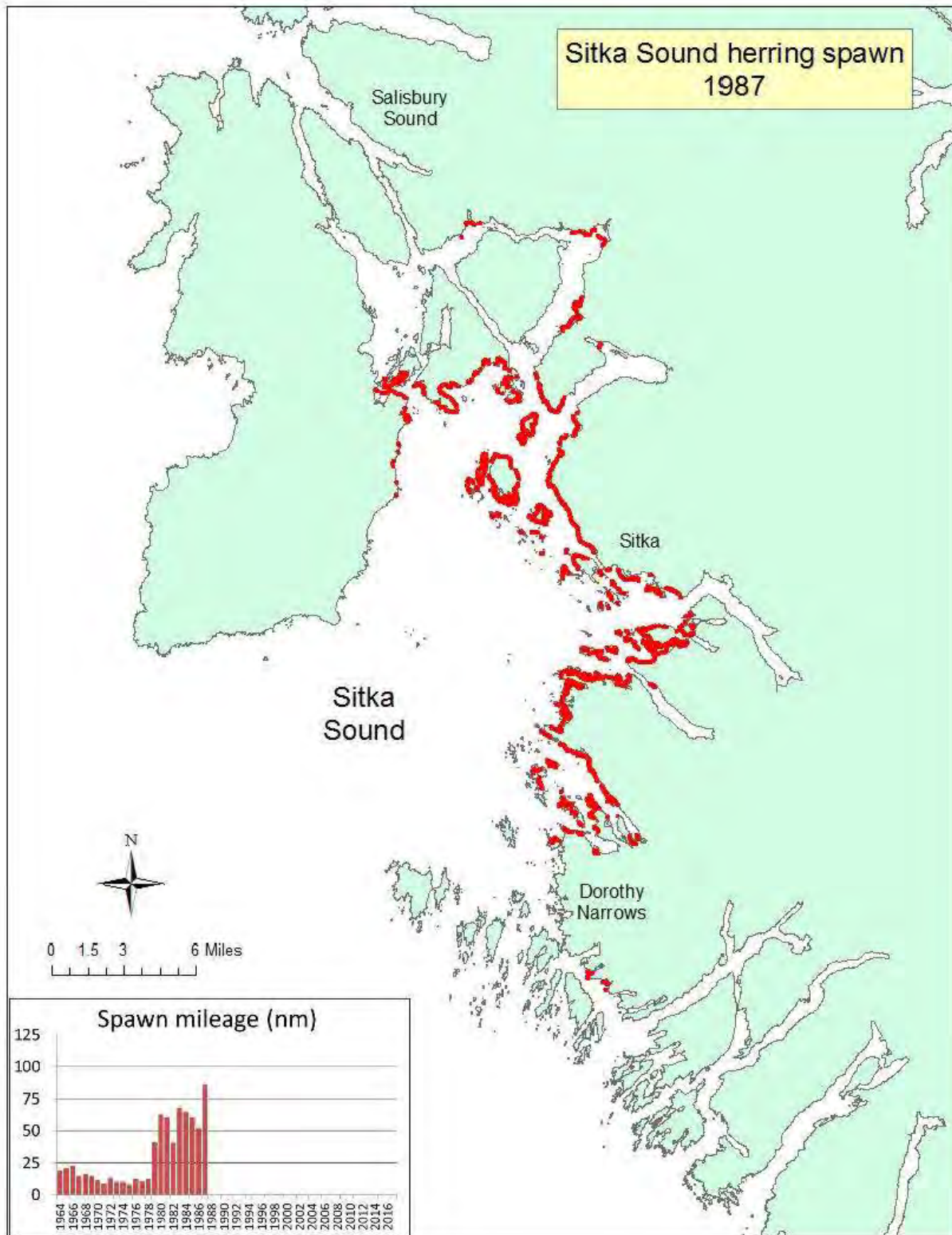


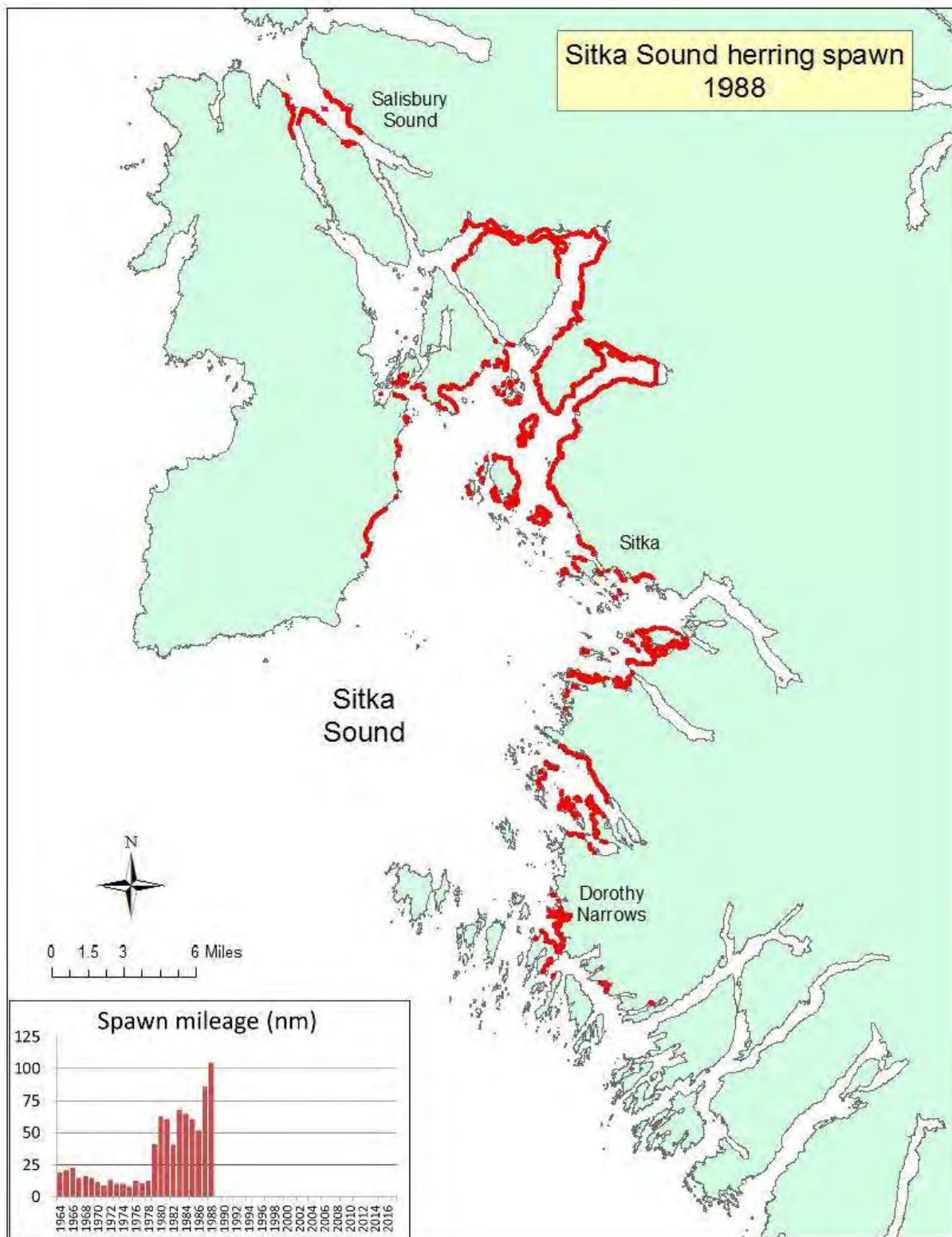


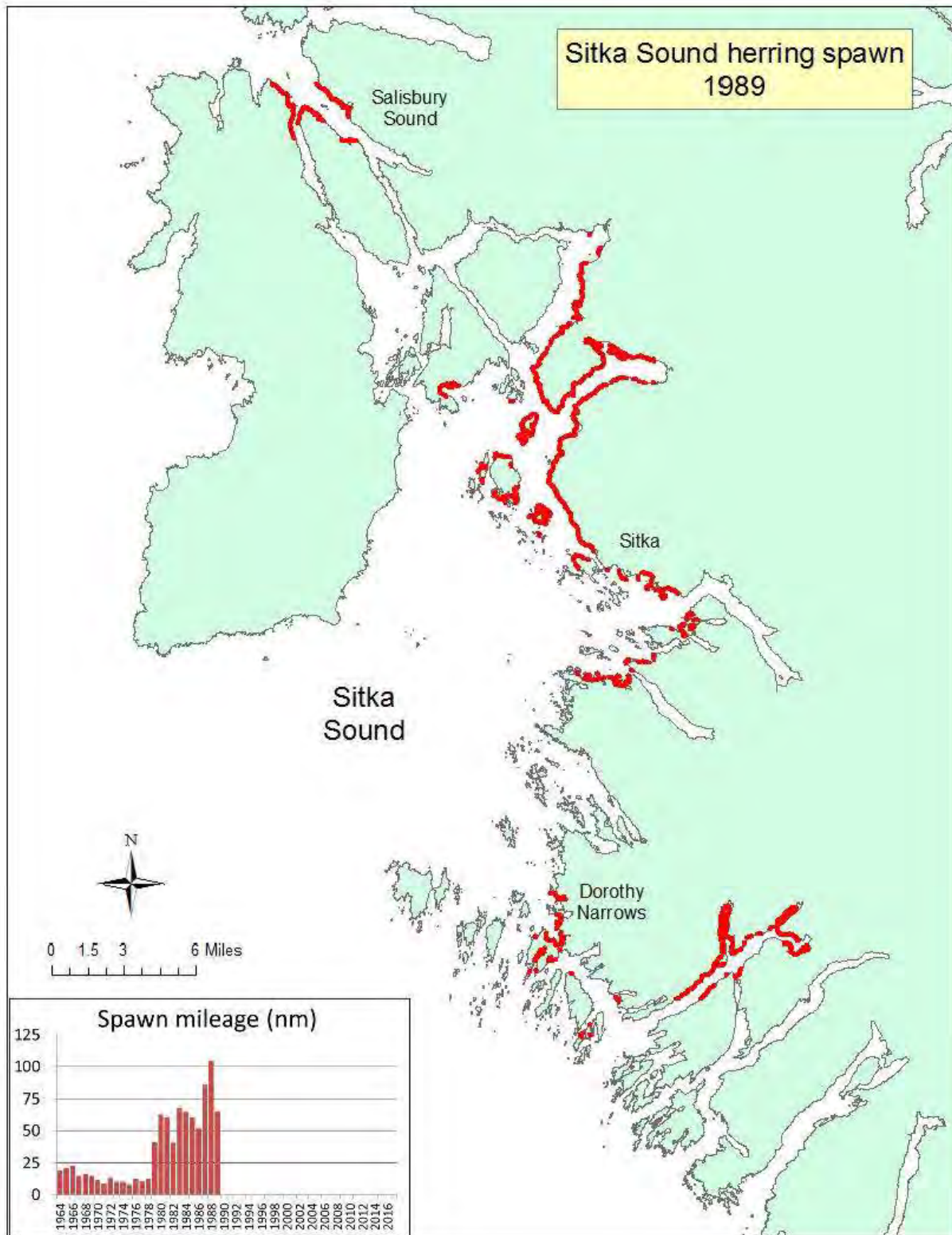


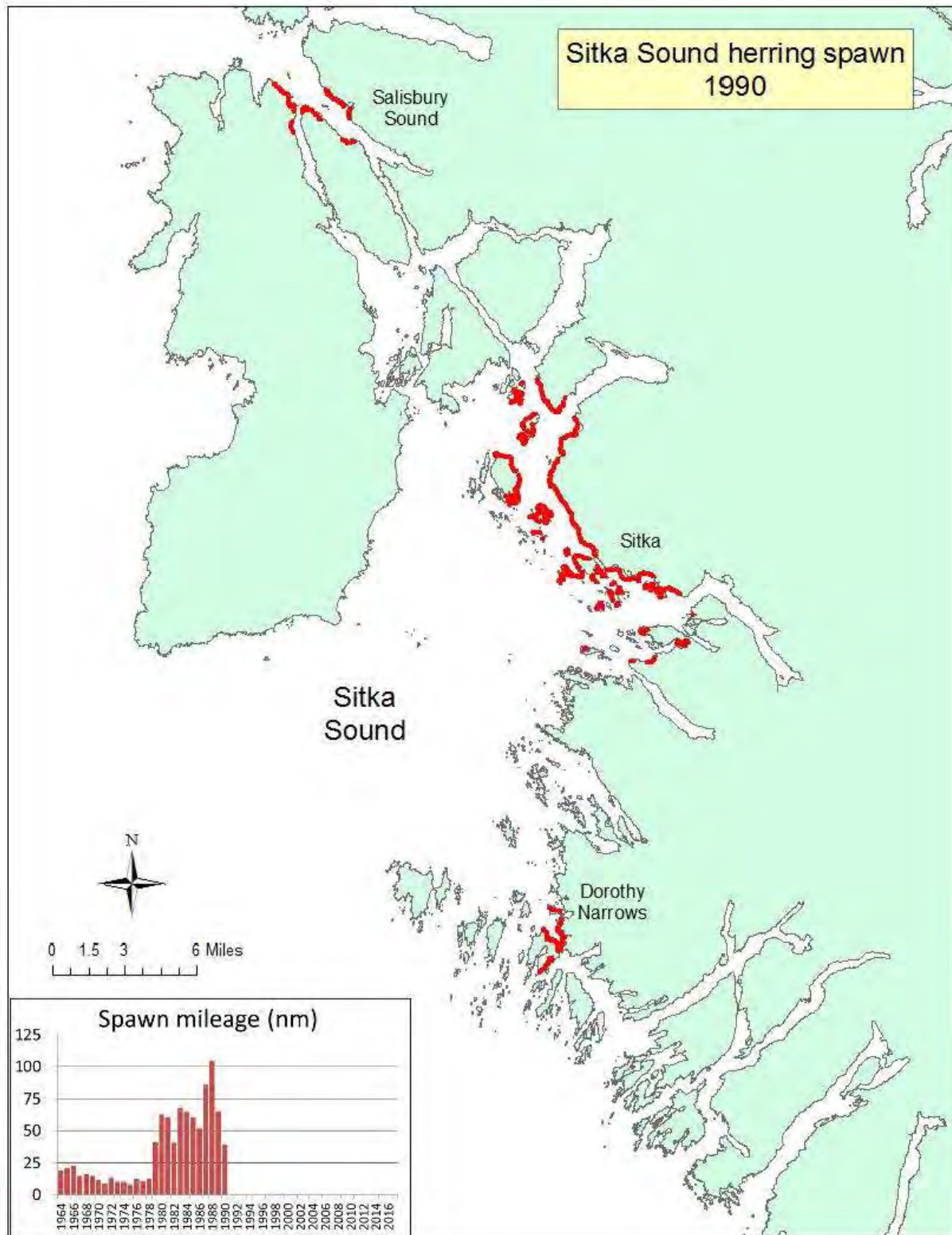


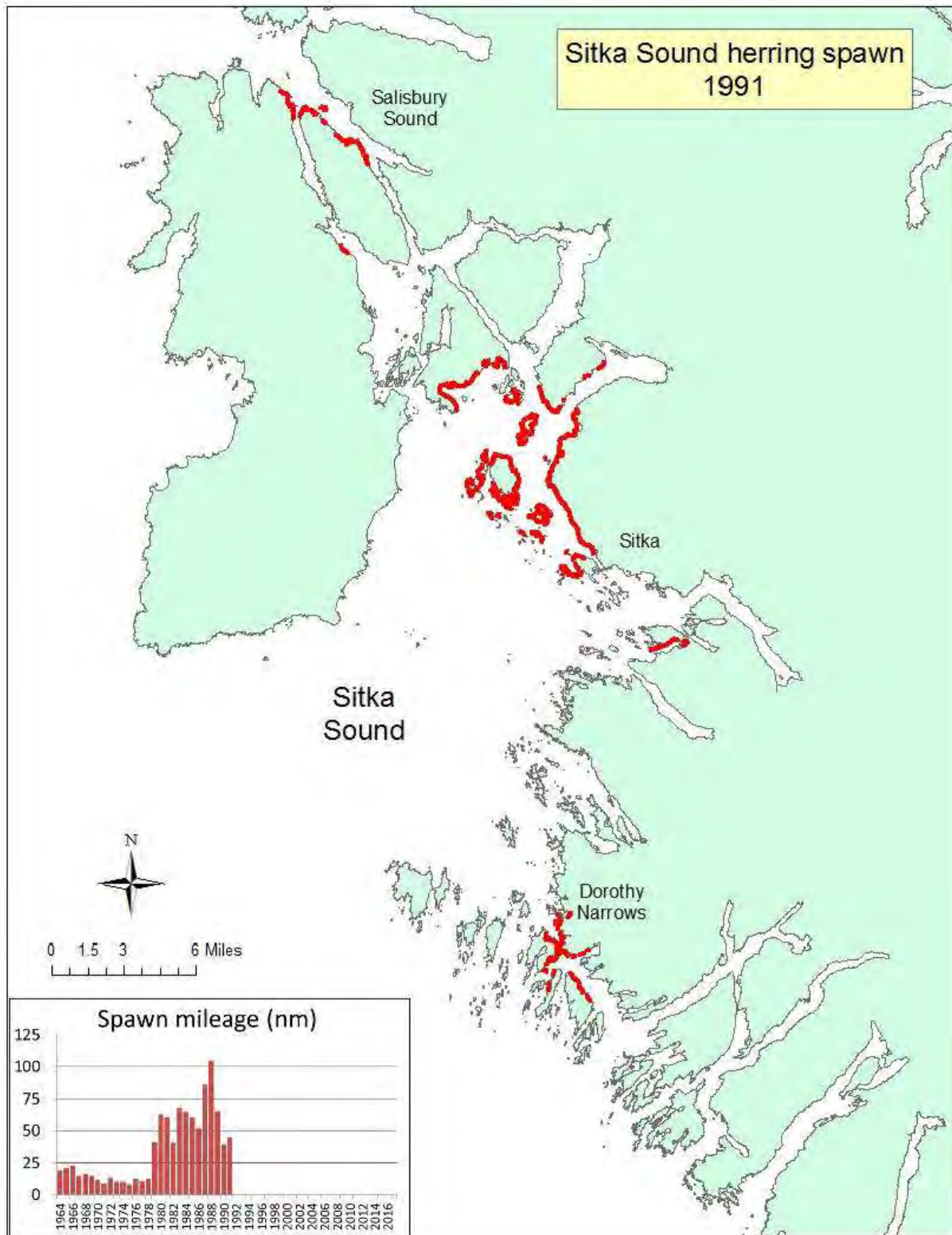


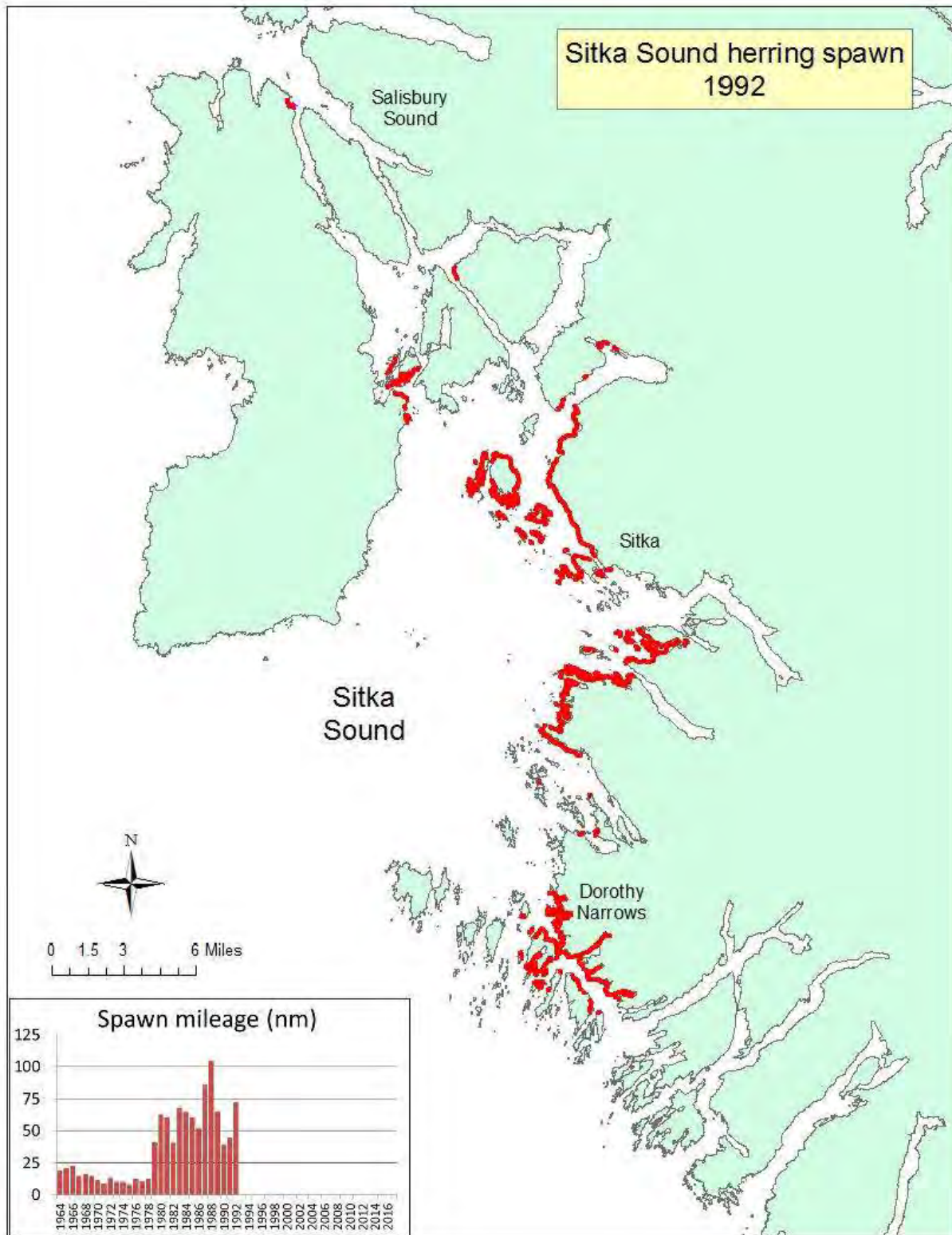


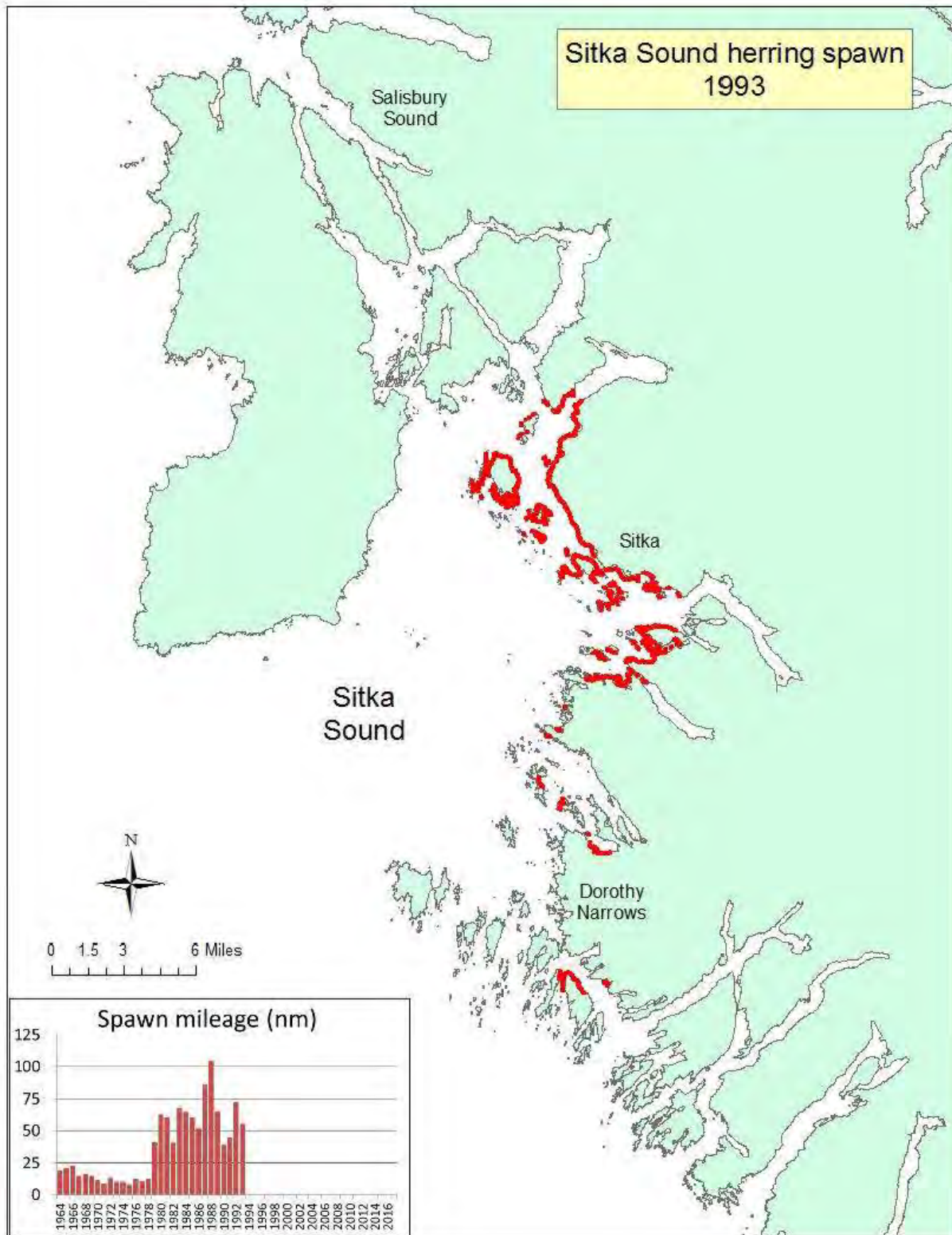


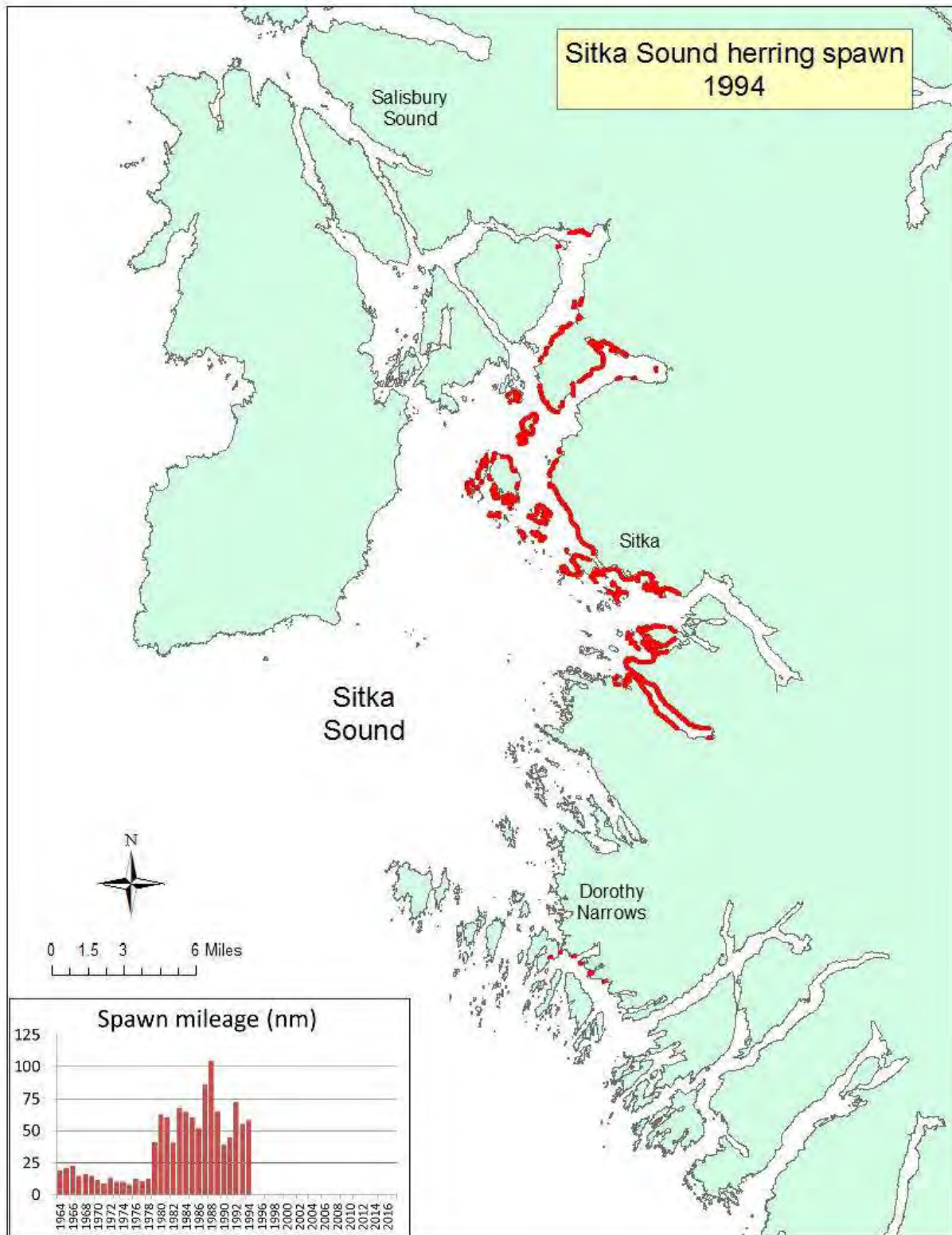


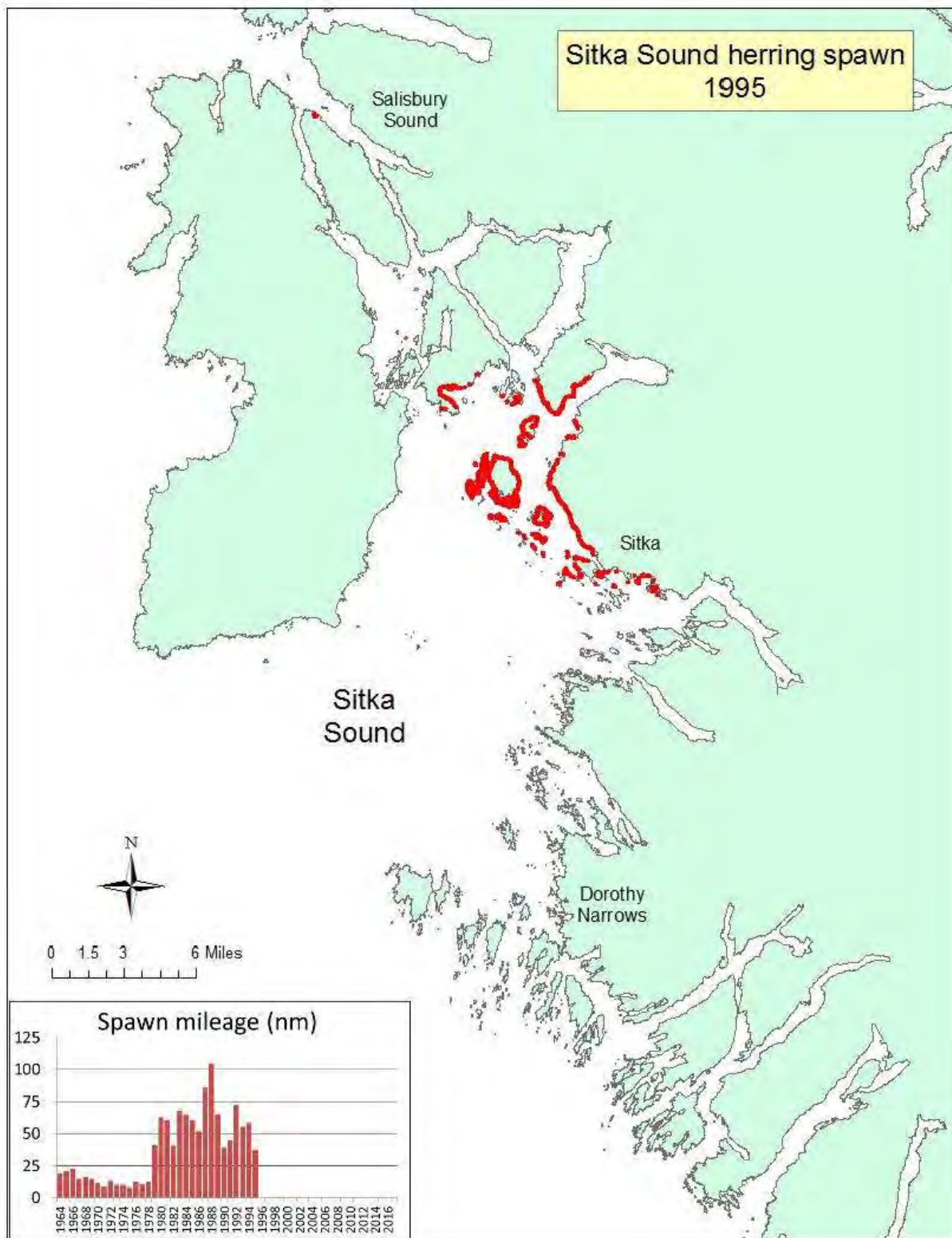


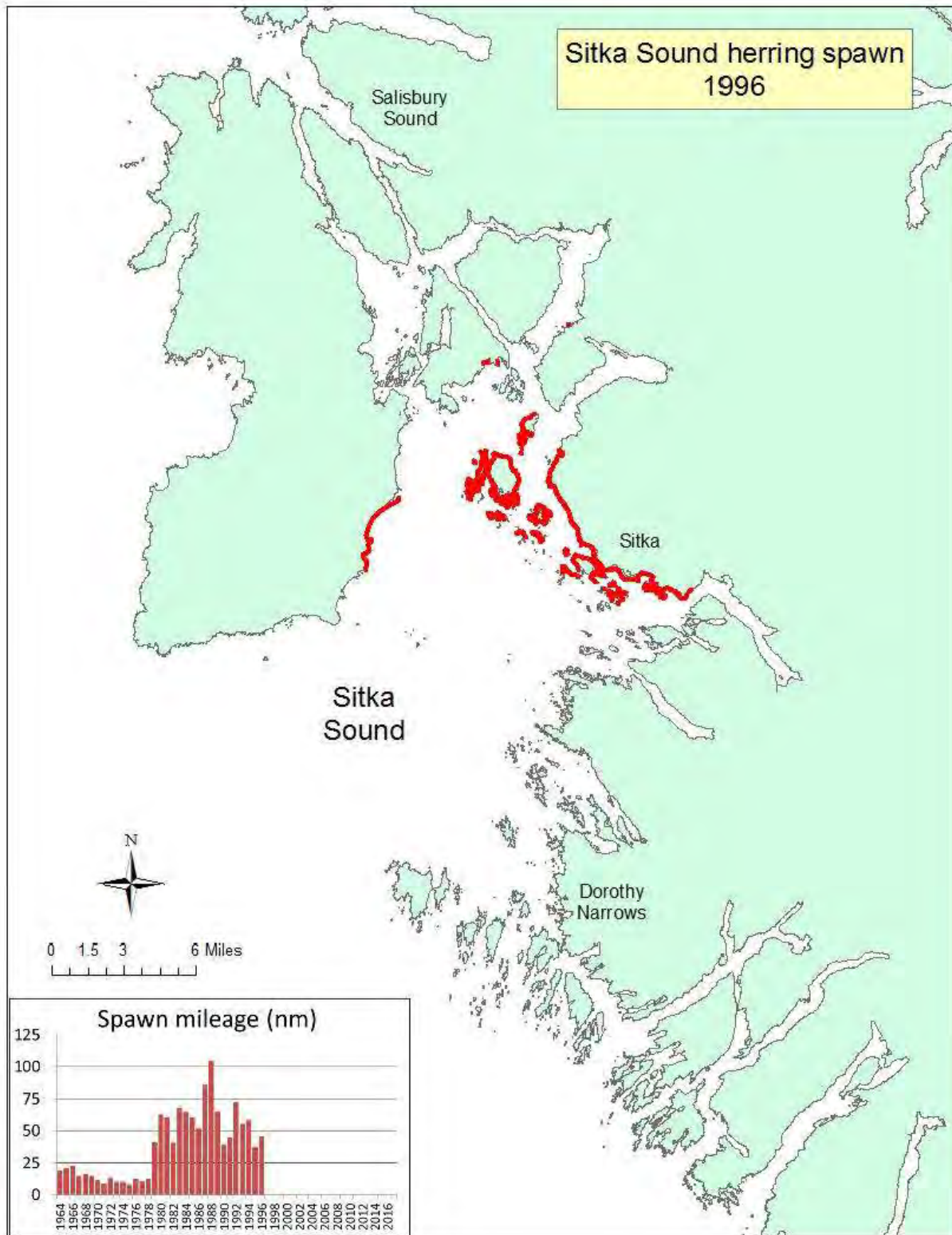


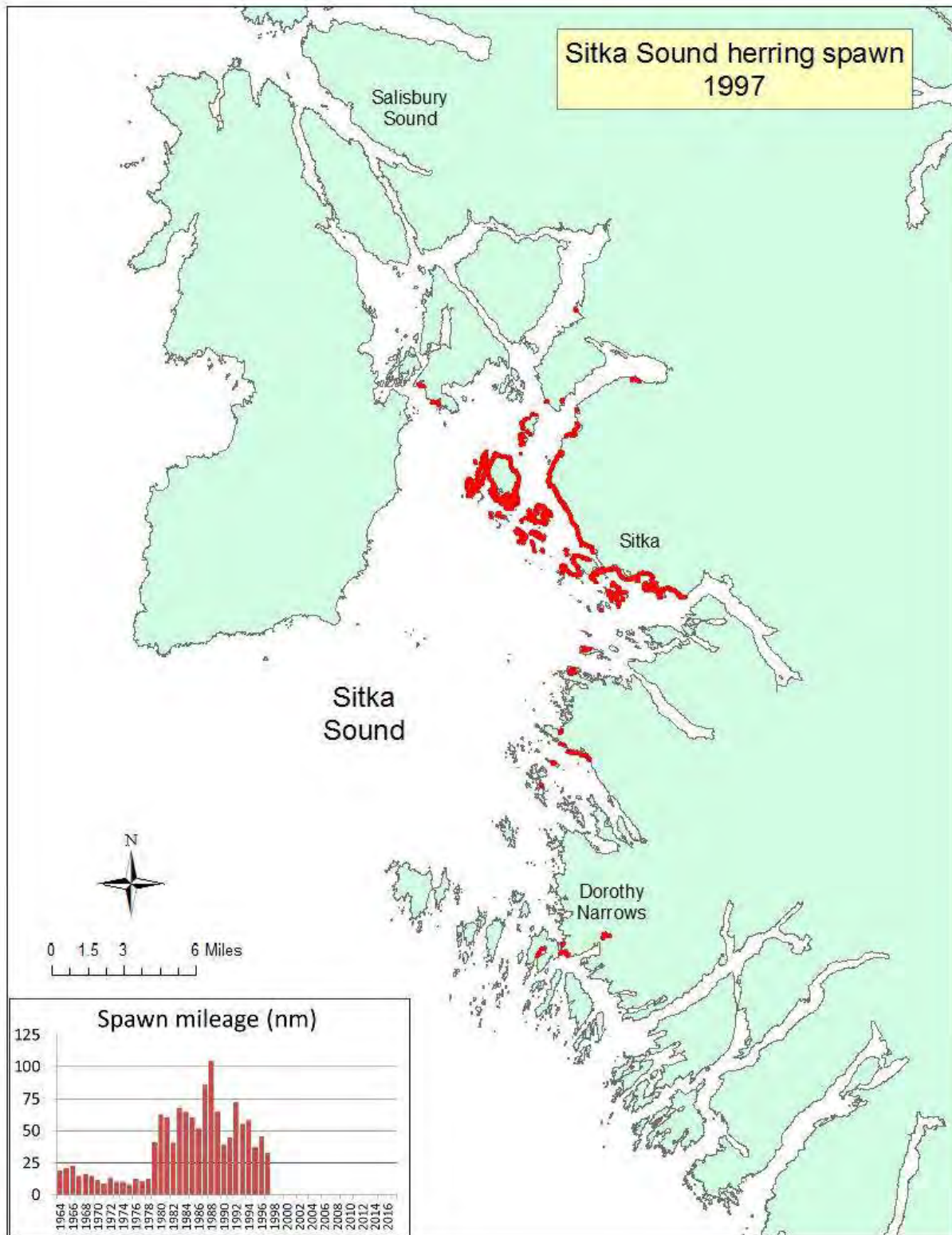


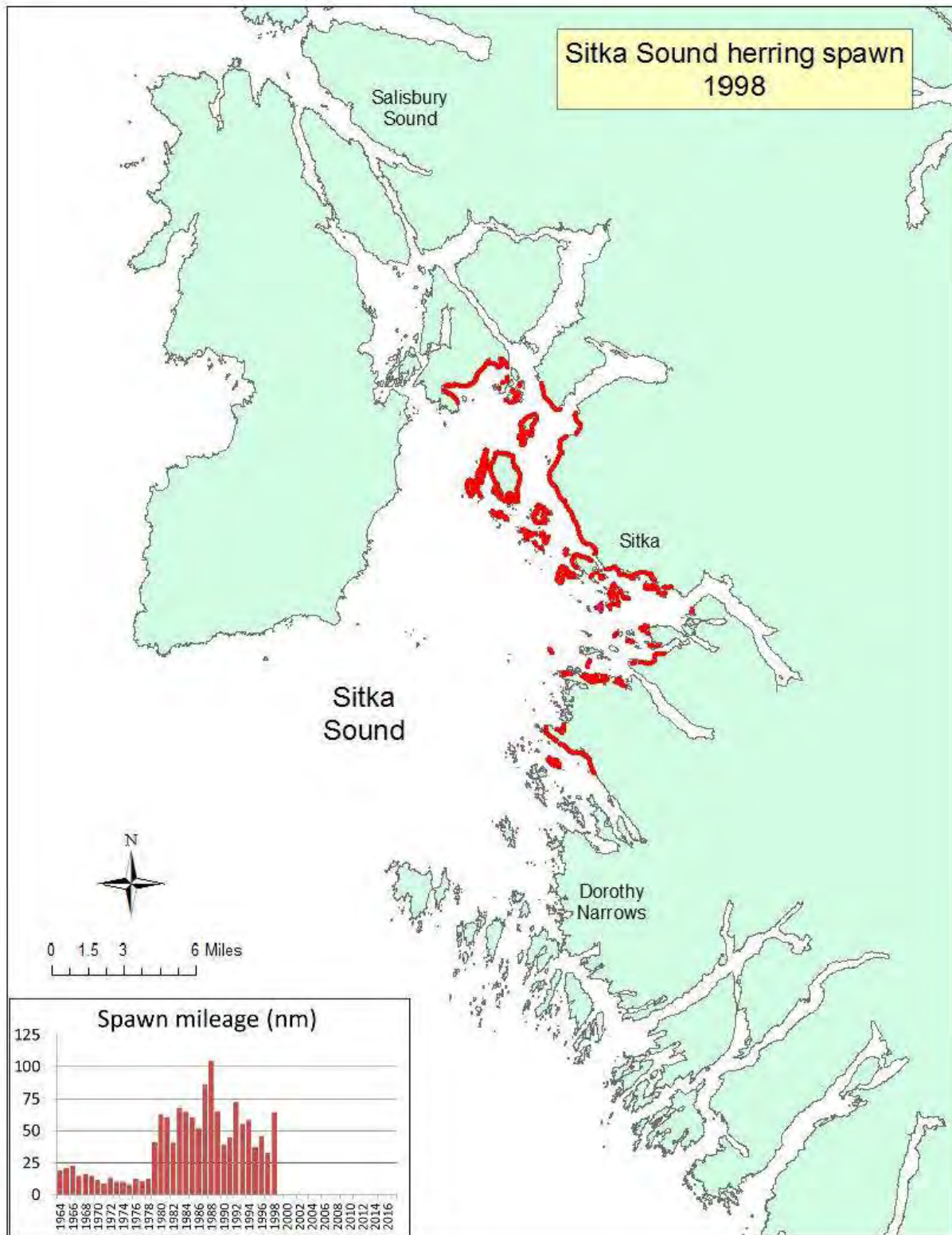


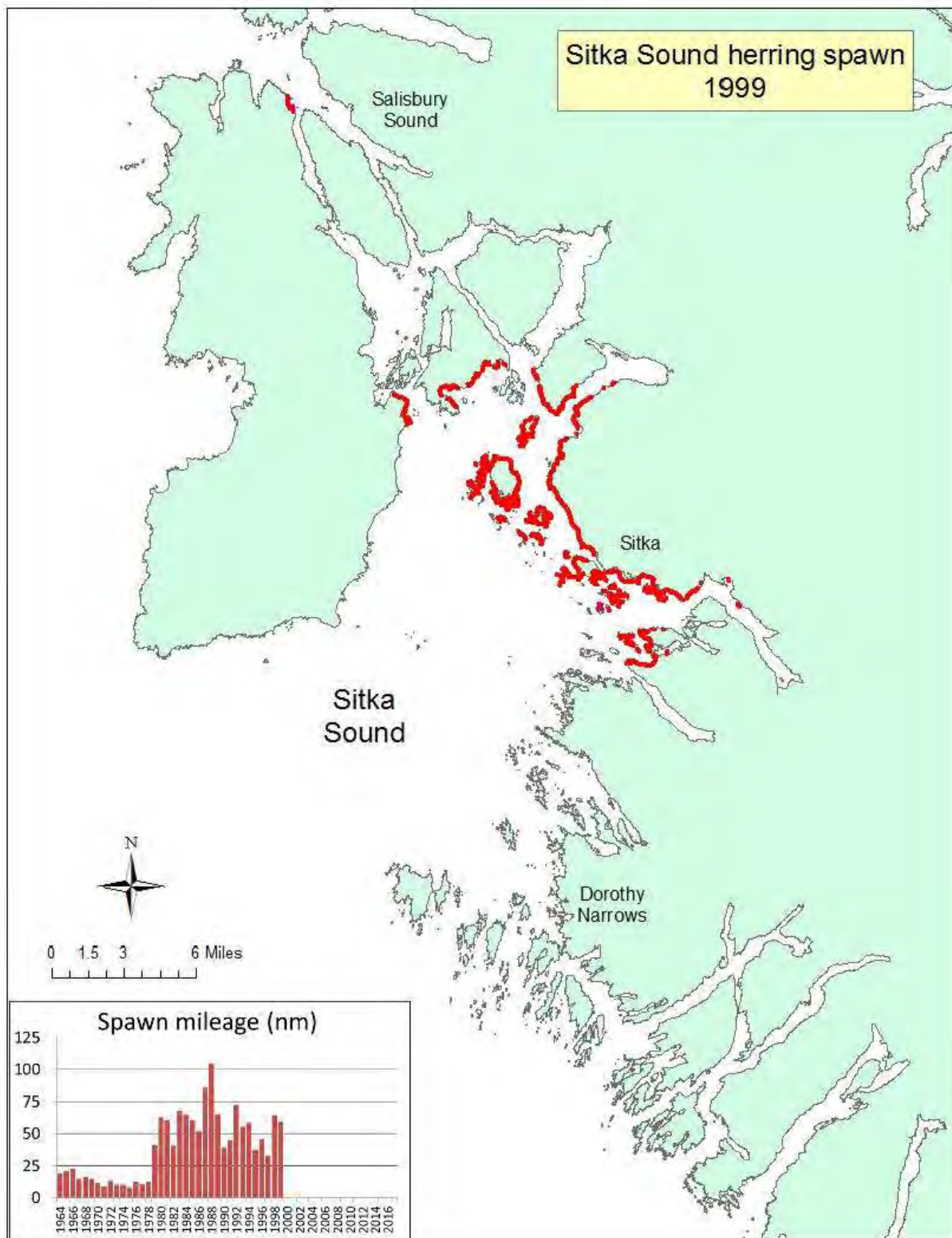


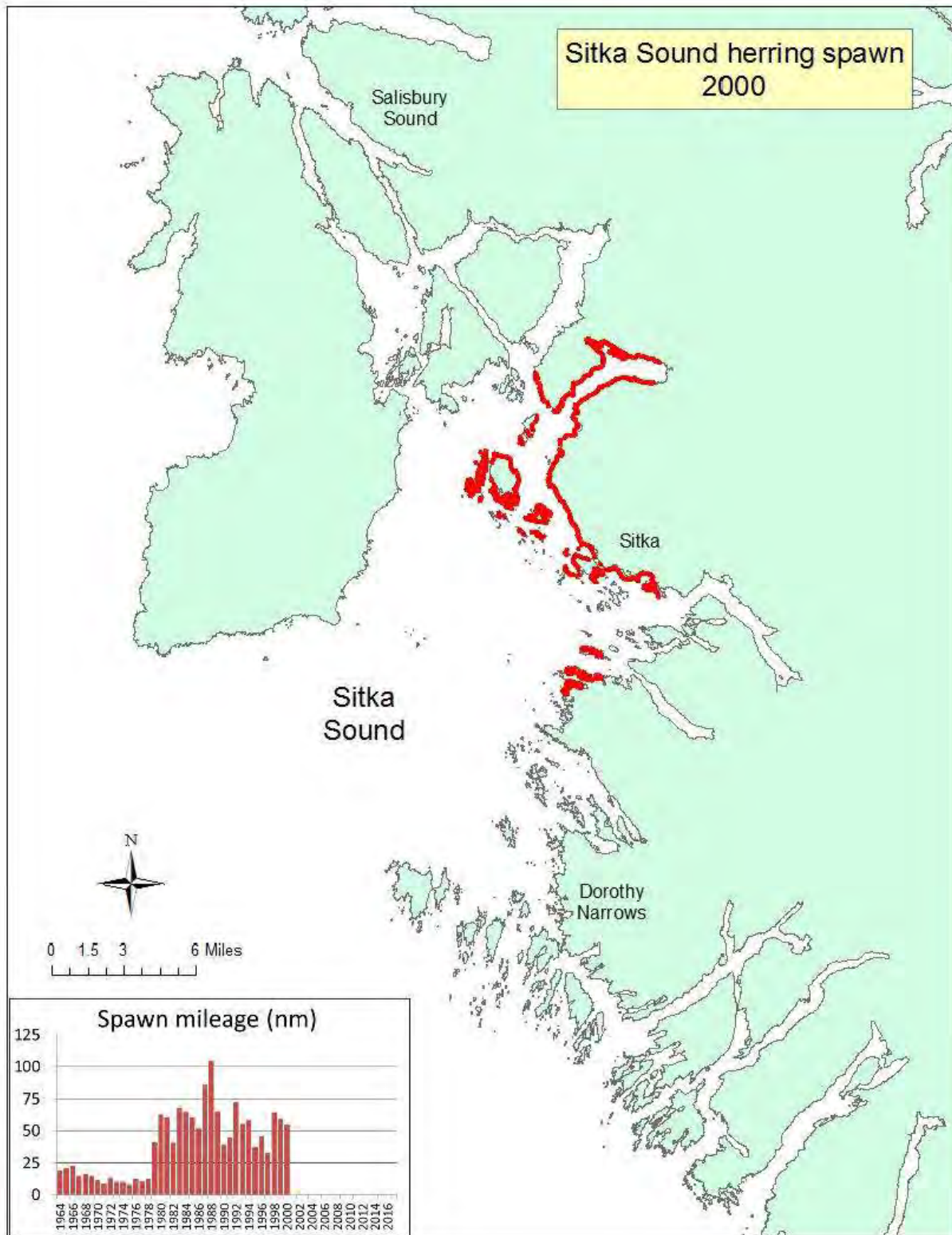


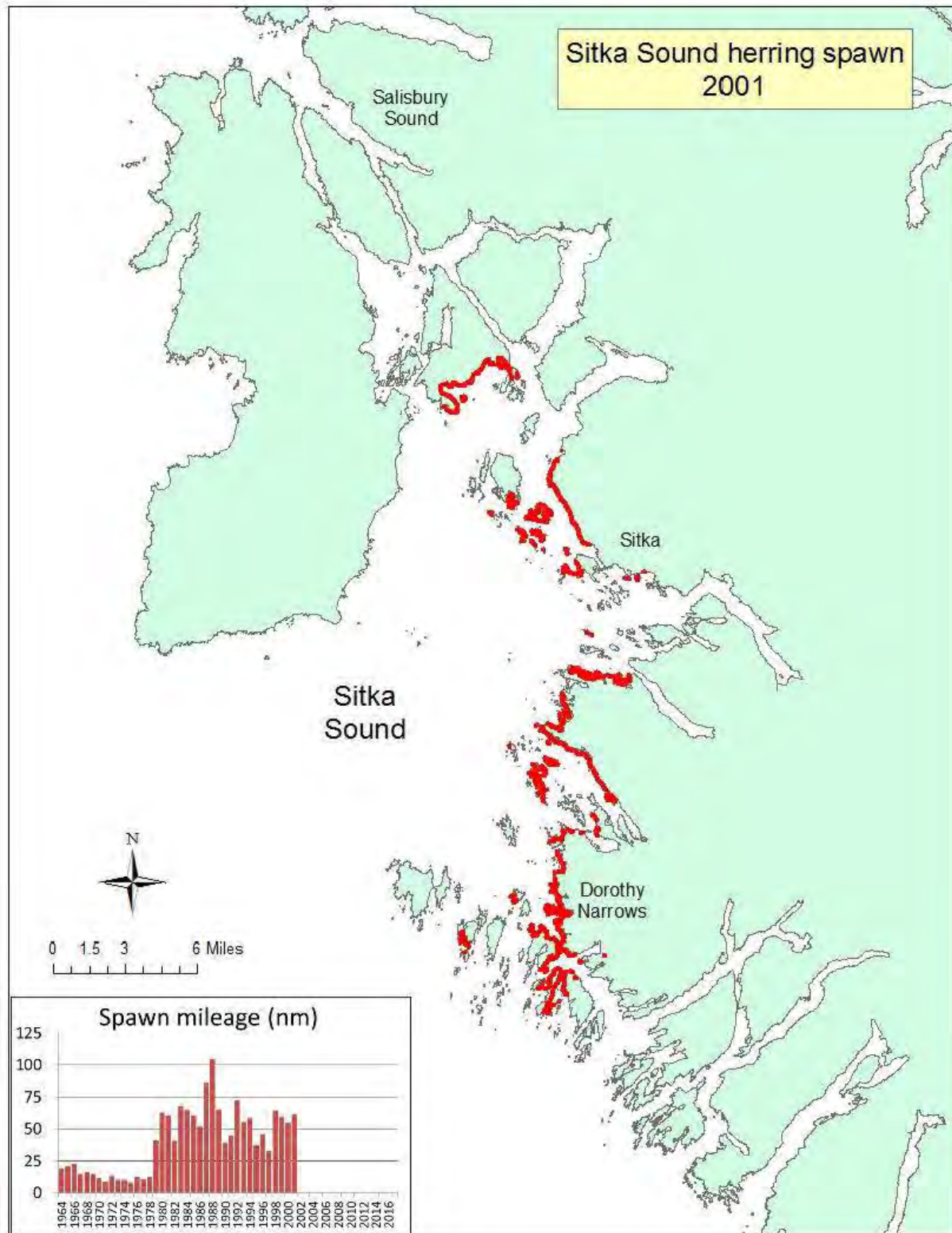


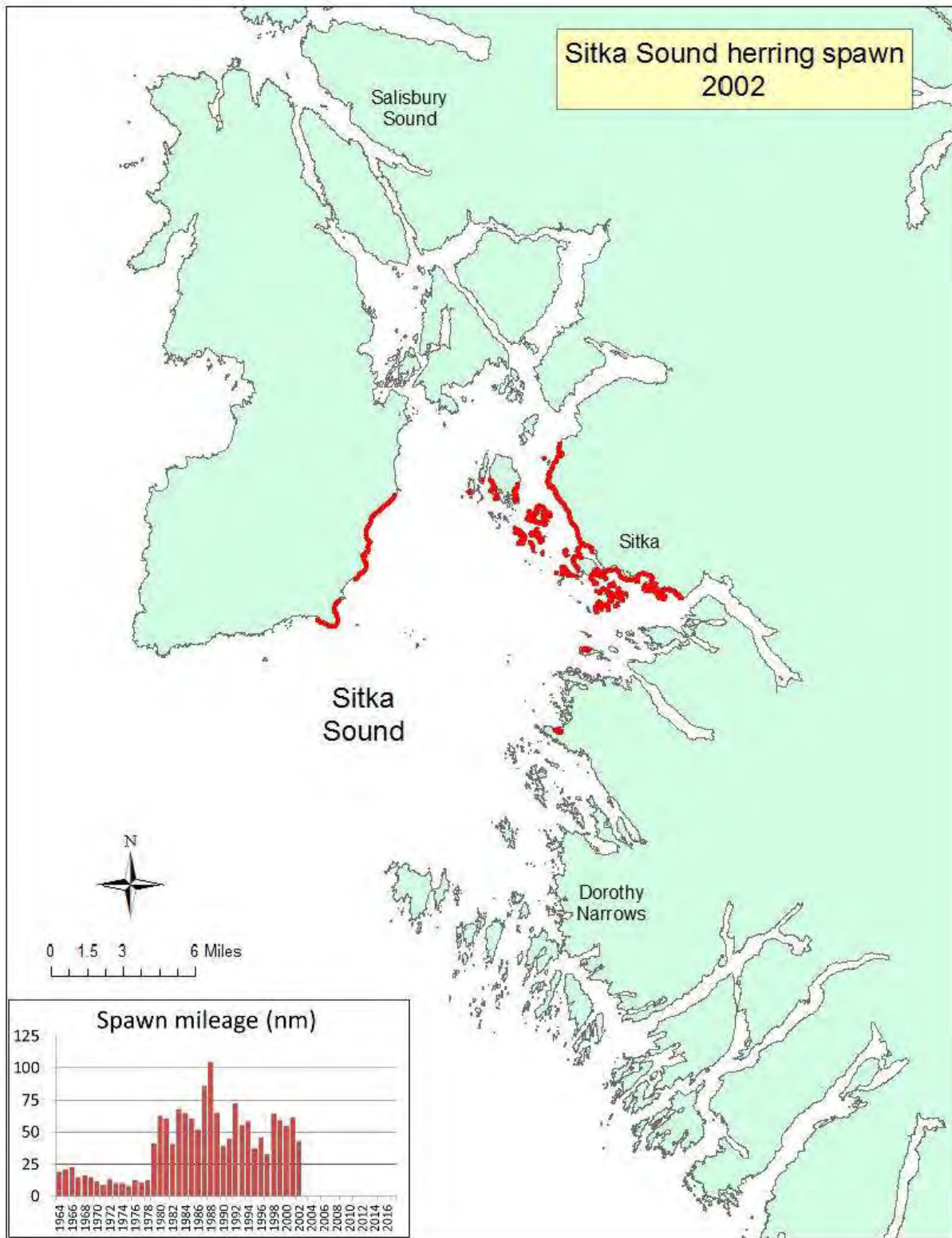


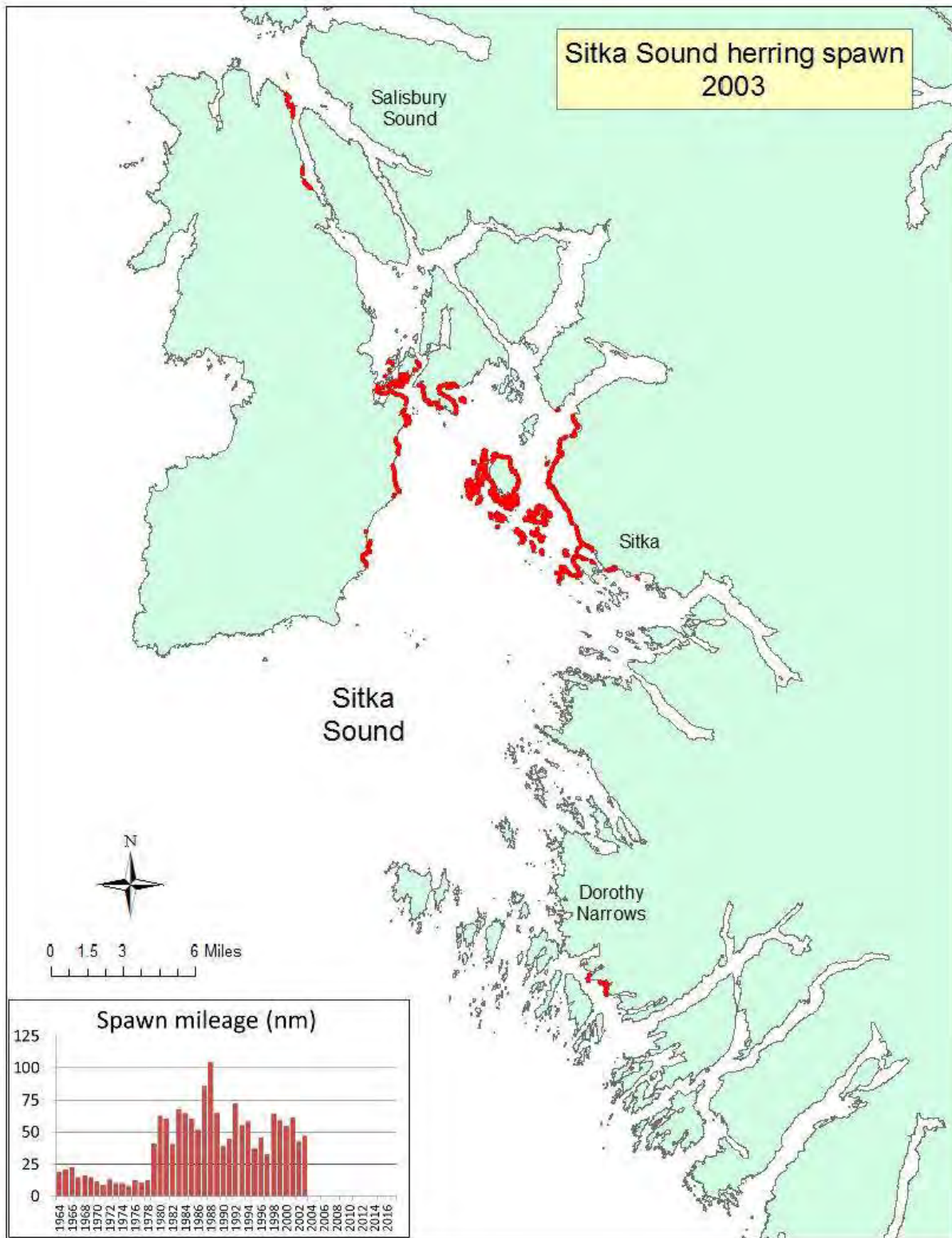


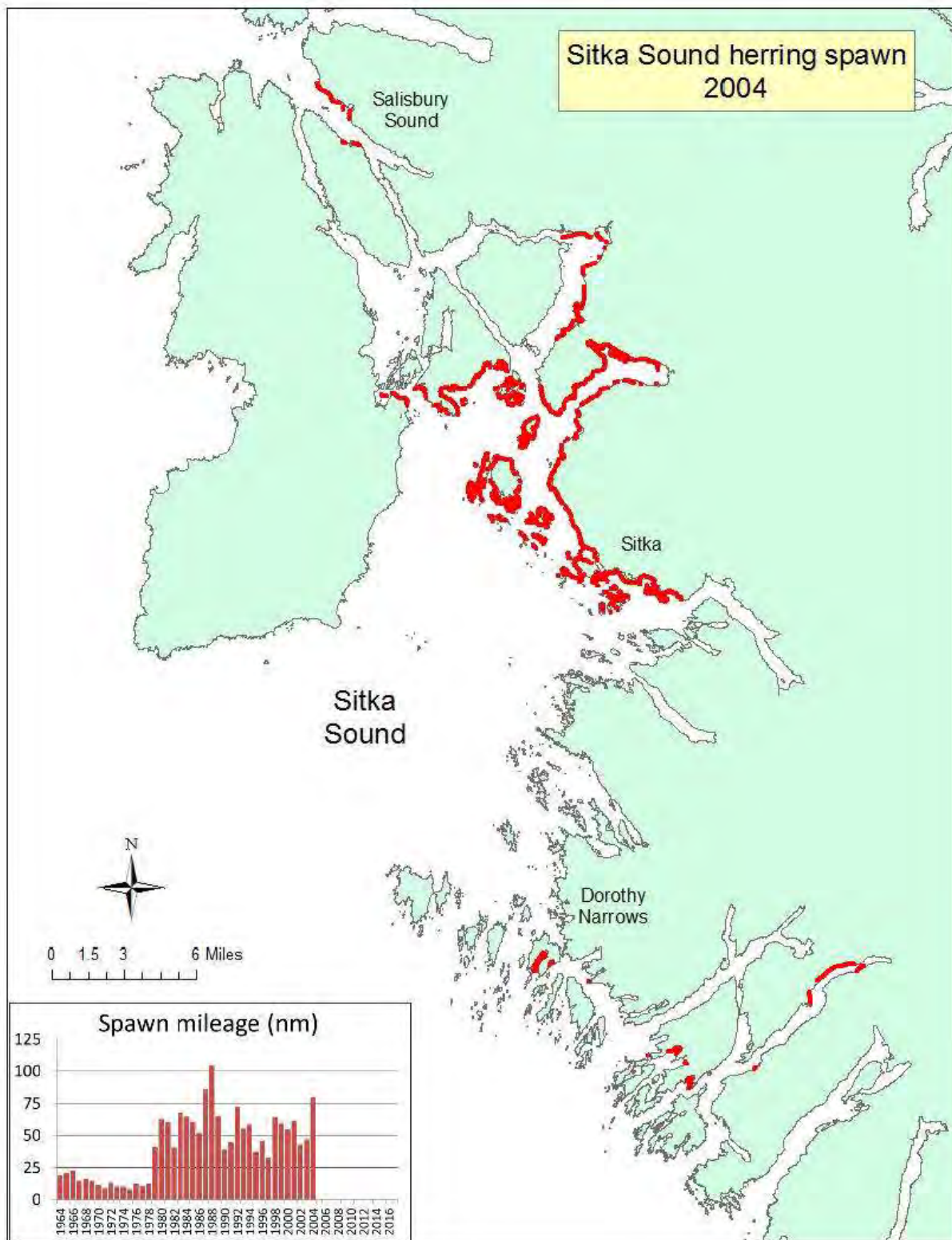


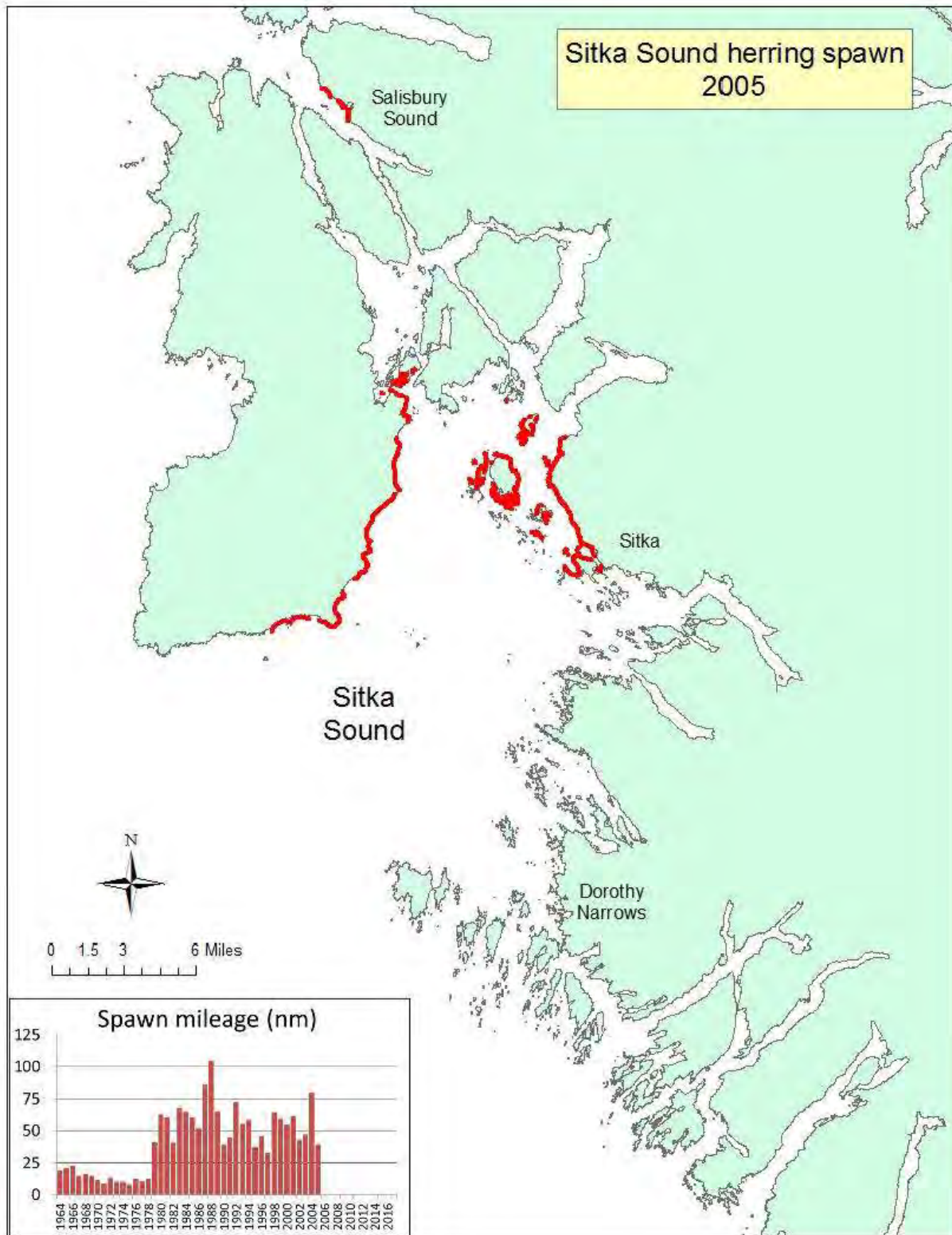


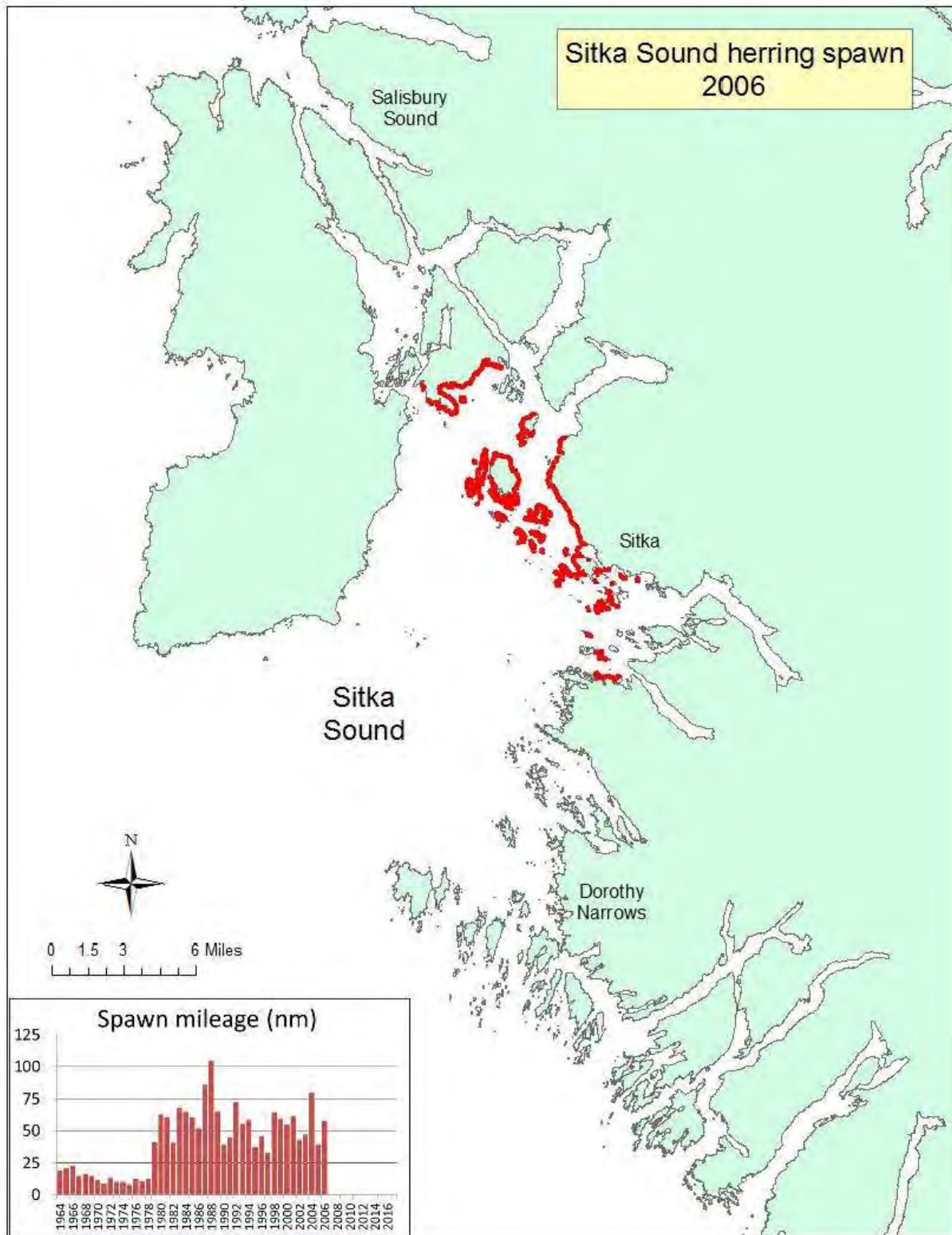


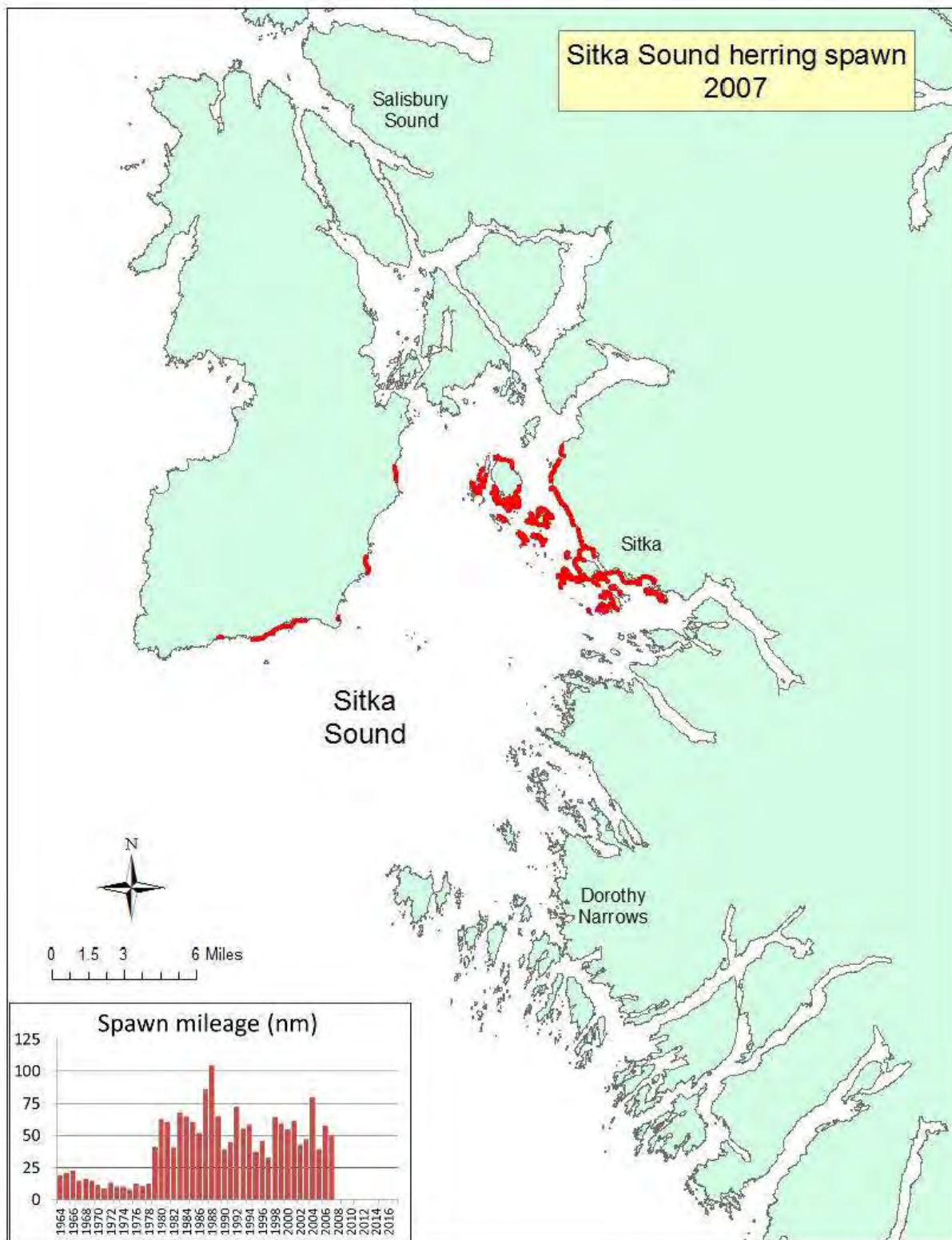


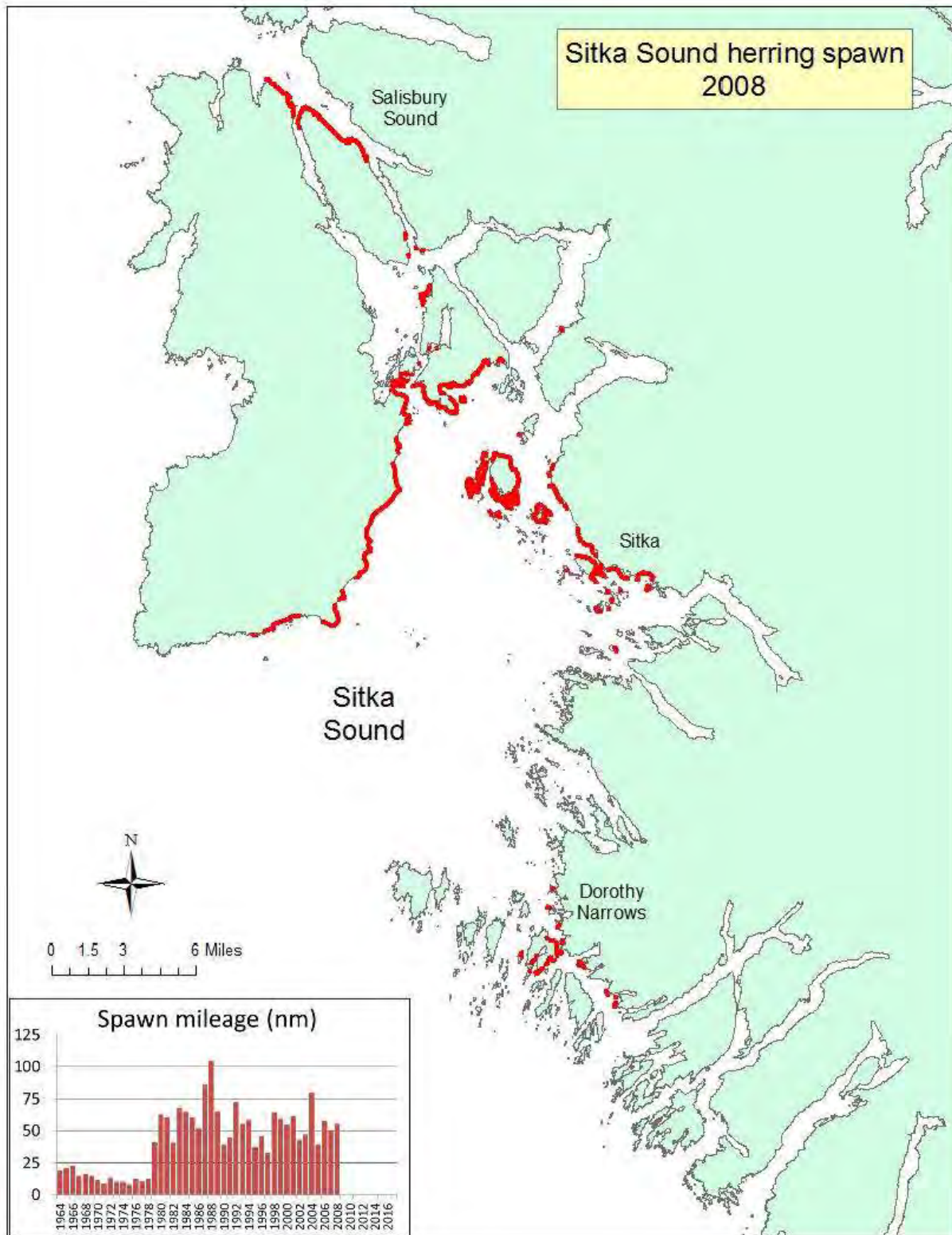


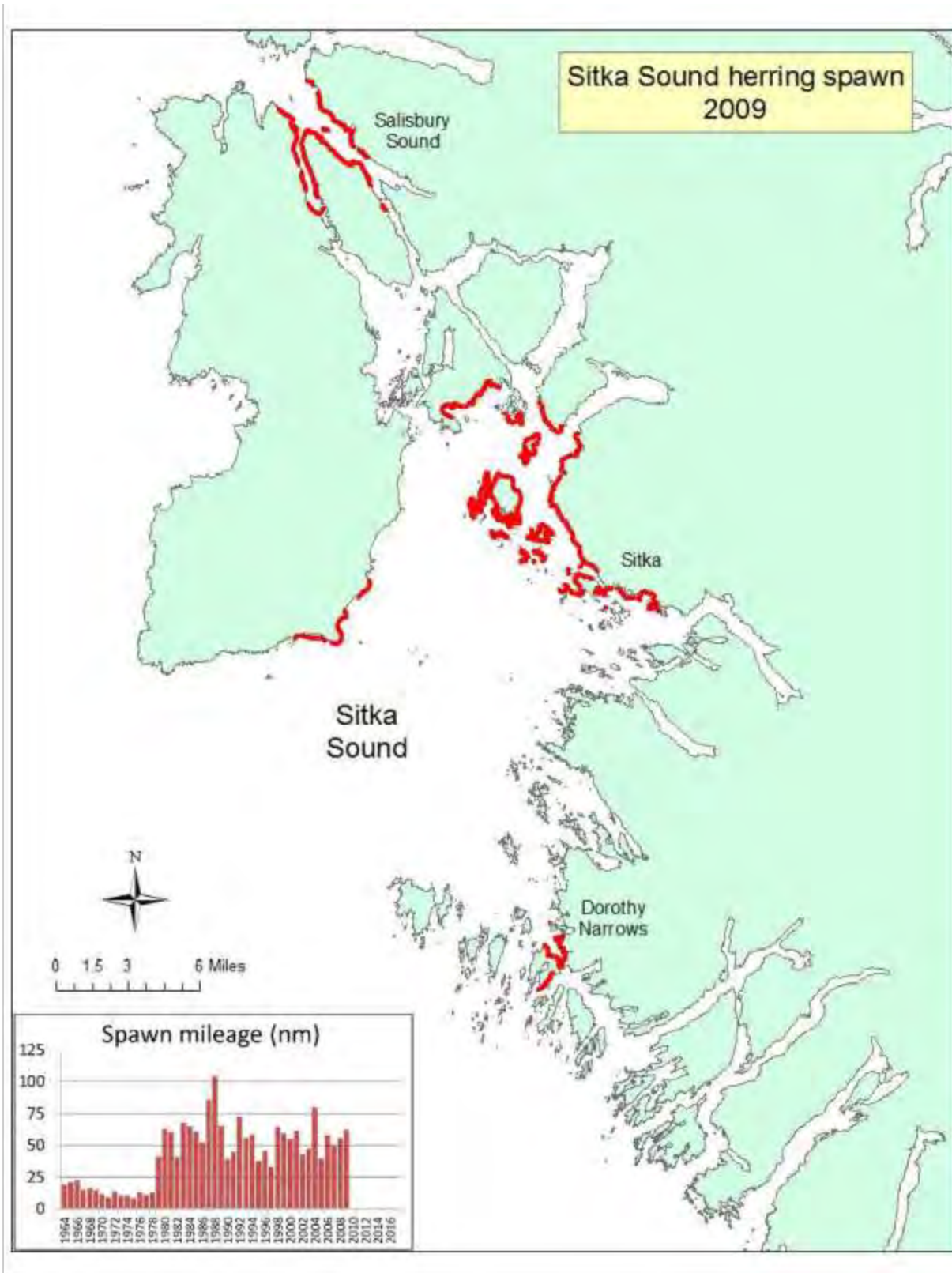


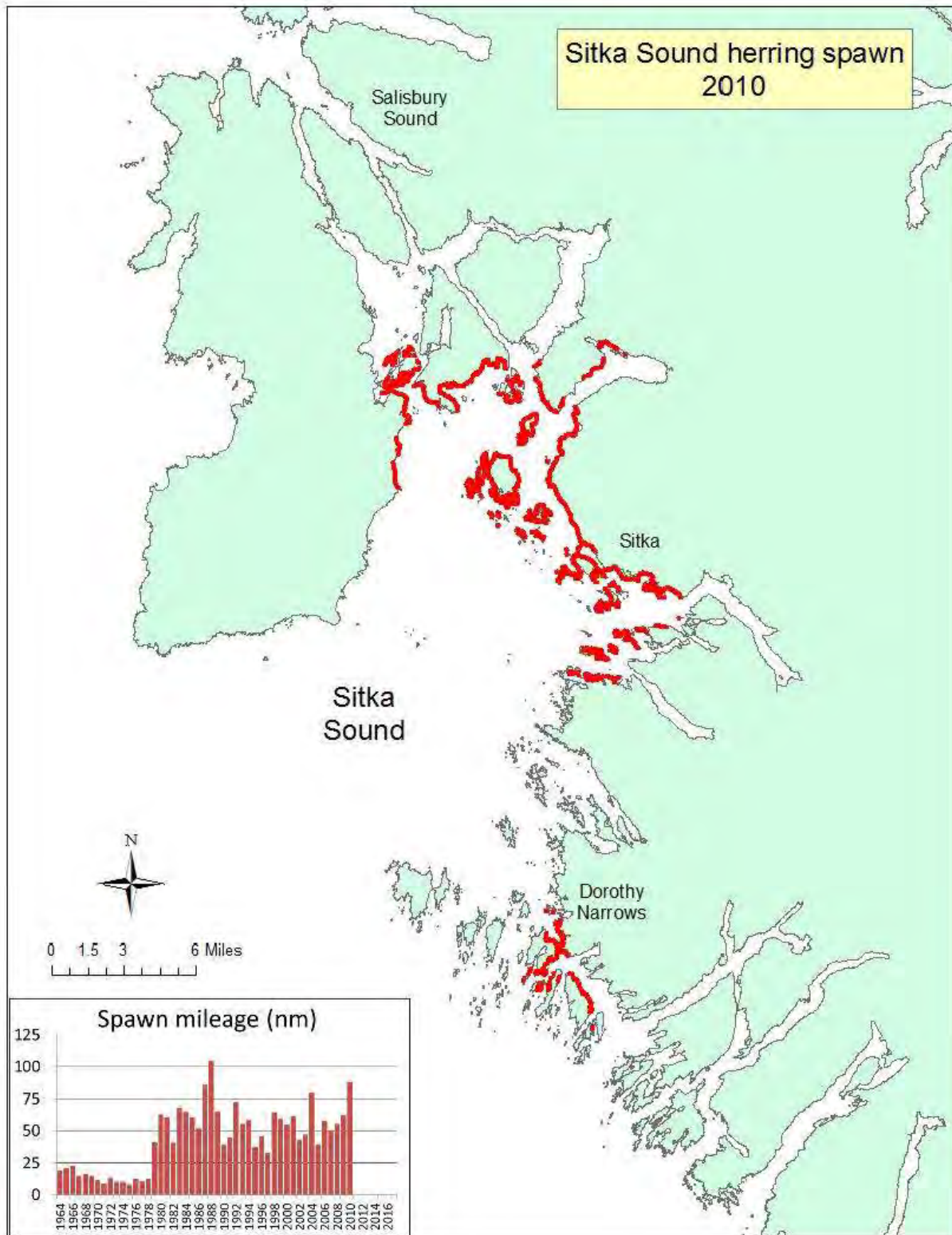


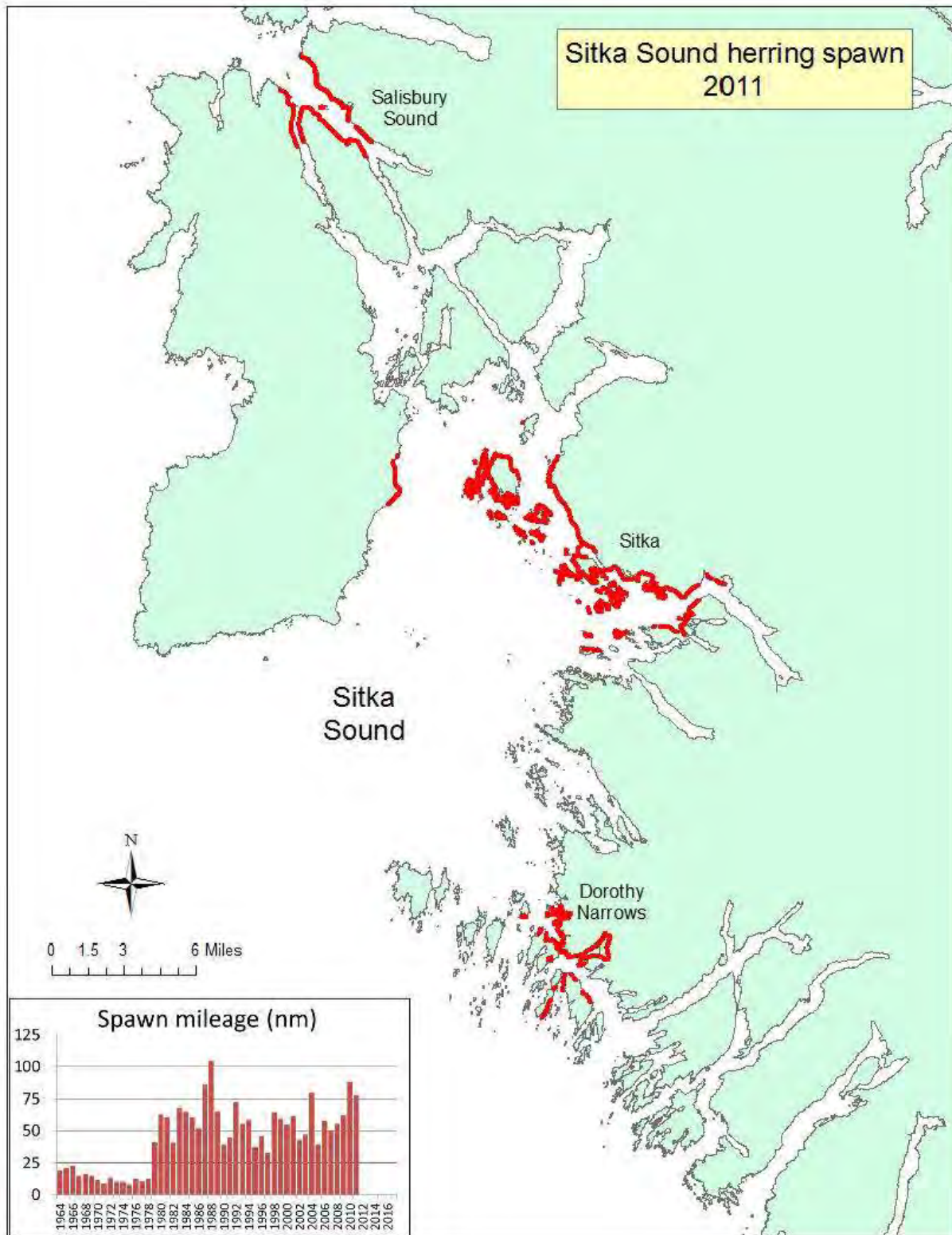


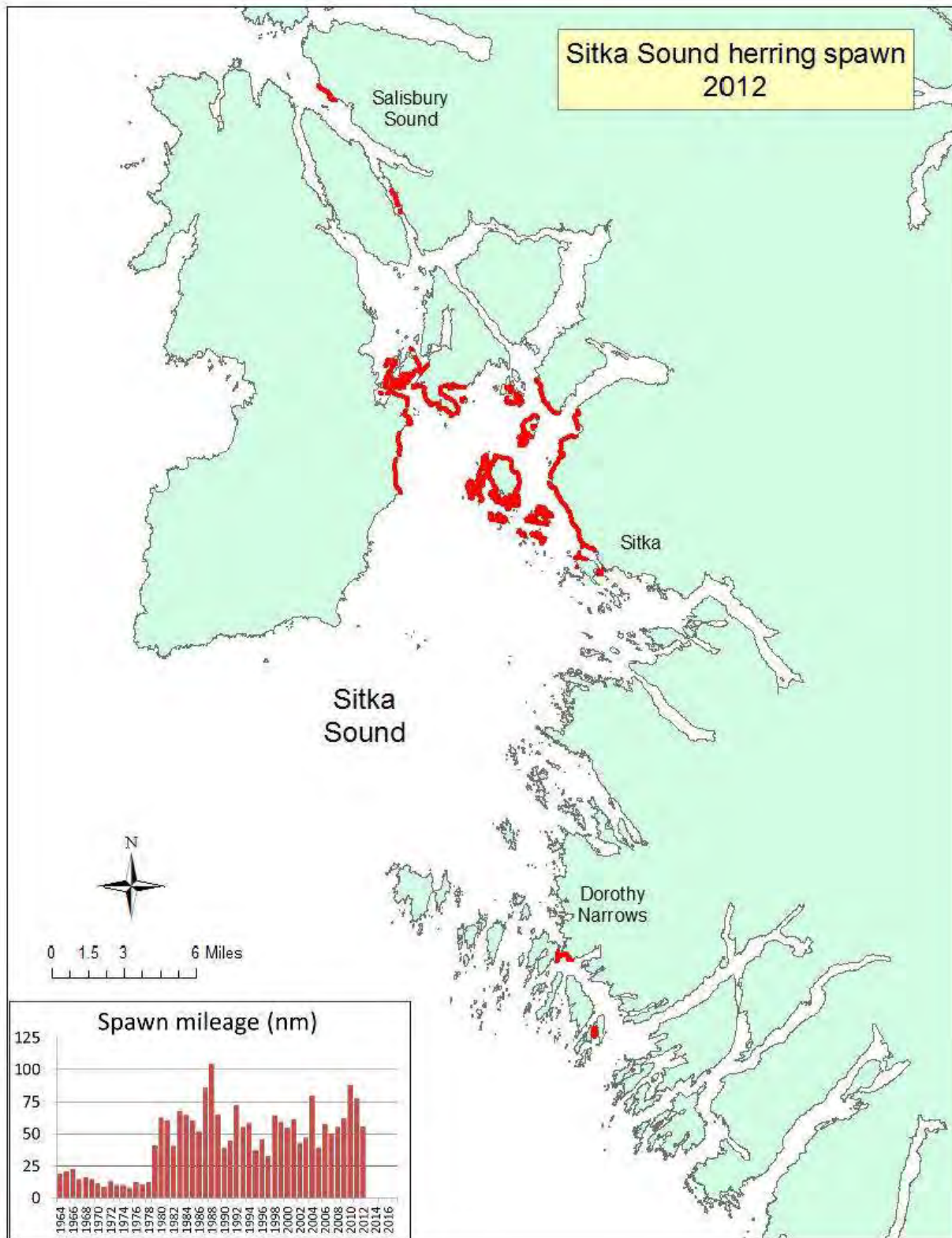


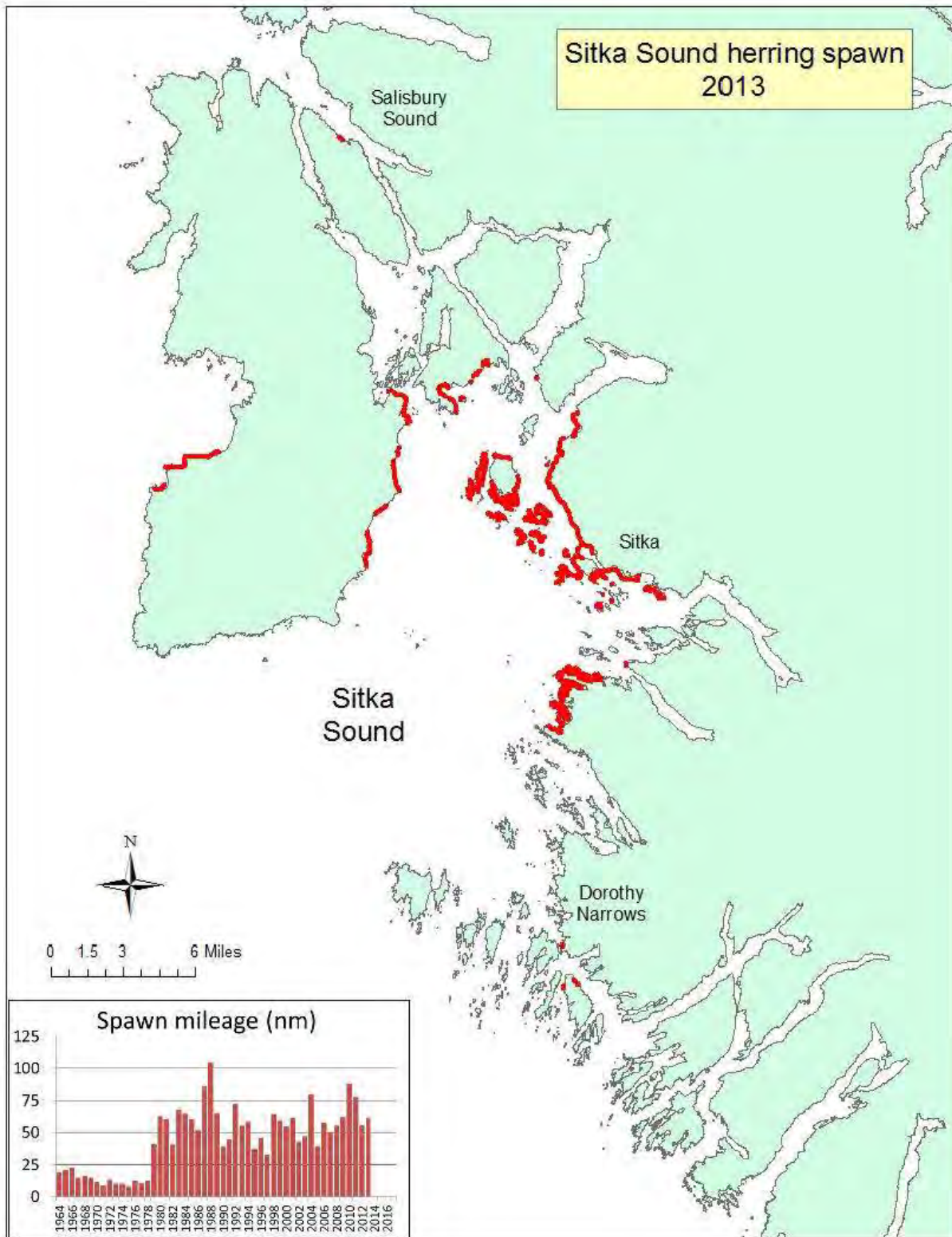


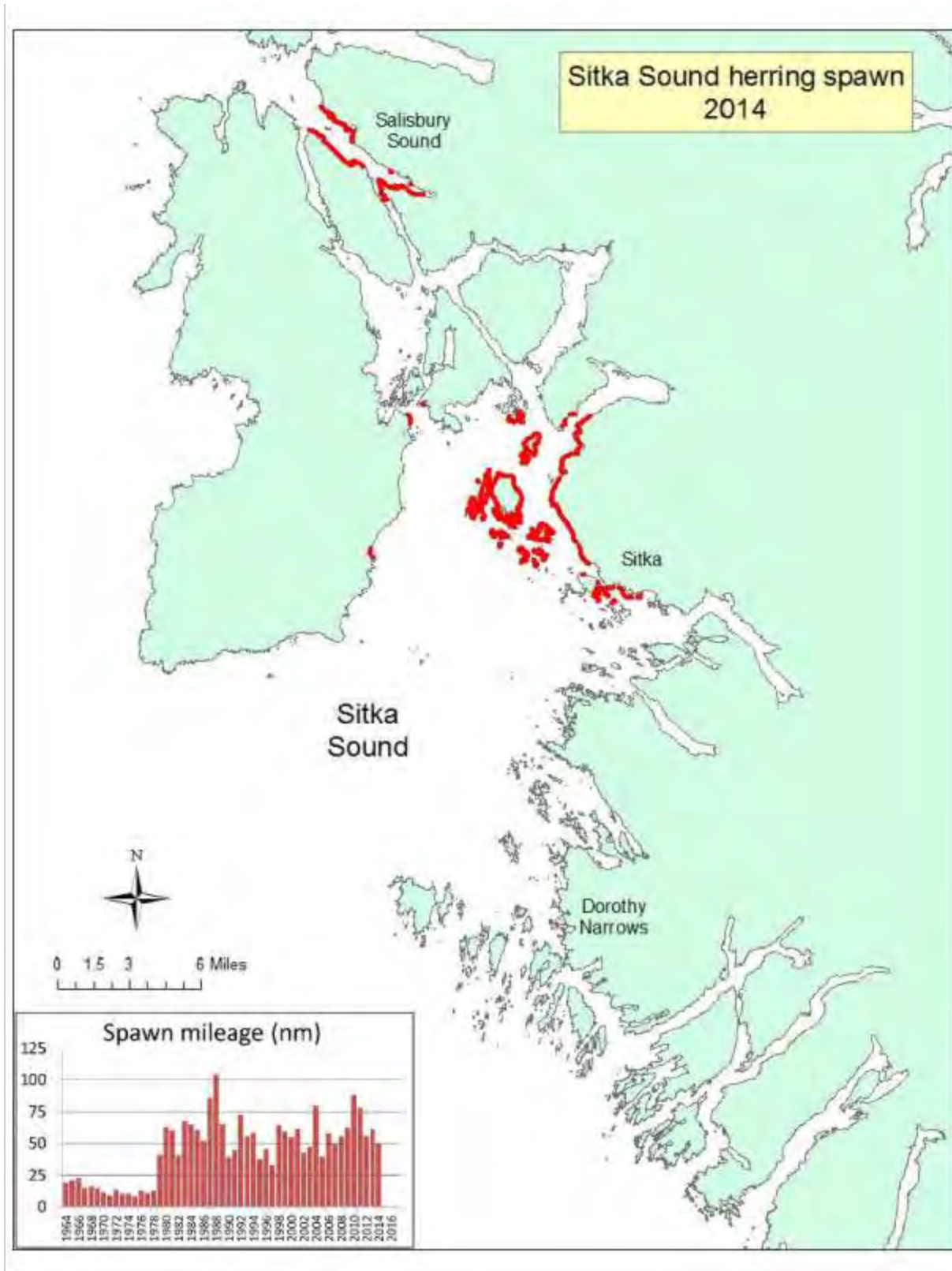


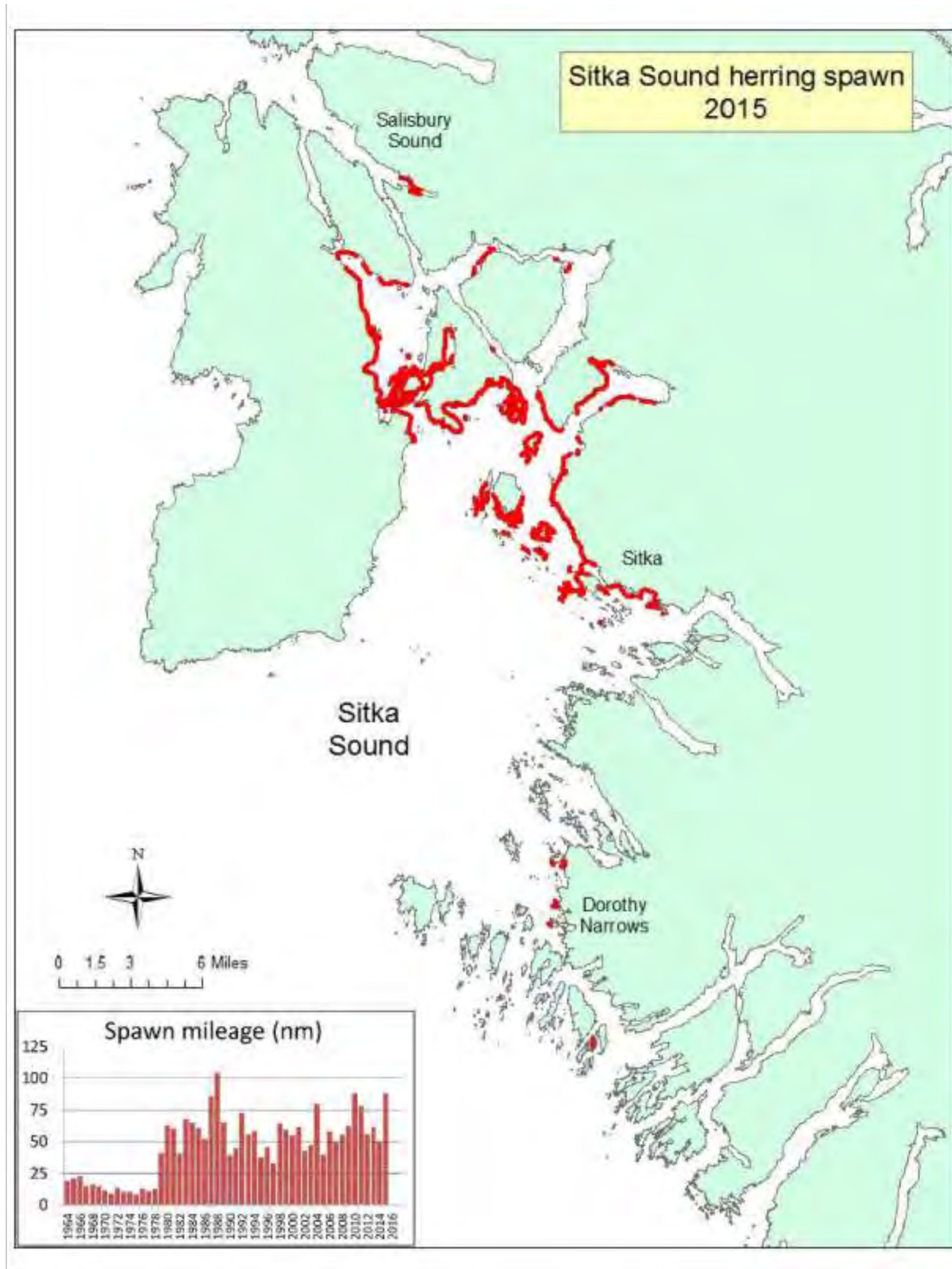


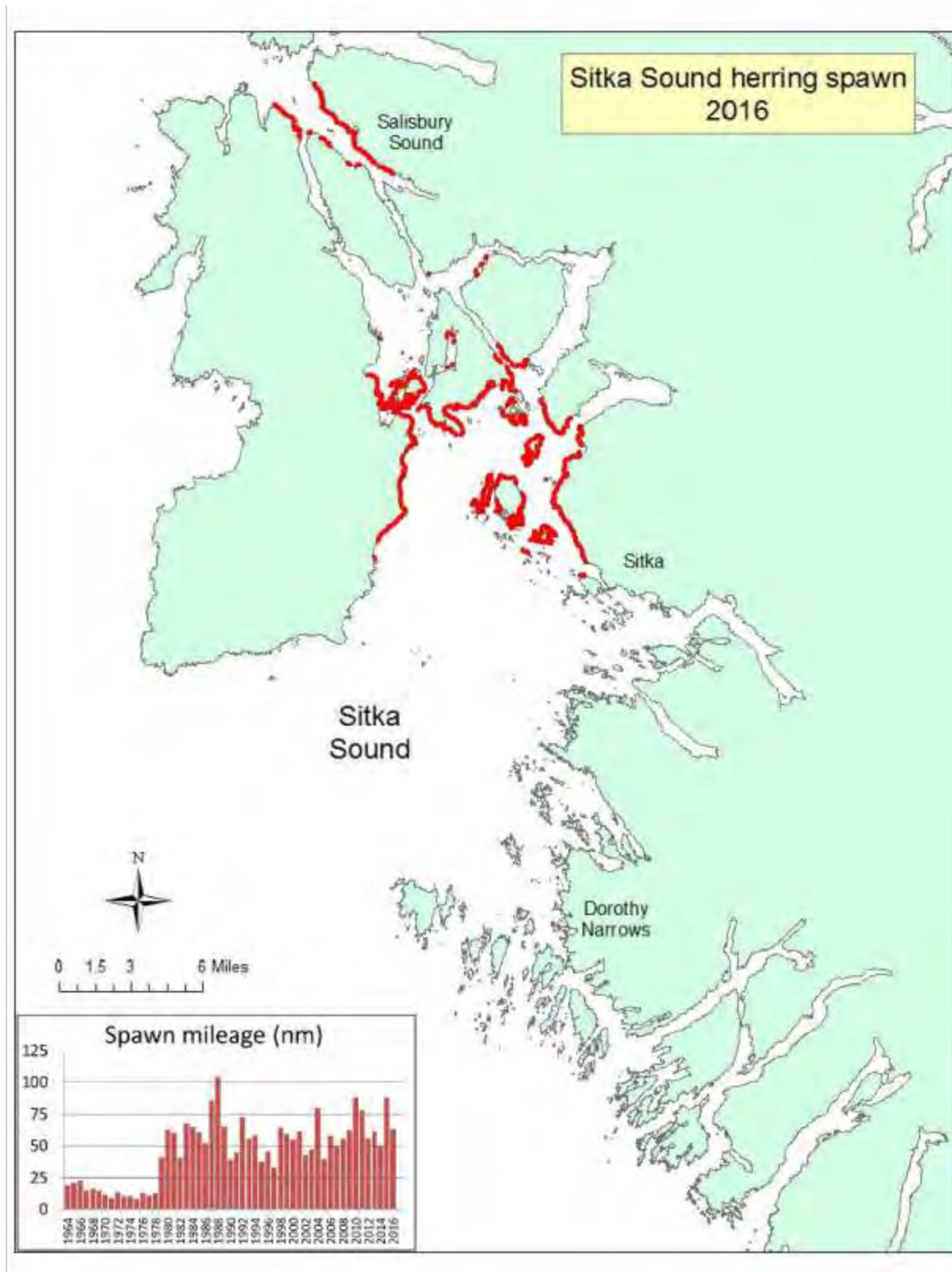


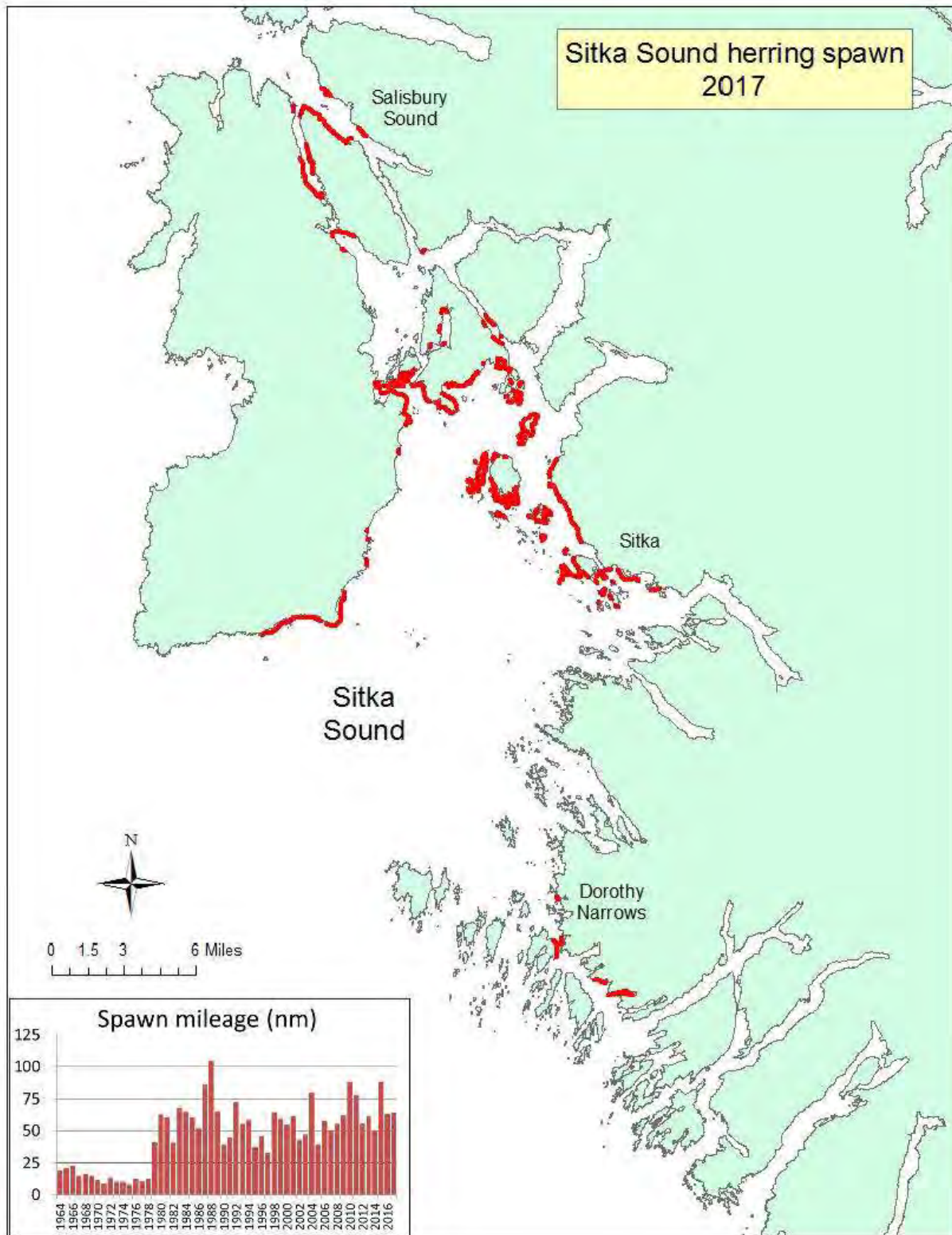














Submitted By
Tom Nelson
Submitted On
10/2/2018 7:54:32 AM
Affiliation

Members of the Board of Fisheries,

I am writing to express my strong OPPOSITION to ACR 10 regarding the Sitka Sac Roe Fishery. The State of Alaska has science based well managed fisheries and Sitka Herring is no exception. This ACR is in no way an emergency and has no place being brought up out of cycle. Spawn deposition surveys indicate a healthy biomass of herring in Sitka Sound. This ACR is purely political and has no hard scientific data to back it up. To the claim of not meeting subsistence needs, one must actually go out and try to harvest eggs. Especailly with the increase in large marine mammal predators the herring are adapting their spawning strategy, subsitence users must adapt their harvest efforts as well. The herring have been staying deep and then coming to the surface in one large wave of heavily concentrated spawning. There is no lack of herring in Sitka Sound. Tom Nelson

Submitted By
Wayne Unger
Submitted On
10/1/2018 3:00:53 PM
Affiliation
Silver Bay Seafoods

Phone
907 738-9396
Email
wayne.unger@silverbayseafoods.com
Address
4400 SMC Rd., Suite B
Sitka, Alaska 99835

OPPOSE ACR 10 to close the commercial sac roe herring fishery.

-This proposal re-allocates all herring to one user group.

-The Department and the commercial herring fleet have made significant changes to the fishery in order to address concerns raised by the Tribe.

-We rely on science based and sustainable fisheries management for our business and the future of the fishery.

-Sitka herring is the gold standard for herring management in Alaska and throughout the world.

-Herring data clearly indicates that herring populations have increased significantly since the start of the commercial fishery in the 1970s and especially following the closure of the pulp mill in 1993.

-Natural fluctuations in biomass and spawning behavior do not indicate a collapse in stocks. All species have ups and downs.

-Reasonable opportunity for subsistence harvest exists. 2017 Subsistence Division Report supports this.

-The Department and the commercial herring fleet provide the Sitka Tribe of Alaska with crucial information regarding herring distribution, location and potential and current spawning activity.

-The commercial herring fleet has already lost significant historical fishing area and opportunity in order to address concerns raised by the Tribe.

Permit holder info, 2018:

48 permit holders.

37 Alaska residents

77% of permit holders are Alaska residents.

Timeline of Sitka herring conservation and management actions:

1977- limited entry established.

1978- Acoustical estimate adjusted down due to high numbers of age 2 & 3 herring.

1981- Spawn deposition estimate calculated by miles of spawn and 500 tons per mile conversion.

1982- Dive survey for spawn estimate used for biomass.

1983- Threshold of 7,500 tons and 10%-20% harvest rate in effect.

1993- Sitka pulp mill closed (operated from 1959 to 1993).

1994- First year ASA model used to forecast biomass.

1997- Raised threshold to hold a fishery from 7,500 tons to 20,000 tons to 25,000 tons as herring stock biomass increased (see graph on last page). *Board of Fish*

2002- MOU signed with STA & ADF&G – attempt to cooperate with STA on openings

2002- Discussion with STA about Equal Split fishery, from STA's point of view Equal Split was desirable

2002- New management plan for harvest dispersal.

2008 – present- supplemental harvest of herring eggs *by industry* Average 40,000 lbs with range from 35k to 75k.



PC182
2 of 2

2009- MOU cancelled due to lack of cooperation.

2012- Closure of "Core Area" (22 sq. mi.). *Board of Fish action*

2015- Closure of Makhnati Island area. *Federal Subsistence Board action*

2015- Fishery closed without harvesting the full commercial quota to assist in meeting subsistence needs. *Department action, at request of industry*

2018- Additional area closed in "Core Area" *Board of Fish action*

Co-op fishery years (all or part of GHL taken as co-op): 1979, 1988, 1991, 1996, 1999, 2002, 2015, 2018



Sitka Tribe of Alaska

Tribal Government for Sitka, Alaska



VIA Email: dfg.bof.comments@alaska.gov

October 3, 2018

Board of Fisheries
ADF&G Boards Support
PO Box 115526
Juneau, AK 99811-5526

RE: Comments in Support of Agenda Change Request 10

Dear Board of Fisheries:

Sitka Tribe of Alaska ("STA") supports approval of Agenda Change Request ("ACR") 10, adding the Sitka Sound herring fishery to the Board's agenda. The ACR should be granted and heard as soon as possible.

STA is a federally recognized tribal government located in Sitka. STA is responsible for promoting the health, welfare, safety, and culture of over 4,000 tribal citizens. STA's tribal citizens depend on herring roe for subsistence, and herring are central to the nutritional and cultural wellness of STA citizens and the ecosystem. The harvest of herring roe on branch and other substrates is a cultural tradition dating back to time immemorial. Preparing for, conducting, and sharing the harvest involves cooperation, transmittal of important indigenous knowledge and values, and serves as a mechanism to promote individual wellness and a healthy community. Herring roe is a celebrated food with a core role in ensuring the food security of tribal members, including being shared as gifts and eaten at potlatches and other important gatherings.

The Board must address the fact that under current regulations, STA's tribal citizens are currently denied a reasonable opportunity for subsistence herring roe harvest. The amount necessary for subsistence as set by the Board has been met in only 4 of the past 14 years, and subsistence harvests are consistently inadequate in terms of both quantity and quality. The most recent harvest reports continue to demonstrate an exigent need to address the regulatory failure to ensure adequate subsistence harvests. The ACR is a



necessary first step for the Board to fulfill its duty to properly manage the Sitka Sound herring fishery in accordance with all statutory and constitutional obligations.

I. The ACR is necessary to provide a reasonable opportunity for subsistence harvest.

The most recent subsistence harvest reports demonstrate new and compelling evidence that the current regulations do not provide a reasonable opportunity for subsistence herring roe harvest. The Board's "Policy for Changing Board of Fisheries Agenda" does not specifically address agenda change requests related to the failure to protect subsistence opportunities; however, the Board cannot postpone immediate concerns that threaten irreparable harm to subsistence harvesters. Here, the urgency and continued failure of the Board's policies to ensure a reasonable opportunity for subsistence herring roe harvest demonstrate a "compelling" circumstance that warrants the Board's immediate attention.

The Board's and Alaska Department of Fish and Game's ("ADFG") history of managing Sitka Sound herring has been focused on providing an economically viable commercial fishery, resulting in repeated failures to ensure the subsistence priority. Subsistence herring roe harvests peaked in 2004 but have consistently declined over time. In 2009, the Board set the amount necessary for subsistence ("ANS") at 136,000 to 227,000 pounds, a threshold that has been met only four times since 2005.

In 2012, the Board established a "Core Conservation Area" for Sitka herring that included part of the area traditionally used for the subsistence harvest. Despite this action, in 2016, ADFG reported a subsistence harvest of only 84,554 pounds, well below the ANS. In 2018, the Board closed an additional 4 square miles to commercial harvest. Yet the subsistence harvest was dismal in 2018. The consistent failure to harvest the ANS demonstrates that focusing on geographic limits and closed areas simply does not work, and does not provide a reasonable opportunity for subsistence. The Board and ADFG must take a new management direction to ensure the Sitka Sound herring population is managed for sustained yield consistent with the subsistence priority.

The ACR must be approved in order for the Board to begin solving this complex and urgent problem. The Board's constitutional and statutory obligations to provide a subsistence priority cannot be sidelined or delayed. The most recent subsistence harvest data show a compelling and urgent need to change management directions to ensure sustained yield and subsistence priority.



II. The ACR is necessary to ensure conservation of the Sitka Sound herring population.

In addition to failing to provide a subsistence priority, the Board's current Sitka Sound herring regulations fail to conserve the population and manage herring according to constitutional and statutory mandates and the best available science. Since 1983, Sitka Sound herring population has been managed using a threshold and variable harvest rate. Thresholds and harvest rates set for forage fish, like herring, were intended to "protect the stocks from sharp reductions due to recruitment failure, to maintain adequate abundance of herring as prey for commercially important predator species such as salmon, and to provide for the quality commercial herring products." (Carlile 1998). First, it is notable that the thresholds and harvest rate are focused on commercial opportunities, not subsistence harvest needs. Second, best available science suggests the Board's maximum harvest rate of 20 percent is insufficient to conserve the herring population (Martel et al. 2012). Sitka Sound herring "are being managed in a significantly depleted state." (Thornton 2010). Sitka Sound herring regulations invite a more aggressive commercial fishery in time and quantity than in any other Alaska herring fishery. The Board must re-evaluate its regulations to incorporate new scientific evidence for determining thresholds, including more precautionary thresholds based on minimum spawning biomass instead of minimum total biomass, and to provide for priority subsistence uses.

During the last decade, the Sitka Sound population has been reduced by approximately 50 percent. Preliminary data from ADFG for 2018 show that "very little spawning was observed in the islands near Sitka, which typically receive substantial spawn."¹ The linear miles of herring spawn in Sitka Sound during 2018 season was the lowest on record since 1979. While final ADFG data from the 2018 stock assessments will not be available until November, it is clear that the ANS was not met. ADFG closed the commercial fishery for the season early on April 3, 2018 after consulting with industry representatives, with a harvest of only 2,926 of the available 11,123 ton limit. ADFG works closely with the commercial fishery regarding management actions, but does not meaningfully consult with STA on in-season management issues and decisions. Moreover, regulatory and management decisions fail to give weight to the traditional knowledge and management practices of Alaska Natives despite their thousands of years of experience and observation. By ignoring traditional ecological knowledge of herring abundance, distribution, and spawn timing and only considering data from the

¹ ADF&G Fishery Update, Sitka Sound Sac Roe Herring Fishery Announcement, April 27, 2018.



last 40 years, the State of Alaska is ensuring Sitka Sound herring will be managed under a shifted baseline and will not recover to their former abundance.

STA also has significant concerns about the size and age selectivity by the commercial fishery. These are important conservation issues that must be addressed by the Board before the 2019 season opens. Considering the size and age in concert with learned migration is essential before a commercial harvest of Sitka Sound herring can occur. The critical ecosystem-wide role herring serve as a forage fish must also be accounted for to prevent a catastrophic domino effect on other commercially and socially important species like Chinook and coho salmon and Pacific cod. Large-scale environmental impacts and climate change are impacting the Sitka Sound herring stock, and there is little understanding of how, and what steps should be taken to mitigate negative impacts. This uncertainty demands a more precautionary management approach than is currently practiced under Board regulations and ADFG management actions. Merely establishing closed areas for subsistence fishing without significant efforts to conserve and rebuild the Sitka Sound herring stock is meaningless if steps are not taken now to address the declining population.

For the foregoing reasons, the Board should grant the ACR and begin an immediate process to amend the current Sitka Sound herring regulations, ensuring a reasonable opportunity for subsistence and conservation of the population. Changes to the current regulations are needed before the next herring roe season begins in March 2019. Given that timeline, and the need for the users of the Sitka Sound herring resource to adjust to revised regulations and management, STA requests the Board schedule consideration of this issue within 60 days or as soon as possible to meet statutory notice and comment requirements. The meeting should be held in Sitka. A hearing on the ACR should be scheduled before the Board's January 2019 meeting in Anchorage. The scope of the Board's approval and public notice of the issues that will be considered pursuant to the ACR should be broad, covering a review of all relevant regulations and management practices, and include all the issues raised in the ACR and STA comments. Significant reform is required in the regulations and management practices. The Board's actions on the ACR should provide the opportunity for such reform.

Sincerely,

KathyHope Erickson
Chairman



From: Abraham Horschel
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Monday, September 24, 2018 10:59:25 AM

Abraham Horschel
869 cootonwood drive
Valdez, AK 99686

September 24, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Please stop the excessive dumping of hatchery fish into Alaska waters. It is ruining the wild runs. The sockeye salmon hatchery nets at the gulkana have blocked and wiped out the steelhead at Gunn creek and natural Fish lake sockeye. The bycatch is wiping out the robe river sockeye and has already destroyed the kings returning to the Lowe river slough. These hatchery did are overtaking the feed for natural salmon and are destroying the herring and other prey stock. It is easy to sell the story that it was the Exxon spill, but that isnt the case any more. It is the pollution of Alaska waters with Hatchery fish.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Abraham Horschel



From: Alex Gimarc
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Sunday, September 23, 2018 7:17:12 AM

Alex Gimarc
11155 Bluff Creek Circle
Anchorage, AK 99515

September 23, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound are out-competing longer lived salmon in the salt water. Dumping nearly a billion pink smolt into Prince William Sound (PWS) has severely impacted coho, red and king returns in PWS. Coho fishing has been terrible for nearly the last decade. King fishing has been likewise poor. And this year, red returns into the Copper River have been disastrous.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. The problem with the yearly dumping of nearly a billion pink smolt is that it never allows the biomass in the North Pacific to regenerate like it normally would every other year. And that lack of regeneration is showing up in poor returns of other salmon species and smaller overall fish sizes.

My ultimate solution would be to move the pink commercial hatchery output and fishery to a fish farming operation - onshore or offshore. This way the hatchery release of pink smolt would no longer harm other salmon returns from Cook Inlet to Southeast AK. While the ban against fish farming in Alaska still exists, the BoF can take the lead to repeal it. And the PWS pink commercial fishery would be a great place to start.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Cheers
Alex Gimarc



From: Amber McDonough
To: [DFG_BOF_Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, September 26, 2018 1:04:35 PM

Amber McDonough
200 W 34th Ave #371
Anchorage, AK 99503

September 26, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

I have fished the Kenai River between the mouth at Cook Inlet and Cooper Landing for nearly 20 years. In that time I have seen the Chinook salmon numbers drop dramatically and the average size of the sockeye salmon shrink. Each salmon, whether hatchery or wild, that returns to the ocean to feed is a voracious predator. The ocean while vast, does not have an unlimited capacity to provide feedstock for these salmon. It doesn't make sense to sacrifice the quantity and quality of the high value species (chinook, sockeye, coho) for massive numbers of pinks/chum (which many Alaskans consider "junk" fish). Continuing this practice only benefits large commercial processors that export our pink salmon resources for their profit and does not encourage a healthy natural diversity among the competing salmon species. The amount of hatchery produced pink salmon released into Alaska's waters must be reeled in.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Amber McDonough



From: Ben Allen
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, October 3, 2018 4:53:31 PM

Ben Allen
4150 East Wickersham Way
Wasilla, AK 99654

October 3, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

I'm Ben Allen, long time Alaskan resident, 12 years experience salmon fishing guide, bed and breakfast owner, and fish processing owner. I live in Wasilla, Alaska- strictly because of my ties to salmon fishing. Poor King salmon runs are crushing my businesses. King salmon returns to the Matsu Valley were too bad to support even catch and release fishing last year. We have seen closures and restrictions for the last 11 years for King salmon fishing in the Matsu Valley, due to weak returns. Things have gotten so bad with our King fishery, that I will not book out of state customers, due to the high probability of closures. There is no predictable wild King salmon fishery in the Matsu Valley! The compounding effects of increasing ocean temperatures and competition for increased demand food supply is having serious negative effects on our King salmon.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Ben Allen



From: Bill Eckhardt
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 6:45:29 PM

Bill Eckhardt
PO Box 249
Sterling, AK 99672

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record pink salmon abundance due to the hatcheries. Until there is much more understanding of the marine food chain for all salmon species, the BOF must use some common sense and halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Bill Eckhardt



From: Brita Mjos
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Thursday, September 27, 2018 9:24:54 AM

Brita Mjos
2018 Alder Drive
Anchorage, AK 99508

September 27, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

The oceans resources are finite, and it is hard to justify how millions of additional fish released into the ocean would not compete for resources with wild stocks. Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Brita Mjos



From: Chris Trueblood
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Friday, September 21, 2018 8:42:11 PM

Chris Trueblood
PO Box 13134
Palm Desert, CA 92255

September 22, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I was born and raised in Alaska and my family has been established in the state since the 1940's. Unfortunately I had to move out of state for my career; however I spend my summers still making sure to come home to fish. I plan on moving back to the Kenai Peninsula to retire in the future and was actively looking for property until this season.

I have seen the steady decline of the quality of sport fishing in my lifetime and also in the last 5 years a very odd influx of very large pink salmon in quantity and size in all watersheds I fish that are road accessible from the anchorage area. 20 years ago a 10 pound pink was unheard of, these days when fishing silver season I routinely throw back 10 pound pinks. I had a pink mounted last season from the Kenai that would easily have beaten world record and that record was broken over and over again in 2016.

The pinks are voracious feeders and instead of being alternate year fish they seem to come back now every year in bigger numbers and size each year while seeing the size and quantity of competing pacific salmon species steadily decline. The correlation cannot be just a coincidence.

Us Alaskans have always known pinks as nothing but a trash fish only fit for dog teams and commercial interests overseas. The tourism dollar that is so important to sustain the peninsula dollar requires that salmon stocks of important species such as Chinook, Coho and Sockeye be maintained or the livelihood of thousands of Alaskans will be irreparably destroyed.



Every time I visit alaska now for a fishing trip as an out of state fisherman I spend thousands of dollars each trip on food at local businesses, gear, licenses, gas and miscellaneous items.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Chris Trueblood



From: David Rand
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, September 26, 2018 7:43:56 AM

David Rand
P O Box 954
Trenton, GA 30752

September 26, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

As a frequent sports fisherman and visitor to the waters of Alaska

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
David Rand



From: Don Johnson
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Friday, September 28, 2018 9:07:08 PM

Don Johnson
36160 Schultz street
soldotna, AK 99669

September 29, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Alaska salmon hatcheries are killing our wild salmon. You cannot continue to dump billions of artificial salmon in the north pacific and expect our wild salmon to survive. We are seeing massive wild salmon losses because hatcheries are consuming are the ocean prey available.. Close down the hatcheries now!!!

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,. Don Johnson
Don Johnson



From: Jeff Bohren
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, October 2, 2018 6:18:26 AM

Jeff Bohren
PO BOX 996
Kenai, AK 99611

October 2, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound. How much harm to the commercial fisheries will happen by waiting for the study results?

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Jeff Bohren



From: Jeff Reeves
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Saturday, September 22, 2018 3:10:36 PM

Jeff Reeves
P.O. Box 380
Craig, AK 99932

September 22, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

And this isn't production from Prince William Sound alone. Add in the additional, ever increasing in number, Pinks and Chums produced in Southeast Alaska that are also winding up in the Gulf of Alaska. It is not unknown by ADFG that wild Chum in SE have been in decline. I have also noticed that many Coho, in late August, caught offshore in Southern Southeast are full of juvenile salmon. The lack of spots on these smolts seems to indicate Chum.

Any of us that had fisheries biology class know that an environment can only support so much. So, please decision makers and managers, letstart practicing what we all have learned.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,

Jeff Reeves



From: Joe Mongeau
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Saturday, September 22, 2018 10:10:54 PM

Joe Mongeau
670091
Chugiak, AK 99567

September 23, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely, I also believe that the fish are smaller. Not enough food to support the numbers..
Joe Mongeau



From: ken federico
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Saturday, September 22, 2018 12:40:30 PM

ken federico
PO Box 873641
wasilla, AK 99687

September 22, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

*****Releasing these extra 20 million pink salmon smolt to benefit just a small number of commercial fishermen at the possible jeopardy and expense of other types of Salmon is just ludicrous. UCIDA tells their members to tell the BOF that this is being done under sound management and scientific past knowledge. This is just blatantly false. NO ONE know the outcome of these extra mouths to feed. I, for one, am not willing to take this chance on harming other salmon runs just so a few people can make an extra car payment.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
ken federico



From: Margaret Nelson
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 3:25:10 PM

Margaret Nelson
10121 Middlerock Road
Anchorage, AK 99507

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Please ensure that hatchery fish do not invade wild stocks and protect our Know mg Salmon. Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Margaret Nelson



From: Mark Jorgensen
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Thursday, September 27, 2018 10:15:07 AM

Mark Jorgensen
PO Box 13
Puposky, MN 56667

September 27, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

We sure would like to be able to keep coming up to Alaska to sport fish and spend our tourist dollars.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Mark Jorgensen



From: Ray DeBardelaben
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, October 3, 2018 1:32:56 PM

Ray DeBardelaben
Box 4357
Soldotna, AK 99669

October 3, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Kenai river professional guide association is in full support of Krsa . We really need to take a look at what is happening with this pink salmon enhanced fishery. Sincerely Krpga board of directors.
Ray DeBardelaben



From: Tom Wellman
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 3:05:10 PM

Tom Wellman
34598 Cranberry Cir
Sterling, AK 99672

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon. I have witnessed this personally. We normally see almost no pinks during an odd year on the Kenai River and I caught quite a few in 2017 while fishing for reds and silvers. That has never happened before.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Tom Wellman



From: Adelbert Dewees
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Thursday, September 27, 2018 11:05:14 AM

Adelbert Dewees
403 e Halifax ave
Oak Hill, FL 32759

September 27, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely, I am an avid fisherman here and Alaska!
Adelbert Dewees



From: Alan Tappan
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, September 26, 2018 10:54:21 AM

Alan Tappan
41688 Murphy Ln
Soldotna, AK 99669

September 26, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Alan Tappan



From: Cedric Conrad
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Monday, October 1, 2018 3:32:23 PM

Cedric Conrad
P.O. box 2971
Soldotna, AK 99669

October 1, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Cedric Conrad



From: Chad Price
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, October 3, 2018 12:03:11 PM

Chad Price
16965 SW Marcile Lane
Beaverton, OR 97007

October 3, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Chad Price



From: Dan Kosterman
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Sunday, September 23, 2018 9:08:01 PM

Dan Kosterman
16420 Carla St
Eagle River, AK 99577

September 24, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Dan Kosterman



From: David Booth
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Monday, September 24, 2018 6:18:51 AM

David Booth
2088 n verde dr
Palmer, AK 99645

September 24, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
David Booth



From: Dennis Mellinger
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, September 26, 2018 9:31:17 PM

Dennis Mellinger
821 River Estates Dr
Soldotna, AK 99669

September 27, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Dennis Mellinger



From: Dennis Wood
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 3:15:11 PM

Dennis Wood
PO Box 241727
Anchorage, AK 99524

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Dennis Wood



From: Dylan Faber
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Friday, September 21, 2018 8:11:32 AM

Dylan Faber
806 E 73rd St.
Anchorage, AK 99518

September 21, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
dylan



From: Elizaberh Marsh
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Monday, October 1, 2018 10:42:46 PM

Elizaberh Marsh
Po box 13303
Trapper creek, AK 99683

October 2, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Elizaberh Marsh



From: Garrett Paul
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 11:15:41 PM

Garrett Paul
6012 Sunset St
Juneau, AK 99801

September 26, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Garrett Paul



From: Glenn Peterson
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Saturday, September 29, 2018 11:59:01 AM

Glenn Peterson
19626 S Mitkof Loop
Eagle River, AK 99577

September 29, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Glenn Peterson



From: Grant Kopplin
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Monday, October 1, 2018 10:32:47 PM

Grant Kopplin
18523 Chekok circle
Eagle river, AK 99577

October 2, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Grant Kopplin



From: Greg Svendsen
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 9:15:34 PM

Greg Svendsen
3590 E. Klatt Rd.
Anchorage, AK 99516

September 26, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Greg Svendsen



From: heather norby
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 3:05:11 PM

heather norby
11210 kaskanak cir
Eagle river, AK 99577

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
heather norby



From: james lee
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, September 26, 2018 2:14:27 PM

james lee
4139 lana court
anchorage, AK 99508

September 26, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
james lee



From: Joel Burns
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Saturday, September 22, 2018 8:10:15 AM

Joel Burns
374 West Rockwell
Soldotna, AK 99669

September 22, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Joel Burns



From: Karen Sutton
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, October 3, 2018 7:43:26 PM

Karen Sutton
1050 n lightner
Wichita, KS 67208

October 3, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Karen Sutton



From: Kelly Hanke
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Thursday, September 27, 2018 5:33:13 PM

Kelly Hanke
46425 Big Eddy Road
Soldotna, AK 99669

September 27, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Kelly Hanke



From: Kevin Branson
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 3:05:11 PM

Kevin Branson
3313 Cottonwood St
Anchorage, AK 99508

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Kevin Branson



From: Leslie Huff
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Friday, September 21, 2018 8:12:07 PM

Leslie Huff
4741 Cambridge Way
Anchorage, AK 99503

September 22, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Leslie Huff



From: Mark Plaskon
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Saturday, September 29, 2018 6:09:28 PM

Mark Plaskon
Po box 13272
Trapper Creek, AK 99683

September 29, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Mark Plaskon



From: Melissa Knolle
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Friday, September 21, 2018 2:41:53 PM

Melissa Knolle
9410 Flintlock St.
Anchorage, AK 99507

September 21, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Melissa Knolle



From: Mike Brown
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, October 2, 2018 2:29:16 PM

Mike Brown
750 W Dimond Blvd Ste 114
Anchorage, AK 99515

October 2, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Mike Brown



From: Nicholas Bakic
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, October 3, 2018 10:22:41 AM

Nicholas Bakic
10161 Klingler Street
Anchorage, AK 99507

October 3, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

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Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Nicholas Bakic



From: Nicole Perry
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, October 3, 2018 7:53:26 PM

Nicole Perry
8300 e17th ave
Anchorage, AK 99504

October 3, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Nicole Perry



From: Paul Venturini
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, October 2, 2018 12:02:51 AM

Paul Venturini
4300 Arctic Blvd Spc # 50
Anchorage, AK 99503

October 2, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Paul Venturini



From: Philip Ruter
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 2:55:19 PM

Philip Ruter
13756 Eggbornsville Rd
Culpeper, VA 22701

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Philip Ruter



From: Phyllis Adams
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Monday, October 1, 2018 9:52:22 AM

Phyllis Adams
720 Birch Street
Anchorage, AK 99501

October 1, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Phyllis Adams



From: Randy Moseman
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Sunday, September 23, 2018 10:27:23 AM

Randy Moseman
12821 huffman circle
Anchorage, AK 99516

September 23, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Randy Moseman



From: Reuben Hanke
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Friday, September 21, 2018 4:12:02 PM

Reuben Hanke
PO Box 624
Kenai, AK 99611

September 21, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Reuben Hanke



From: richard lorantas
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, September 26, 2018 6:33:56 AM

richard lorantas
1240 highland rd
monongahela, PA 15063

September 26, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
richard lorantas



From: Ronald Lee
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Friday, September 28, 2018 6:06:11 AM

Ronald Lee
3229 Tayshee Circle
Anchorage, AK 99504

September 28, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Ronald Lee



From: Ross Baxter
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 12:35:21 PM

Ross Baxter
34870 Schwalm Rd.
Soldotna, AK 99669

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Ross Baxter



From: Stephen Helms
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Tuesday, September 25, 2018 3:35:22 PM

Stephen Helms
PO Box 190384
Anchorage, AK 99519

September 25, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Stephen Helms



From: Thomas Knox
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Monday, September 24, 2018 3:49:33 PM

Thomas Knox
4521 Snowcup Cir.
Anchorage, AK 99516

September 24, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Thomas Knox



From: Tim Olsen
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Saturday, September 22, 2018 6:20:46 PM

Tim Olsen
2496 W Torana Dr
Meridian, ID 83646

September 22, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

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Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Tim Olsen



From: William Keller
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Wednesday, September 26, 2018 9:44:20 AM

William Keller
35510 Brians Street
Soldotna, AK 99669

September 26, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

Two-thirds of salmon in the North Pacific Ocean are pink salmon, who have an even-odd year cycle. That two year cycle appears to be impacting food availability for other species of wild salmon. In 2018, there were historic restrictions and closures of sockeye and Chinook salmon fisheries across the Gulf of Alaska.

Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
William Keller



From: Zoa Loper
To: [DFG, BOF Comments \(DFG sponsored\)](#)
Subject: Support for KRSA ACR #1 to Halt Expansion of Hatchery Pink Salmon Production in Prince William Sound
Date: Friday, September 21, 2018 4:51:55 PM

Zoa Loper
P.o. box 241
Soldotna, AK 99669

September 21, 2018

Dear Board of Fisheries Comments,

Dear Alaska Board of Fisheries,

I support the Agenda Change Request submitted by the Kenai River Sportfishing Association to halt further expansion of the hatchery pink salmon production in Prince William Sound. Specifically, KRSA's ACR #1 seeks prohibit Valdez Fisheries Development Association from incubating, rearing, and releasing pink salmon resulting from 20 million additional egg take capacity permitted in 2018 and cap egg take capacity at the level permitted in 2017.

Hatchery pink salmon from Prince William Sound show very high rates of straying inter-regional straying into Lower Cook Inlet, when compared to intra-regional straying of LCI hatchery pink salmon.

Scientific research and agency reports document adverse impacts on wild salmon from increased food competition in the North Pacific Ocean, where there are record high salmon abundance and commercial harvests, even with an increasingly variable ocean environment. Commercial salmon harvests in Alaska in 2013, 2015 and 2017 were the three highest on record.

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Until there is much more understanding of the marine food chain for all salmon species in the North Pacific Ocean, the BOF must act to halt further expansion of industrial hatchery pink salmon production in Prince William Sound.

I urge the Alaska Board of Fisheries to exercise its full regulatory authority to amend terms of permits relating to the source and number of salmon eggs for private, non-profit hatcheries in Alaska, by accepting KRSA's ACR #1.

Thank you for your time and attention to this most pressing fishery conservation issue.

Sincerely,

Sincerely,
Zoa Loper



Date: 10-3-17
Fisherman: Benjamin Van Dyck
Vessel: Just-In-Time
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

For these reasons, ACR1 and ACR2 do not meet the criteria for the Board of Fisheries to accept these Agenda Change Requests.

Additionally, Alaska's salmon hatchery program is integral to the sustenance of rural communities. Hatcheries support sport, personal use, subsistence, charter, and commercial fisheries throughout the state, and provide tax revenues for local and state governments.

The hatchery programs are heavily science-based and decisions regarding hatchery production relies heavily on current data. There are no stocks of concern where most hatchery production occurs and historically, hatchery production has alleviated pressure on wild stocks.

Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,



Date: 10/3/18
Fisherman: Cyril & Emily Wooden
Vessel: Boat Name
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,



Date: 10/3/18
Fisherman: David McKenzie
Vessel: Gif-R-Done F/U MS Jennifer
Homeport: Cordova, AK

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed, David McKenzie



Date: 10/3/2018
Fisherman: NO: Nltmender
Vessel: _____
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,



Date: 10/3/18
Fisherman: John P Wiese
Vessel: Double Trouble; Fast R Martin Is
Homeport: Cordova, AK

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

John P Wiese



Date: 10-2-18
Fisherman: Kory Blake
Vessel: Crystal Falls
Homeport: Cordova AK

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Kory Blake



Date: 10/3/18
Fisherman: Kristina Lonse
Vessel: F/V Lakina
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Kristina Lonse



Date: 10-3-18
Fisherman: Yes
Vessel: Shiloh
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,



Date: 10-3-18
Fisherman: Nick Merritt
Vessel: Madmilla
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed, 



Date: 3 OCT 2018
Fisherman: Robert Beuch
Vessel: Cedar Bay
Homeport: CORDOVA

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Robert Beuch

P.O. Box 1242
CDU. ALASKA
99574
907-429-7207

Submitted By
Robert Widmann
Submitted On
10/3/2018 10:22:38 AM
Affiliation

Date: _10-3-18_____
Fisherman: __Robert Widmann_____
Vessel: __ORION_____
Homeport: ____Cordova_____

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,

Bob Widmann

Box 879, Cordova, AK 99574



Date: 10/3/18
Fisherman: Sheryl Black & Boat co owner PWS
Vessel: ACE
Homeport: Cordova Alaska

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

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Thank you for your consideration.

Signed,



Date: 30 OCT 2018
Fisherman: TAYLOR Kim BARON
Vessel: F/V AMULET
Homeport: COROOVA

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed,



Submitted By
Travis
Submitted On
10/3/2018 12:31:28 PM
Affiliation

Phone
982-9800

Email
7seafoods@gmail.com

Address
189 E Nelson Ave
#274
Wasila, Alaska 99654

Date: 10-3-18
Fisherman: Travis Lee
Vessel: Front Runner
Homeport: Whittier- AK

To: Alaska Board of Fisheries

RE: Comments on Hatchery Related ACRs

Dear Chairman Jensen and Board of Fisheries Members,

I am a commercial fisherman from Prince William Sound. I oppose the acceptance of ACR 1 and ACR 2.

ADFG Staff comments regarding these ACRs found no purpose or reason for a conservation concern. The ACRs do not correct an error in regulation. The ACR does not address an effect of a regulation on a fishery that was unforeseen when that regulation was adopted.

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Hatcheries should continue to be overseen by the Regional Planning Teams and ADFG biologists, who know and understand the history of salmon enhancement in Alaska.

Thank you for your consideration.

Signed, Travis Lee



Date: 10-3-17
Fisherman: Benjamin Van Dyck
Fishing Vessel: Just-In-Time
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

Hatchery programs are economic drivers for Alaskan communities. Studies have shown that 74% of VFDA's commercial salmon harvest value goes to Alaskan residents, with 37% going to residents of Cordova and Valdez, 23% to the Kenai Peninsula, 9% to residents of Anchorage, and 4% combined to residents from Kodiak, Mat-Su, Sitka, and Wrangell-Petersburg. It should be noted that these hatchery fish are not just benefiting commercial fisherman. According to the McDowell Group, almost 700,000 PWSAC sockeye salmon were harvested in subsistence and personal use fisheries between 1999 and 2011, with 73% of these fish going to residents of Anchorage, Fairbanks North Star Borough, and the Matanuska-Susitna Borough. Further, VFDA hatchery production accounts for 75% of all coho and 90% of all pink salmon caught by sport fish anglers in the Valdez area, and the total sport fish economic output for VFDA is estimated at \$6.6 million annually.

VFDA estimates that a 20-million green egg reduction at SGH as requested by ACR 1 would result in a loss of over \$1.7 million annually to PWS common property fisheries. Further, if the board were to follow ACR 2's recommendations, it would result in significant losses to commercial salmon fisheries in both PWS and Southeast Alaska. For example, this would reduce PWS pink salmon production by approximately 291 million eggs relative to 2018 production, chum salmon by another 70 million eggs, sockeye salmon by 5.26 million eggs, and coho salmon by just under 800,000 eggs. Using some basic assumptions, this would result in a loss of up to \$50 million annually to common property fisheries in PWS, with similarly catastrophic impacts for regional communities, processors, and supporting industries. Much of the same could be expected for Southeast Alaska as well, despite little justification having been provided in support of ACR 2 by its proposer.

PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,

Date:

9/30/18

Fisherman:

Dawn Renner

Fishing Vessel:

F/V Shadow Dawn

Homeport:

Cordova

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,

Dawn M Renner

Date: 10/3/18
Fisherman: Diana Riedel
Fishing Vessel: Elva Rae
Homeport: Cordova, AK

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,

Diana R Riedel

Date: 10/3/18
Fisherman: GENE WOODEN
Fishing Vessel: BEAR CAPE
Homeport: CORDOVA, A.K.

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

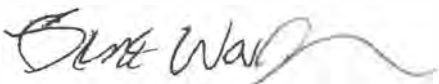
I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

Hatchery programs are economic drivers for Alaskan communities. Studies have shown that 74% of VFDA's commercial salmon harvest value goes to Alaskan residents, with 37% going to residents of Cordova and Valdez, 23% to the Kenai Peninsula, 9% to residents of Anchorage, and 4% combined to residents from Kodiak, Mat-Su, Sitka, and Wrangell-Petersburg. It should be noted that these hatchery fish are not just benefiting commercial fisherman. According to the McDowell Group, almost 700,000 PWSAC sockeye salmon were harvested in subsistence and personal use fisheries between 1999 and 2011, with 73% of these fish going to residents of Anchorage, Fairbanks North Star Borough, and the Matanuska-Susitna Borough. Further, VFDA hatchery production accounts for 75% of all coho and 90% of all pink salmon caught by sport fish anglers in the Valdez area, and the total sport fish economic output for VFDA is estimated at \$6.6 million annually.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,

- 

Date: 10-3-2018
Fisherman: Glenn Brodtkin
Fishing Vessel: Jensen K
Homeport: Cordova AK

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed, Glenn D. Brodtkin

Date: 9/30/2018

Fisherman: John Penner

Fishing Vessel: FV SHADOW DAWN

Homeport: CORDOVA

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,



Date: 10/3/18
Fisherman: Kenneth Renner
Fishing Vessel: Elora Rae
Homeport: Cordova, AK

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,



Date: October 3rd 2018
Fisherman: KILEY BURTON
Fishing Vessel: FV CRICKET
Homeport: Cordova Alaska

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,

A handwritten signature in black ink, appearing to read "Kiley Burton", written in a cursive style.

Date: 10-2-18
Fisherman: Kory Blake
Fishing Vessel: Crystal Falls
Homeport: Cordova, AK

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed, 

Date: 10-3-18

Fisherman: Nick Merritt

Fishing Vessel: Mad Milla

Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,



Date: 10/31/18
Fisherman: Raymond Renner
Fishing Vessel: Mad Bay
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,



Date: 3 Oct 2018
Fisherman: Robert Beedle
Fishing Vessel: Cedar Bay
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed, 

P.O Box 12412

CDU ALASKA
99574

Cell 907-429-7207

Date: 10/03/18
Fisherman: Ronald Blake
Fishing Vessel: ACE
Homeport: Cordova Alaska

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,



Date: October 3, 2018
Fisherman: Shawna BLAKE
Fishing Vessel: Crystal Falls
Homeport: Cordova, AK

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,

Shawna Blake

Date: 3 OCT 2012

Fisherman: TAYLOR KEMBAROW

Fishing Vessel: F/V AMULET

Homeport: CORDOVA

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,

A handwritten signature in dark ink, appearing to be 'M. Jensen', followed by a long horizontal line extending to the right.

Date: 10-3-18
Fisherman: Tim Dillon
Fishing Vessel: Smoky Point
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

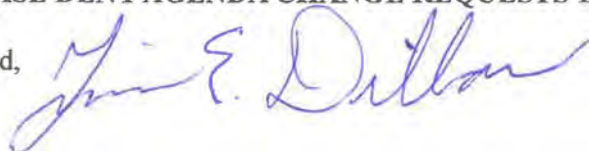
I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

Hatchery programs are economic drivers for Alaskan communities. Studies have shown that 74% of VFDA's commercial salmon harvest value goes to Alaskan residents, with 37% going to residents of Cordova and Valdez, 23% to the Kenai Peninsula, 9% to residents of Anchorage, and 4% combined to residents from Kodiak, Mat-Su, Sitka, and Wrangell-Petersburg. It should be noted that these hatchery fish are not just benefiting commercial fisherman. According to the McDowell Group, almost 700,000 PWSAC sockeye salmon were harvested in subsistence and personal use fisheries between 1999 and 2011, with 73% of these fish going to residents of Anchorage, Fairbanks North Star Borough, and the Matanuska-Susitna Borough. Further, VFDA hatchery production accounts for 75% of all coho and 90% of all pink salmon caught by sport fish anglers in the Valdez area, and the total sport fish economic output for VFDA is estimated at \$6.6 million annually.

VFDA estimates that a 20-million green egg reduction at SGH as requested by ACR 1 would result in a loss of over \$1.7 million annually to PWS common property fisheries. Further, if the board were to follow ACR 2'S recommendations, it would result in significant losses to commercial salmon fisheries in both PWS and Southeast Alaska. For example, this would reduce PWS pink salmon production by approximately 291 million eggs relative to 2018 production, chum salmon by another 70 million eggs, sockeye salmon by 5.26 million eggs, and coho salmon by just under 800,000 eggs. Using some basic assumptions, this would result in a loss of up to \$50 million annually to common property fisheries in PWS, with similarly catastrophic impacts for regional communities, processors, and supporting industries. Much of the same could be expected for Southeast Alaska as well, despite little justification having been provided in support of ACR 2 by its proposer.

PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,



Date: 10-3-18
Fisherman: Tim Dillon
Fishing Vessel: new roots
Homeport: Cordova, AK

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,



Date: 10-3-2018

Fisherman: Nesley Thompson

Fishing Vessel: Ace

Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

Dear Chairman Jensen and Board of Fisheries Members:

I am a commercial fisherman in Prince William Sound and depend on the area's commercial salmon fishery for my family's livelihood. 1,500 active salmon permit holders and their crew would not be able to make a living in PWS without hatchery production. Studies have shown that VFDA salmon account for 30% of PWS seiners' annual average gross earnings, while PWS seiners and gillnetters derive 64% of their gross earnings from harvesting PWSAC salmon. On many years in PWS, there would not be much fish at all if it weren't for the hatcheries.

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PLEASE DENY AGENDA CHANGE REQUESTS 1 AND 2.

Signed,

A handwritten signature in dark ink, appearing to read 'Wesley Thompson', with a long horizontal line extending to the right.



Date: 10/3/18
Fisherman: William M. Srb
Fishing Vessel: Jennifer Lynn
Homeport: Cordova

To: Alaska Board of Fisheries

RE: Comments on hatchery-related ACRs

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