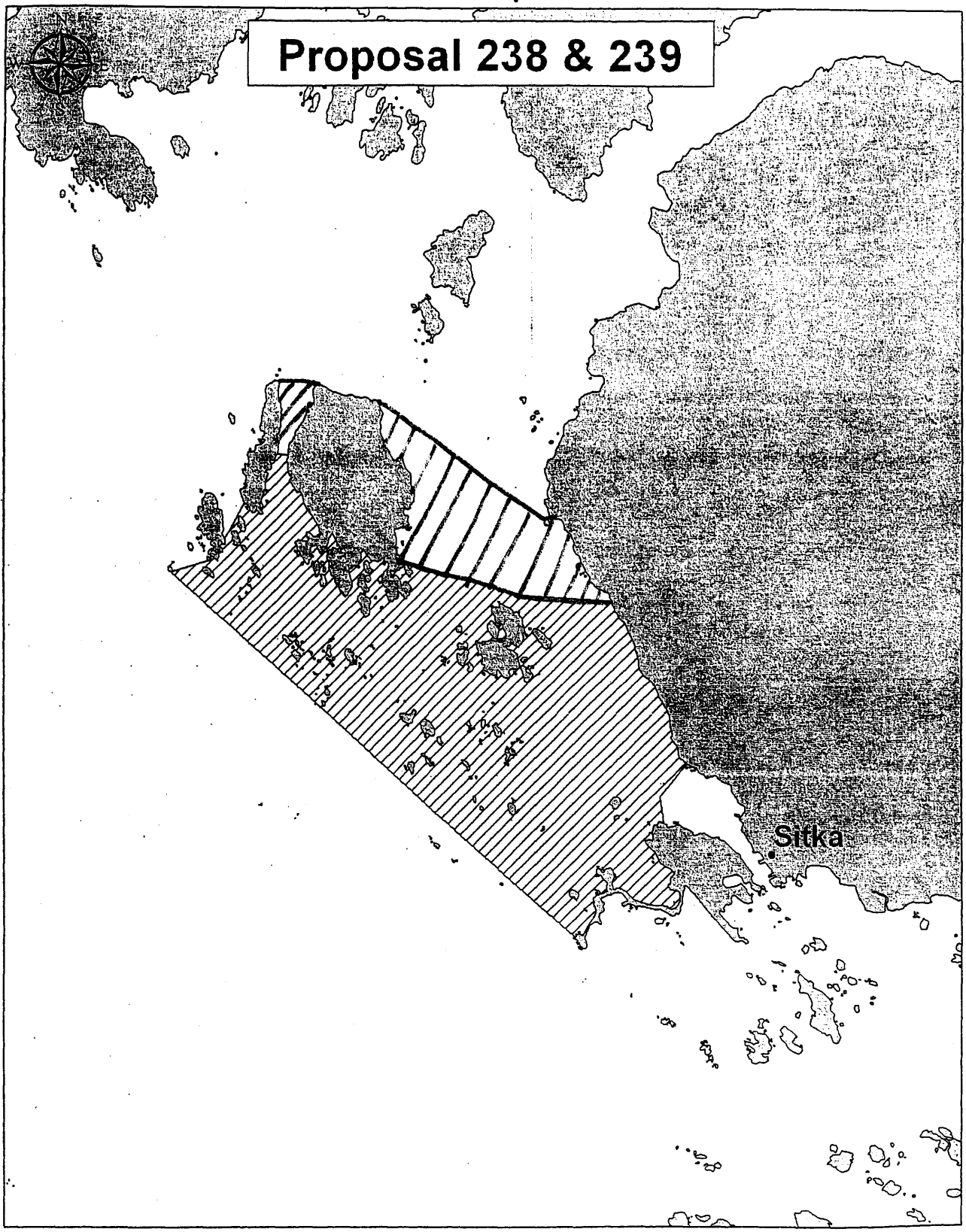


RC |||

From STA

**Proposal 238 & 239**



0 0.5 1 2 3 4 5 Nautical Miles

The Sitka Tribe proposes to amend the northern boundary of the of the subsistence zone proposed by Board Member Webster. This boundary would run from Magic Island to northern Middle Island and would include all of Crow Pass.

If 20% of the active harvesters in any given year say their subsistence needs where not met, the following the year the subsistence zone boundaries would be equal to those proposed in 238. The subsistence harvester survey data would be used to determine if the 20 % criteria has been met.

No commercial activity associated with the herring sac roe fishery (ADF&G test setting, the deployment of any commercial gear, etc.) would be allowed to take place within the subsistence zone.

RC112

9:30 AM / 2/29/12

TO: AK. BOF

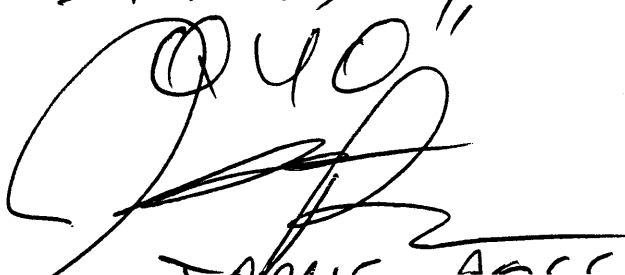
FROM: JAMIE ROSS, REP. OF AK. HER. SEINE.  
ASS.

RE: | PROPOSALS 236 + 237 |

BASED ON PUBLIC + DEPT. COMMENTS  
~~DURING~~ COMMITTEE WORK, AND  
BASED ON THE RESULTS OF  
THE BOARDS DECISIONS ON  
PREVIOUS HERRING PROPOSALS,  
WE WOULD LIKE TO WITHDRAW  
SUPPORT OF PROPOSALS 236 + 237

AND MAINTAIN "STAYS

THANK YOU VERY  
MUCH! SINCERELY

Q40"  
  
Jamie Ross

Substitute language for RC 22:

(b) A herring purse seine may not be more than 1,700 meshes in depth, except that for District 4, Section 3-B, and Section 12-A, the commissioner may, by emergency order, open a purse seine herring fishery during which a herring purse seine may not be more than 2,200 [2,125] meshes in depth.

I am submitting this as a solution for a need for Bait Herring. I would like this to be used as a tool to ~~harvest~~ harvest a quota that is not being taken to its full potential in a efficient manner. You can choose to fish a net of any size. This is simply a idea to try and make this a efficient and dependable use of the resource.

Just Rule

RC114

**NORTHERN**



**SOUTHEAST REGIONAL AQUACULTURE ASSOCIATION, INC.**

(907) 747-6850  
FAX (907) 747-1470  
EMAIL [steve\\_reifenstuhl@nsraa.org](mailto:steve_reifenstuhl@nsraa.org)

1308 Sawmill Creek Road Sitka, Alaska 99835

February 29, 2012

**Board of Fisheries**

**Re: Withdraw Proposal 328 Broodstock Capture Device**

Dear Chairman Johnstone and Board of Fish Members:

Northern Southeast Regional Aquaculture Association (NSRAA) requests withdrawal of proposal 328, operating floating weirs in Hidden Falls and Deep Inlet Special Harvest Areas. Based on Department of Law comments in memorandum to Alaska Board of Fisheries dated February 21, 2011 (*sic*) page 4, the operation of a broodstock capture device would be defined under AS 16.10.070 and AS 16.10.100 and therefore illegal in State waters.

Thank you for your consideration.

Sincerely,

Steve Reifenstuhl  
General Manager  
Northern Southeast Regional Aquaculture Assoc.

Alaska Board of Fisheries  
Committee Summary

## COMMITTEE A

### HERRING/GROUNDFISH

#### SOUTHEAST AND YAKUTAT FINFISH

February 29, 2012

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Board Committee Members:

1. Bill Brown (chair)
2. Sue Jeffrey
3. John Jensen

Alaska Department of Fish and Game Staff Members:

1. Forrest Bowers – FBIV, Division of Commercial Fisheries
2. Bob Chadwick – FBIV, Division of Sport Fish
3. Eric Coonradt – FBII, Division of Commercial Fisheries
4. Patrick Fowler - FBII, Division of Sport Fish
5. Dave Gordon – FBIII, Division of Commercial Fisheries
6. Kristen Green – FBIII, Division of Commercial Fisheries
7. Kyle Hebert – FBIV, Division of Commercial Fisheries
8. Davin Holen – Regional Manager, Division of Subsistence
9. Scott Kelley – Regional Supervisor, Division of Commercial Fisheries
10. Tom Kowalski – FBII, Division of Commercial Fisheries
11. Lisa Olson – Deputy Director, Division of Subsistence
12. Kelly Piazza - FBIII, Division of Sport Fish
13. James Shewmake – Graduate Intern, Division of Subsistence
14. Jennifer Stahl – FBII, Division of Commercial Fisheries
15. Daniel Teske – FBII, Division of Sport Fish
16. Troy Thynes – FBIII, Division of Commercial Fisheries
17. Troy Tydingco - FBIII, Division of Sport Fish
18. Mike Vaughn – FBII, Division of Commercial Fisheries
19. Scott Walker – FBIII, Division of Commercial Fisheries

Alaska Wildlife Troopers

1. Lt. Steve Hall
2. Lt. Tory Oleck

## Advisory Committee Members: (only those representing committees in committee)

1. Petersburg AC, Arnold Enge
2. Sitka AC, John Murray
3. Yakutat AC, Casey Mapes

## Public Panel Members:

1. Randy Lantiegne - Iccle Seafoods - Processor
2. Ed Hansen – Southeast Alaska Fishermen’s Alliance (SEAFSA) - Commercial
3. Julianne Curry – Petersburg Vessel Owner’s Association (PVOA) - Commercial
4. Steve Reifentstahl – Sitka Herring Conservation Alliance (SHCA) - Commercial
5. John Murray – Self - Commercial
6. John Baird – NPPI - Processor
7. Jamie Ross – Seiner -Commercial
8. Nick Johanson – Seiner - Commercial
9. John Carle – roe on kelp (ROK) - Commercial
10. Larry Demmert – Seiner - Commercial
11. Beaver Nelson – Seiner - Commercial
12. Troy Denkinger - Silver Bay Seafoods - Processor
13. Kevin Kristonvich – Gillnet - Commercial
14. Gary Haynes - Herring Pound - Commercial
15. Donald Westlund - Sport
16. Justin Peeler - Bait Herring - Commercial
17. Ron Porter – EC Phillips (ECP) - Processor
18. Chip Treinen - Seiner – Commercial
19. Linda Behnken – Alaska Longline Fisherman’s Association (ALFA) - Commercial

## Federal Subsistence Representative:

None.

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The Committee met February 29, 2012 at 8:20 a.m. and adjourned at 11:15 a.m.

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PROPOSALS BEFORE THE COMMITTEE WERE: (26 total) 141-144, 199, 200, 208, 209, 213-215, 218, 223-229, 236, 237, 240, 241, 243, 244, and 271,

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**PROPOSAL 225 – 5 AAC 27.130. Lawful Gear for Southeastern Alaska Area.**

**Comment Summary:**

Department:  
None.

Department of Law:  
None.

Alaska Wildlife Troopers:  
None.

**Public Panel Comments:**

- Proposers believe the proposed gear configuration will reduce stress on the herring.
- It's believed the proposal will reduce the number of anchors on the ground.

**Public Panel Recommendation:** Consensus to support with substitute language contained in RC 126.



**PROPOSAL 226 – 5 AAC 27.185. Management Plan for Herring Spawn on Kelp in Pound Fisheries in Sections 3-B, 12-A, and 13-C, and District 7.**

**Comment Summary:**

Department:

- The department's intent was for someone to take responsibility for getting all gear associated with the fishery out of the water.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- Concern was expressed regarding tow pound marking requirements and a public member suggested one ADF&G number making one permit holder take responsibility.
- Petersburg AC and other public members were concerned with the difficulty involved in removing the anchors.
- Allowing an Army Corps of Engineers permit for the anchors would allow for off-season mooring.
- Concern was expressed that if mooring buoys were allowed they could become numerous.
- Concerns were expressed with the in-water dates suggested in the proposal, to avoid conflict with other fisheries.
- Other groups respect the historic location of neighboring group pounds.
- The marking of everyone's names on the floating structure is cumbersome. One permit holder taking responsibility should be sufficient.

**Public Panel Recommendation:** Consensus to support with substitute language contained in RC 127.

**PROPOSALS 228 and 229 – 5 AAC 27.131. Gillnet Specifications and Operations for Southeastern Alaska Area.**

**Comment Summary:**

Department:  
None.

Department of Law:  
None.

Alaska Wildlife Troopers:  
None.

**Public Panel Comments:**

- With the inconsistent abundance we have seen in this area, it seems wrong to harvest the small fish.
- This year the percent of small fish is high so the current legal gear would not allow successful harvest of the GHL.

**Public Panel Recommendation:** No Consensus.

**PROPOSAL 227 – 5 AAC 27.197. Sections 1-E and 1-F Commercial Sac Roe Herring Fishery.**

**Comment Summary:**

Department:  
None.

Department of Law:  
None.

Alaska Wildlife Troopers:  
None.

Public Panel Comments:  
None.

**Public Panel Recommendation:** Consensus to support.

**PROPOSALS 236 and 237 – 5 AAC 27.132. Seine Specifications and Operations for Southeastern Alaska.****Comment Summary:**

## Department:

- This proposal may favor faster shallow draft boats.
- This proposal may also make it more difficult to harvest herring in the early season when fish are flighty.
- Many of the fleet has two nets, shallow and deep.

## Department of Law:

None.

## Alaska Wildlife Troopers:

None.

## Public Panel Comments:

- This proposal would force permit holders fish in the shallows, destroying habitat.
- The proposals intent was to slow the pace of the fishery; a 1,025 meshes net is still fairly large so permit holders will not be fishing in the spawn. The proposal is also intended to provide more time and area for the fishery.
- Having options between nets is important to getting quality fish.
- The 200 fathom nets are incredibly large: a 200 fathom net needs 3-4 boats to block that area so some permit holders favor the 150-fathom net.
- This proposal would also have an impact on the subsistence harvesters.
- This proposal was submitted as an option for the board to resolve a perceived problem instead of an equal quota share fishery.
- This will not reduce conflict; it would increase the chaos by condensing all of the fleet in shallow waters.
- By reducing the net length additional area is opened for increased opportunity.

**Public Panel Recommendation:** No Consensus.

**PROPOSAL 240 – 5 AAC 27.160. Quotas and Guideline Harvest Levels for Southeastern Alaska Area.**

**Comment Summary:**

Department:  
None.

Department of Law:  
None.

Alaska Wildlife Troopers:  
None.

**Public Panel Comments:**

- Proposer has withdrawn support.
- RC 22 provides an option to addresses this problem.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 241 – 5 AAC 27.160. Quotas and Guideline Harvest Levels for Southeastern Alaska Area.****Comment Summary:**

Department:  
None.

Department of Law:  
None.

Alaska Wildlife Troopers:  
None.

**Public Panel Comments:**

- The herring are very small in this area and it seems that if bait isn't being taken then it should be given to another gear group.
- Once you take an opportunity away from one gear group, you typically never get it back.
- If the bait fishery doesn't harvest the GHL, the gillnetters get it anyway.
- There is a worldwide shortage of bait and it would be nice to keep options open.

**Public Panel Recommendation:** No consensus.

**PROPOSALS 243 and 244 – 5 AAC 27.197. Sections 1-E and 1-F Commercial Sac Roe Herring Fishery.**

**Comment Summary:**

Department:

None.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

**Public Panel Comments:**

- This proposal is a gillnet allocation fish grab.
- This proposal provides for a consistent fishery gillnetters; this area should have remained a gillnet sac roe fishery to preserve the gillnet opportunity.
- The current management plan required two gear groups to come together in the spirit of cooperation and it was time consuming; maintaining that is important.
- Gear selectivity skews the population; however, gillnet fisheries typically provide a higher quality product.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 141 –5 AAC 47.021. Special provisions for seasons, bag, possession, and size limits, and methods and means for the salt waters of Southeast Alaska Area; and 5 AAC 77.6XX.** Prohibit fishing for bottomfish and shellfish near Cache Island by all users.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

None.

**Public Panel Recommendation:** Consensus to oppose.



**PROPOSAL 142 – 5 AAC 47.021. Special provisions for seasons, bag, possession, and size limits, and methods and means for the salt waters of Southeast Alaska Area.** Prohibit nonresidents from fishing for bottomfish and shellfish in a portion of Behm Canal.

Proposal 142, 143, and 144 taken up together.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

None.

**Public Panel Recommendation:** Consensus to oppose.

**PROPOSAL 143 – 5 AAC 47.021. Special provisions for seasons, bag, possession, and size limits, and methods and means for the salt waters of Southeast Alaska Area.** Prohibit nonresidents from fishing for bottomfish and shellfish near Naha Bay.

Proposal 142, 143, and 144 taken up together.

**Comment Summary:**

Department:

Department of Law:

Alaska Wildlife Troopers:

Public Panel Comments:

**Public Panel Recommendation:** See proposal 142.

**PROPOSAL 144 – 5 AAC 47.021. Special provisions for seasons, bag, possession, and size limits, and methods and means for the salt waters of Southeast Alaska Area.** Prohibit nonresidents from fishing for bottomfish and shellfish near Cedar Island.

Proposal 142, 143, and 144 taken up together.

**Comment Summary:**

Department:

Department of Law:

Alaska Wildlife Troopers:

Public Panel Comments:

**Public Panel Recommendation:** See proposal 142.

**PROPOSAL 200 – 5 AAC 28.190. Harvest of bait by commercial permit holders in Eastern Gulf of Alaska Area.** Clarify use of post-processed and reported commercial fish as bait.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- Concern that people will use fish that is not processed and not reported on a fish ticket for bait.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 208 – 5 AAC 28.XXX. Pacific cod fishing seasons for Eastern Gulf of Alaska Area.** Establish commercial fishing seasons for Pacific cod for the Eastern Gulf of Alaska Area.

Proposals 208 and 209 taken up together.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- Good to streamline and clarify regulations.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 209 – 5 AAC 28.XXX. Black rockfish fishing seasons for Eastern Gulf of Alaska Area.** Establish commercial fishing seasons for black rockfish for the Eastern Gulf of Alaska Area.

Proposals 208 and 209 taken up together.

**Comment Summary:**

Department:

Department of Law:

Alaska Wildlife Troopers:

Public Panel Comments:

**Public Panel Recommendation:** See proposal 208.

**PROPOSAL 213 – 5 AAC 47.020. General provisions for seasons and bag, possession, annual, and size limits for the salt waters of the Southeast Alaska Area.** Establish a point system for retention of rockfish.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- Concern that fishermen could high-grade by releasing fish using deep-water release device.
- Intent of proposal is to give sport fishermen more flexibility on stocks that are not of concern if more fish available or fishermen catching underutilized rockfish species.
- Concern that this would put more pressure on yelloweye rockfish.
- Relies on fishermen being able to identify rockfish species.

**Public Panel Recommendation:** None.

**PROPOSAL 214 – 5 AAC 28.170. Sablefish possession and landing requirements for Eastern Gulf of Alaska Area.** Standardize sablefish retention and reporting requirements in regulation.

**Comment Summary:**

Department:

- Would provide consistent regulations between northern and southern regions.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- ALFA in support.

**Public Panel Recommendation:** Consensus to support.



**PROPOSAL 215 – 5 AAC 28.110. Sablefish fishing seasons for Eastern Gulf of Alaska Area.**

Amend the sablefish fishing season to allow permit holders to participate in stock assessment surveys.

**Comment Summary:**

## Department:

- Will reduce the volume of survey removals by allowing sablefish caught on the department survey to be landed on a commercial EQS permit.

## Department of Law:

None.

## Alaska Wildlife Troopers:

None.

## Public Panel Comments:

- ALFA supports because this will reduce survey take of sablefish and provides department additional flexibility.
- Would benefit sablefish longline permit holders.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 271 – 5 AAC 28.180. Prohibitions for Eastern Gulf of Alaska Area. and 5AAC 01.715. Limitations on participation in subsistence finfish fisheries.** Clarify prohibitions to commercial, subsistence, and personal use fishing by commercial sablefish permit holders.

**Comment Summary:**

Department:

- Would eliminate confusion on when prohibitions against subsistence and personal use fishing apply to sablefish permit holders.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- ALFA supports.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 199 – 5 AAC 28.106. Eastern Gulf of Alaska Area Registration.** Amend groundfish area regulation to specify registration by vessel.

**Comment Summary:**

Department:

- Clarified that intent of board originally was to create a local fishery for Yakutat residents.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- ALFA supports because fishermen are circumventing regulation by having multiple permit holders on vessel.
- Concern that if the multiple permit holders on a vessel are family members they would need a separate vessel to fish in multiple areas.
- Yakutat AC unanimously supports.
- Superexclusive designation intent is to prevent harvesting by vessel in multiple areas. However, some vessels have multiple permit holders registered for areas and exploit a loophole in current regulation. May fish in one management area with one permit holder registration and then go to another management area with other permit holder registration.
- Sitka AC - Loophole hurts local Yakutat fishermen who need access to fish in their area. Boats that have multiple permit holders registered in multiple areas are generally not local boats, but are freezer boats.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 218 – 5 AAC 28.150. Closed waters in Eastern Gulf of Alaska Area.** Allow for retention of lingcod bycatch in other commercial fisheries.

**Comment Summary:**

Department:

- Currently, do not collect lingcod harvest information by latitude and longitude for any of the current user groups inside the LAMP, so difficult to determine if there is localized depletion; however, the department would be able to track lingcod harvest in the LAMP.
- Lingcod have high survival if released immediately.
- Clarification of regulation that Sitka Sound is only closed to taking of lingcod in Sitka LAMP. No prohibition to transit though Sitka LAMP with lingcod on board.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- Sitka AC - Trollers fish in and out of Sitka LAMP; if troll across Sitka LAMP line then illegal to retain lingcod and have on board.
- Sitka AC - Only a small amount of lingcod bycatch currently occurs in the king salmon fishery near the Sitka LAMP; this fishery only has a July and August opening.
- Sitka AC - Lingcod bycatch occurs when trolling for king salmon due to the proximity of fishing near the bottom; however, when trolling for coho salmon, which is not near the bottom, then very little lingcod bycatch occurs.
- Proposer stated that the intent of proposal was to streamline the prosecution of the troll fishery. Would withdraw proposal if it creates a conservation concern.
- Sitka AC -Fishermen shake lingcod when cross Sitka LAMP line, because unclear of current regulations within Sitka LAMP.
- ALFA supports because guideline harvest range of lingcod is for entire management area and is already allocated. Proposal does not change allocation, but would allow take in Sitka LAMP.
- Concern that to change lingcod retention in the Sitka LAMP, all LAMP users should be involved.
- LAMP development was related to halibut.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 223 – 5 AAC 28.130. Lawful gear for Eastern Gulf of Alaska Area.** Clarify dinglebar gear in the lingcod fishery allowing for only one line.

**Comment Summary:**

Department:

- About 8 to 12 hooks are generally used with dinglebar; however, there are no limits on the number of hooks. Fishermen do not use a large number of hooks because the gear would be unwieldy and gear loss could occur. If a fisherman used 15 to 20 hooks, then it would be difficult to pull in gear if all hooks caught lingcod.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- Yakutat AC is in unanimous support. They do not believe there is any confusion in the fleet; the fishermen that are operating multiple lines are taking advantage of a loophole, which is an unfair disadvantage to the fishermen that are operating only one line.
- Sitka AC unanimously supports and felt that this was a loophole.
- Fisherman talked with enforcement and was told that once the dinglebar is attached to second line then line is being operated.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 224 – 5 AAC 28.190. Harvest of bait by commercial permit holders in Eastern Gulf of Alaska Area.** Allow lingcod to be used as commercial bait.

**Comment Summary:**

Department:

- In 2003 board made it illegal to use lingcod as bait.

Department of Law:

None.

Alaska Wildlife Troopers:

None.

Public Panel Comments:

- Sitka AC unanimously opposed and felt it should be illegal to use lingcod as bait.

**Public Panel Recommendation:** Consensus to oppose.

Alaska Board of Fisheries  
Committee Summary

## COMMITTEE B

### SALMON NET/TROLL

#### SOUTHEAST AND YAKUTAT FINFISH

February 29, 2012

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Board Committee Members:

1. Mike Smith, (chair)
2. Tom Kluberton
3. Vince Webster

Alaska Department of Fish and Game Staff Members:

1. Bill Davidson – FBIV, Commercial Fisheries
2. Bo Meredith – FBII, Commercial Fisheries
3. Gordie Woods – FBIII, Commercial Fisheries
4. Grant Hagerman – FBII, Commercial Fisheries
5. Kevin Monagle – FBIII, Commercial Fisheries
6. Malika Brunette – FBII, Commercial Fisheries
7. Pattie Skannes – FBIII, Commercial Fisheries
8. Brian Frenette – Regional Supervisor, Sport Fish
9. Nicole Zeiser – FBI, Commercial Fish
10. Dave Harris – FBII, Commercial Fish
11. Flip Pryor – FBIII, Commercial Fish
12. Leon Shaul – FBIII Commercial Fish
13. Ed Jones – FBIII, Sport Fish
14. Meredith Marchioni – Subsistence Research Specialist
15. Roger Harding – FBIII, Sport Fish
16. Steve Heintz – FBIV, Commercial Fish
17. Tom Brookover – Deputy Director, Sport Fish
18. Al Cain – Enforcement Specialist
19. Craig Farrington – CFEC
20. Peter Froehlich – CFEC, Commissioner

Department of Law

1. Mike Mitchell – AG

## Alaska Wildlife Troopers:

None.

## Advisory Committee Members (AC): (only those representing committees in committee)

1. John Scoblic – Ketchikan AC
2. Tom Sims – Wrangell AC
3. John Murray – Sitka AC
4. Mike Peterson – Juneau/Douglas AC
5. Casey Mapes – Yakutat AC

## Public Panel Members:

1. Bob Thorstenson – Southeast Alaska Seiners Association (SEAS)
2. Bill Auger – United Southeast Alaska Gillnetters Association (USAG)
3. Max Worhatch – Gillnet
4. Eric Jordan – Chum Trollers Association (CTA)
5. Tom Gemmell – USAG
6. Bruce Wallace – self
7. Dan Ernhart – Tsiu River Sportfish Coalition
8. Dale Kelley – Alaska Trollers Association (ATA)
9. Steve Merritt – Troller
10. Dave Otte – Troll/Self/ATA
11. Kathy Hansen – Southeast Alaska Fishermans Alliance (SEAFSA)
12. Tom Fisher – Troller
13. John Burke – SSRAA
14. Chris Guggenbickler – Self
15. Julianne Curry – Petersburg Vessel Owners Association (PVOA)

## Federal Subsistence Representative:

None

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The Committee met February 29, 2012 at 8:30 a.m. and adjourned at 2:50 p.m.

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PROPOSALS BEFORE THE COMMITTEE WERE: (26 total) 307, 309-319, 321, 322, 287, 288, 294, 292, 293, 299, 300, 302-306.

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**PROPOSAL 307 – 5 AAC 29.120. Gear Specifications and Operations.** Allow downriggers in the commercial hand troll fishery year round.

**Comment Summary:**

Department:

- Hand troll effort and percent of harvest has increased over the last 10 years during the spring fisheries.
- Increasing efficiency of gear would increase harvest and is allocative.
- This makes it more difficult and labor intensive to distinguish guided sport from commercial hand troll, requiring an increased frequency of enforcement contacts.

Department of Law:

None.

Public Panel Comments:

- Sitka AC indicated this proposal was submitted to benefit the physically impaired.
- Reducing the number of hooks in the water will lower the hand troll efficiency by converting from gurdies to fishing poles.
- Both Wrangell and Ketchikan ACs opposed this proposal as it would be hard to distinguish between commercial hand troll and sport fishing gear.
- Takes out peer enforcement of the fishery.
- SEAFA indicated the board limited this same proposal to apply to the winter fishery only during the 2006 board cycle.
- ATA suggested postponing action so that this can be worked out within the troll fleet.

Public Panel Recommendation: No consensus.

**PROPOSAL 309 – 5 AAC 29.120. Gear Specifications and Operations.** Allow four hand troll gurdies in the summer troll fishery following the initial king salmon retention period.

**Comment Summary:**

Department:

- This allows trollers to have spare rods on board and enforcement supports allowing trollers to have spare rods on board year-round.
- The department clarified that there is no opposition to allowing extra units of gear on board year-round, including the initial king salmon retention period.

Department of Law:

None.

Public Panel Comments:

- Chum Trollers Association is in strong support of this.
- Sitka AC was in full support.
- Both the Wrangell and Ketchikan ACs were originally opposed, but after hearing the public comments during committee, may not have fully understood the intent of the proposal and is now in support.
- It was proposed to allow extra units to be on board year round.

**Public Panel Recommendation:** Consensus to support with substitute language contained in RC 145.

**PROPOSAL 310 – 5 AAC 29.080. Management of the Winter Salmon Troll Fishery.**  
Amend the winter king salmon guideline harvest level (GHL) by adding Alaska hatchery-produced king salmon to the 45,000 fish GHL.

**Comment Summary:**

Department:

- Summer harvest rates can reach 7,000-8,000 king salmon per day.
- As much as a quarter of the winter harvest occurs during last two weeks of winter.
- The department would have to estimate inseason, based on current Alaska hatchery percents, how many additional fishing days to add.

Department of Law:

None.

Public Panel Comments:

- Wrangell AC supported the Chinook Salmon Task Force decision that limited fish harvested in winter in order to reduce incidental king salmon mortality in summer
- Additional days in winter benefits trollers fishing in Sitka and Yakutat, where the majority of the winter harvest is taken.
- Juneau AC feels this would decrease fishing time for Juneau trollers in summer.
- The troll fleet needs to revisit the season harvest patterns of king salmon, and discuss season allocations.
- Chum Trollers Association supported this proposal, but feels the troll fleet should convene and discuss alternatives before presenting a proposal to the board.
- Department staff can respond quickly to coded-wire-tag data during winter, and has the ability to manage inseason.
- Ketchikan AC felt that the current winter troll management plan is working.
- Sitka AC supported harvesting these king salmon in winter, at a time when the market value for these fish is higher than summer.
- With the winter troll Alaska hatchery harvest deducted during the summer fishery, winter trollers are penalized for catching Alaska hatchery king salmon in winter.
- Task Force decision was made before significant Alaska hatchery king salmon were being produced.
- ATA indicated the king salmon Task Force reduced 10 days from the beginning date of winter troll to help control the winter harvest and reduce the summer fishery incidental king salmon mortality.
- SEAFSA did not feel the king salmon coded-wire-tag sampling program would be timely enough to manage inseason for winter Alaska hatchery fish.
- Yakutat AC thought winter trollers should get credit for Alaska hatchery fish during the fishery in which they were harvested.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 311 – 5 AAC 29.110. Management of Coho Salmon Troll Fishery.** Change the beginning date for coho salmon retention in the spring king salmon fishery from June 15 to June 1.

**Comment Summary:**

Department:

- This would open all spring troll areas for coho retention, and is not limited to areas near release sites.

Department of Law:

None.

Public Panel Comments:

- ATA indicated trollers would like additional access to the early summer-run Neck Lake fish.
- Currently, trollers must release all coho before June 15, foregoing a valuable harvest opportunity.
- Sitka and Yakutat ACs supported accessing these early-run hatchery coho, which were not present 15 years ago.
- Juneau AC stated the spring troll coho harvest is a small percentage, less than 0.5 %, of the annual troll harvest.
- Wrangell AC felt the department should consider opening the hatchery corridors for these fish rather than all waters of the region.
- Joint Regional Planning Team (JRPT) supported the opportunity for trollers to access these fish and the potential to bring them closer to their enhanced allocation range.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 312 – 5 AAC 29.110. Management of Coho Salmon Troll Fishery.** Require a 10-day mid-August troll closure for conservation and allocation, based on the department's midseason assessment, and a seven-day closure in late July if the projected wild commercial coho salmon harvest is less than 1.1 million fish.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- USAG pulled support for proposal in RC 67.
- Support for the proposal to be withdrawn.

**Public Panel Recommendation:** Consensus to support withdrawal.

**PROPOSAL 313 – 5 AAC 29.110. Management of Coho Salmon Troll Fishery.** Change the closure date of the troll fishery from September 20 to September 30.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- Support for the proposal to be withdrawn in RC 67.

**Public Panel Recommendation:** Consensus to support withdrawal.

**PROPOSAL 314 – 5 AAC 29.100. Management of the Summer Salmon Troll Fishery; and 5 AAC 29.110. Management of Coho Salmon Troll Fishery.** Allow trolling in portions of districts 1, 6, and 8 after the general summer troll season closes, but no later than September 30. If a portion of a district is open to drift gillnet gear in a given statistical week, those same waters would be open to troll gear for that entire week.

**Comment Summary:**

Department

- This is an allocative situation and is not as much about hatchery fish as it is about harvesting additional coho.
- Current allocation proportions indicate troll is above its allocation, while gillnet is also above its Southeast wide wild coho allocation.
- Gillnet fishery is not managed for hatchery fish, rather for available wild stock surplus.
- The department could potentially liberalize late season openings by district or portions of districts based on decreasing exploitation rates.
- This is a highly mixed stock fishery, and differs from other areas proposed to open late in the season, where the potential to harvest individual stocks increases.
- Coho run sizes around the region have decreased, but due to reduced exploitation rates, run sizes have had increased escapements.
- The department has EO authority to extend the summer troll fishery past September 20, and has done so 10 of the last 18 years.
- In a given year, if the department has no wild stock concerns, a district or portion of a district may be extended past September 20.

Department of Law:

None.

Public Panel Comments:

- The gillnet hatchery coho harvest in District 8 has been low, and has developed into a hatchery fishery in a mixed stock area.
- Effort in this area is anticipated to be low at this time of year, as most trollers are done for the season.
- If a seven-day-a-week opening is excessive, trollers may be willing to compromise on an alternate weekly fishery extension length.
- During low abundance years, there would be wild stock concerns in a seven-day-a-week fishery.
- Wrangell AC indicated trollers have access to these fish during years the summer fishery is extended; the management plan does not need to be changed to access these fall coho.
- Ketchikan AC thought this fishery would help bring trollers closer to the enhanced allocation range, but would also increase wild coho harvest.
- ATA indicated wild stocks might be able to handle additional pressure if commercial exploitation rates have decreased.

**Public Panel Recommendation:** No consensus. Substitute language requested and provided in RC 146.

**PROPOSAL 315 – 5 AAC 29.100. Management of the Summer Salmon Troll Fishery; and 5 AAC 29.110. Management of Coho Salmon Troll Fishery.** Redefine the open area in Section 1-E for trolling during the summer season and extend the summer closure date in this newly defined area from September 20 to September 30.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- Wrangell AC supported this provision of the JRPT, and with good sampling rates, the department could react quickly to wild stock concerns.
- Trollers need access to fish outside of the Neets Bay THA past September 20, as enhanced coho are abundant there this time of year and are difficult to catch inside the THA.

**Public Panel Recommendation:** Consensus to support.



**PROPOSAL 317 – 5 AAC 29.100. Management of the Summer Salmon Troll Fishery.**

Extend the summer troll fishery in a portion of Section 1-E so that it would close on September 30 rather than September 20.

**Comment Summary:**

## Department:

- A hatchery access fishery that utilizes all waters of Behm Canal increases wild stock harvest, and moves away from what was originally intended.
- Coho escapement information is not available until October, after the directed fisheries are closed.
- The Unuk River coho project would have provided more detailed information for this issue, but the project ended due to funding.
- Current regulations allow for extensions by EO for individual districts in years of high coho abundance.

## Department of Law:

None.

## Public Panel Comments:

- ATA indicated wild stocks are a concern, but trollers still need access to these late returning hatchery fish.
- There is need of legislative support to ensure the department has adequate funding to maintain its current management of coho.
- Would be willing to withdraw support for proposal 317 if a compromise can be reached on proposal 314.
- Wrangell AC is opposed. The wild stock migratory corridor allowed for in proposal 315 works better than the area suggested here.
- Sitka and Ketchikan ACs are opposed to allowing fishing access to all of West Behm Canal; it needs to be restricted to the hatchery side of the canal.
- There is serious concern for Southern Southeast coho research funding. The Hugh Smith Lake weir project needs to be continued.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 316 – 5 AAC 29.100. Management of the Summer Salmon Troll Fishery.**  
Redefine the area open for trolling in West Behm Canal (Section 1-E) during the summer fishery.

**Comment Summary:**

Department:  
None.

Department of Law:  
None.

**Public Panel Comments:**

- Ketchikan and Wrangell ACs support this proposal; simply puts what the department has done by EO the past few years into regulation.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 318 – 5 AAC 29.100. Management of the Summer Salmon Troll Fishery.**

Clarify what areas are open and closed to troll gear in District 1 during the summer fishery.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

None.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 319 – 5 AAC 29.100. Management of the Summer Salmon Troll Fishery; and 5 AAC 29.112. Management of Chum Salmon Troll Fishery.** Open a portion of Chichagof Pass, in District 8, to troll gear seven days a week, beginning July 1. Troll fishing periods would no longer be the same as drift gillnet fishing periods.

**Comment Summary:**

Department:

- The department does not allocate between user groups; a request for additional enhanced fish by any user group should be debated through the JRPT process. This allows the department to adhere to the enhancement allocation plan.
- Stat weeks 27-29 fall into the king salmon accounting time period for the Stikine River, which may have PST implications.
- Additions to base-level fisheries are not allowed under the current PST agreement.

Department of Law:

None.

Public Panel Comments:

- Wrangell AC stated access to the area outside the Anita Bay THA would increase troll opportunity to harvest enhanced chum salmon, bringing them closer to their allocation range. There is enough sampling data collected to indicate if there are wild stock concerns.
- Chum Trollers Association supports this proposal and feels this is a good opportunity.
- This is a very limited area, unlike proposal 325; this is a corridor close to the terminal site.
- Trollers can fish there when gillnet is open; however, it's difficult for trollers to fish in the same area with gillnet gear in the water.
- Wrangell AC proposed to alleviate concerns for king salmon PST implications; nonretention of king salmon could be allowed.
- ATA supports this proposal and indicated chum salmon are not entering the area in high abundance during the king salmon PST accounting period.

**Public Panel Recommendation:** Consensus to support with substitute language, provided the department and industry can meet and resolve department opposition.

**PROPOSAL 321 – 5 AAC 29.100. Management of the Summer Salmon Troll Fishery; 5 AAC 30.365. Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan.** Adjust the northern boundary of an area near the Situk River, which is closed to troll gear during the summer fishery.

**Comment Summary:**

Department:

- Department is neutral on an area closure that would be allocative between user groups.

Department of Law:

None.

Public Panel Comments:

- Yakutat AC stated the mouth of the Situk River has shifted over the years; adoption of this proposal adjusts the boundary to its original intent, changing with river flow.
- Yakutat AC originally proposed this regulation and would like to amend these coordinates so that productive fishing areas are excluded, in order to allow passage of fish into the river.
- ATA supports and is opposed to 322 based on comments from Yakutat AC.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 322 – 5 AAC 29.100. Management of the Summer Salmon Troll Fishery.**

Would readjust the lines of the waters closed to trolling off the mouth of the Situk River estuary to reflect the original intent of the closure.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

None.

**Public Panel Recommendation:** No action based on action taken on proposal 321.

**PROPOSAL 287 – 5 AAC 39.117. Vessel Length; Bulbous Bow; and 5 AAC 27.XXX. New Regulation.** Requests a new regulation that would exclude stern ramps and rollers in the 58-foot overall seine vessel length limit for Southeast Alaska, allowing vessels configured for out-of-state drum seining to participate in the purse seine fishery without removing their stern ramps and rollers.

**Comment Summary:**

Department:

- Requests a clear definition of stern ramps and rollers as they would be counted in the length of the vessel.

Department of Law:

None.

Public Panel Comments:

- AC members agreed it would be time consuming to remove stern ramps and rollers prior to taking part in the Southeast Alaska seine fishery; however, took no position.

**Public Panel Recommendation:** None.

**PROPOSAL 288 – 5 AAC 39.240(a). General gear specifications and operations.** Allow a purse seine vessel to have two legal limits of seine gear on board a vessel in Southeast Alaska.

**Comment Summary:**

Department:

- The impact of having two units of gear on board is unpredictable and the potential for changes in historical fishing patterns is a concern.
- After hearing the industry representative explain the intent of the proposal the department may consider to a neutral stance.
- Enforcement specialist expressed concern that the net specifications in the proposal were different from the legal requirements currently in regulation.

Department of Law:

None.

Public Panel Comments:

- SEAS stated the troll and gillnet gear groups can have extra gear on board.
- SEAS explained the intent of the proposal was to allow fishermen to have an extra set of gear that would preclude the fishermen from the financial hardship of significant fishing time lost if their primary net was irreparably damaged. This was not intended to allow fishermen a smaller net capable of fishing in shallow water.
- Other gear groups were in support of the proposal since they themselves were allowed extra units of gear on board.

**Public Panel Recommendation:** Consensus to support.



**PROPOSAL 294 – 5 AAC 39.010. Retention of fish taken in a commercial fishery; 5 AAC 30.395. Reporting requirements; 5 AAC 33.394. Landing of steelhead; and 5 AAC 39.130. Reports required of fishermen, processors, buyers, and operators of certain commercial fishing vessels; transporting requirements.** Change how commercially-harvested salmon or steelhead trout that are retained, but not sold, are reported and quantified.

**Comment Summary:**

Department:

- A repeal of 5 AAC 30.395 and 5 AAC 33.395 would alleviate confusion surrounding the issue and align Southeast regulations with statewide reporting requirements.

Department of Law:

None.

Public Panel Comments:

- If this proposal passes, public requests that the department publicize the new reporting requirements so processors and fishermen are able to easily comply.

**Public Panel Recommendation:** None. Submitted RC 129 to repeal 5AAC 30.395 and 5AAC 33.395.

**PROPOSAL 292 – 5 AAC 33.310. Fishing season and periods for net gear.** Change the time in regulation when weekly drift gillnet fishing can start, to 8:00 a.m. Monday from 12:00 noon Sunday.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- USAG stated that a majority of the gillnet fleet is opposed.
- Wrangell AC could not support the proposal. Maintaining a Sunday start date allows fishermen ample time on Saturday to get ice, groceries and fuel before the next opening. Preparing for a Monday fishery on Sunday in Wrangell when many of the businesses are closed would be logistically impossible.
- SEAFSA stated that direct marketers may have difficulty getting product to market.

**Public Panel Recommendation:** Consensus to oppose.

**PROPOSAL 293 – 5 AAC 33.331 (d) and (e). Gillnet specifications and operations.** Allow the Commissioner to establish a minimum mesh size of six inches in districts 1, 6, 8, 11, or 15 by emergency order (EO) when deemed appropriate.

**Comment Summary:**

Department:

- Supports the amended language submitted by SEAFSA. (RC 147)
- This would alleviate the requirement to use a smaller mesh net during one week of the directed king salmon fishery on the Taku River in years when there is a directed fishery.

Department of Law:

None.

Public Panel Comments:

- SEAFSA proposed amending the regulation even further than what the department submitted.
- Clears up an oversight when the past mesh restriction regulations were adopted.

**Public Panel Recommendation:** Consensus to support with substitute language submitted in RC 147.

**PROPOSAL 299 – 5 AAC 33.350(I)(6). Closed Waters.** Extend waters closed to commercial salmon fishing with net gear in Taku Inlet by moving the northern boundary to a line from Point Bishop to Point Greely.

**Comment Summary:**

Department:  
None.

Department of Law:  
None.

Public Panel Comments:  
None.

**Public Panel Recommendation:** Consensus to oppose.

**PROPOSAL 303 – 5 AAC 30.310. Fishing Seasons.** Establish some minimum level of coho salmon escapement (5,000 to 10,000) needed to be seen in the Tsiu River before a commercial set gillnet fishery could be opened.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- Support for the proposal withdrawn in RC 110

**Public Panel Recommendation:** Consensus to support withdrawal.

**PROPOSAL 300 – 5 AAC 30.3XX. New Regulation.** Allow multiple permits to fish from the same vessel and to split their catch under terms of a partnership.

**Comment Summary:**

Department:

- Concern over allowing the permit holders to determine the split of the harvest; allows fishermen to avoid IRS or child support payments.
- Current reporting requirements require fish caught in a net be reported on the fish ticket associated with that permit.
- Law requires fishermen to document their catch on a fish ticket.

Department of Law:

- Reporting two permit holders' harvest on a single fish ticket is illegal.
- AS 16.05.680(b) states the permit holder must report their harvest on an individual fish ticket.

Public Panel Comments:

- Combining effort is vital to set gillnet fishing in Yakutat where they routinely fish two or more nets for safety reasons and to reduce fuel costs. In 2011, two fishermen lost their lives in the set gillnet fishery in the Yakutat area. Fish from multiple nets are not kept separate on a small skiff and fisherman divide their total catch when selling fish to the processor.
- A citation was issued for landing multiple permit holders' fish on one fish ticket and upheld in a recent court case; now the statute is strictly enforced in the Yakutat area.
- CFEC uses fish ticket information to estimate annual average earnings per permit to help people determine if they want to invest in a specific fishery. If multiple permit holders report their combined harvest on a single fish ticket, this falsely elevates the annual average earnings per permit. If there are two fish tickets issued for two permit holders' harvest split equally, then CFEC reporting would not be compromised.
- A suggestion was made to register a skiff as a tender to transport fish for multiple permit holders.
- SEAFAs support this proposal and offered to meet with the department, board member Webster and the Yakutat AC representative to draft substitute language.

**Public Panel Recommendation:** Consensus to support with substitute language submitted in RC 130.

**PROPOSAL 302 – 5 AAC 30.331. Gillnet Specifications and Operations.** Prohibit any driving of salmon into nets on the Tsiu River with the use of boats.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- Support for the proposal withdrawn in RC 110

**Public Panel Recommendation:** Consensus to support withdrawal.

**PROPOSAL 304 – 5 AAC 30.350 (a)(3). Closed Waters.** Establish visible markers at the mouth of Ankau Creek at mean low tide and eliminate confusion caused by the latitude/longitude designation.

**Comment Summary:**

Department:

- The department established visible markers in the summer of 2011 and did away with the latitude/longitude description.

Department of Law:

None.

Public Panel Comments:

- Yakutat AC unanimously supports this proposal.

**Public Panel Recommendation:** Consensus to support.



**PROPOSAL 305 – 5 AAC 30.350. (a)(6). Closed Waters.** Move the lower Akwe River regulatory marker from one-half mile from the terminus of Akwe Lagoon at mean low water to 500 yards above the confluence of the Akwe and New Italo rivers.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- Yakutat AC unanimously supports this proposal; it puts into regulation what is already done each year by EO.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 306 – 5 AAC 30.331. Gillnet Specifications and Operations.** Increase allowable gear in the Alsek River from 50 to 75 fathoms of gear on the third Sunday, as opposed to the third Monday, in July.

**Comment Summary:**

Department:  
None.

Department of Law:  
None.

Public Panel Comments:  
None.

**Public Panel Recommendation:** Consensus to support.

## Alaska Board of Fisheries Committee Summary

# COMMITTEE C

**Sport, Subsistence, and Personal Use**  
February 29-March 1, 2012

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Board Committee Members:

1. John Jensen (chair)
2. Bill Brown
3. Sue Jeffrey

Alaska Department of Fish and Game Staff Members:

1. Bob Chadwick – Management Coordinator, Sport Fish Division
2. Troy Tydingco – Area management Biologist, Sport Fish Division
3. Dan Teske – Assistant Area Management Biologist, Sport Fish Division
4. Doug Fleming – Area Management Biologist, Sport Fish Division
5. Brian Glynn – Area Management Biologist
6. Kelly Piazza – Area Management Biologist, Sport Fish Division
7. Mike Wood – Assistant Area management Biologist, Sport Fish Division
8. Al Cain – Enforcement Specialist, Sport Fish Division
9. Diana Tersteeg – Research Analyst, Sport Fish Division
10. Brian Marston – Area Management Biologist, Sport Fish Division
11. Charlie Swanton – Director, Sport Fish Division
12. Dave Harris – Assistant Area Management Biologist, Commercial Fish Division
13. Randy Bachman – Area Management Biologist, Commercial Fish Division
14. Meredith Marchioni – Subsistence Resource Specialist, Subsistence Division
15. Roger Harding – Trout Research Supervisor, Sport Fish Division
16. Rich Chapell – Area Management Biologist, Sport Fish Division
17. Patrick Fowler – Assistant Area Management Biologist, Sport Fish Division
18. David Holen – Regional Manager, Subsistence Division

Advisory Committee Members:

1. Tom Sims – Wrangell AC
2. Mike Peterson – Juneau/Douglas AC
3. Arnold Enge – Petersburg AC
4. Chuck Haydu – Craig AC

**Public Panel Members:**

1. Donald Westlund – Self
2. Tom Gemmell – United Southeast Gillnetter’s Association (USAG)
3. Arnold Enge – United Southeast Gillnetter’s Association (USAG)
4. Holly J Churchill – Self
5. Lt. Tory Oleck – Dept of Public Safety
6. Kathy Hansen – Southeast Alaska Fisherman’s Alliance (SEAFA)
7. Jeff Wedekind – Self
8. Chuck Haydu – Self
9. Richard Yamada – Alaska Charter Association (ACA)
10. Stan Malcom – Self/Petersburg Charter Boat Association
11. Julianne Curry – Petersburg Vessel Owner’s Association (PVOA)
12. Steve Hall – Department of Public Safety
13. Heath Hilyard – Southeast Alaska Guides Organization (SEAGO)
14. Larry Edfelt – Territorial Sportsman

**Federal Subsistence Representative:**

1. Terry Suminski – USFS
2. Robert Larson – USFS

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The committee met February 29, 2012 at 3:00 p.m. and adjourned at 4:45 p.m. and March 1, 2012 at 8:45 a.m. and adjourned at 9:35 a.m.

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**PROPOSALS BEFORE THE COMMITTEE WERE:** (26 total): Sport (246, 248, 250-251, 253, 255-259, 262-267), Subsistence and Personal Use (269, 272, 274-281).

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**PROPOSAL 248 – 5 AAC 47.030. Methods, means, and general provisions – Finfish.**

Change the definition of "bag limit" for anglers fishing from a vessel. (*This proposal was erroneously cited under 5 AAC 47.021. Special provisions for seasons, bag, possession, and size limits, and methods and means for the salt waters of Southeast Alaska Area.*)

**Comment Summary:**

## Department:

- Current regulations are fully enforceable.
- Proposed language could cause all persons on board a vessel to be cited for any violation.
- In order for this proposal to be enforceable the department would have to create new regulatory language.

Federal Subsistence Representative: None.

## Public Panel Comments:

- This proposal would allow an individual who has already reached their rockfish bag limit to contribute additional fish to another angler on the boat, thus potentially reducing waste of fish that are susceptible to high release mortality.
- This would be confusing to nonresident anglers.
- An individual's bag limit and the ownership of fish caught are hard to enforce. This proposal would alleviate those concerns without adding additional harvest.
- Legalizing the "common practice" of boat limits will not increase the harvest of fish and will eliminate difficulty determining ownership for enforcement personnel.
- Current regulations are working fine and "if it's not broke don't fix it".

**Public Panel Recommendation:** No consensus.

**PROPOSAL 250 – 5 AAC 47.022. General provisions for seasons and bag, possessions, annual, and size limits for the fresh waters of the Southeast Alaska Area.** Allow retention of king salmon in the fresh waters of the Southeast Alaska Area.

**Comment Summary:**

Department: None.

Federal Subsistence Representative:

- There is an option for a federally qualified subsistence king salmon fishery in fresh water.
- Federal subsistence managers will be opposed to opening fishery for additional harvest where there is no management plan in place and where current king salmon fisheries are fully utilized.
- King salmon stocks are small and cannot sustain additional harvest.

Public Panel Comments:

- King salmon are currently fully allocated throughout Southeast Alaska.
- Most freshwater king salmon fisheries have been closed since statehood.
- This would be a major change to existing regulations.
- This proposal could create issues with the U.S.-Canadian Salmon Treaty.
- There is plenty of marine access to king salmon fisheries in Southeast Alaska.

**Public Panel Recommendation:** No support.

**PROPOSAL 246 – 5 AAC 47.055. Southeast Alaska King Salmon Management Plan.**

Clarify that the management measures for the use of two rods is for king salmon only.

**Comment Summary:**

## Department:

- The department needs to clarify the intent of this proposal by adding language to the effect that species other than king salmon may not be retained while fishing with two rods.
- It is unclear how this proposal would work with federal halibut regulations (i.e., SHARC card).
- A rod and reel can be used for state subsistence purposes only in areas where the board has permitted it. Currently, this gear is not allowed in Southeast Alaska king salmon subsistence fisheries.

Federal Subsistence Representative: None.

## Public Panel Comments:

- The original intent of this proposal was for retention of king salmon only.
- If a subsistence qualified angler with a SHARC card is fishing for king salmon with two rods and they harvest a halibut, can they legally retain that halibut?

**Public Panel Recommendation:** No opposition. Substitute language provided in RC 148.

**PROPOSAL 251 – 5 AAC 47.030. Methods, means, and general provisions – Finfish.** Allow use of two rods by unguided anglers in salt water. (*This proposal was erroneously cited under 5 AAC 47.021. Special provisions for seasons, bag, possession, and size limits, and methods and means for the salt waters of Southeast Alaska Area.*)

**Comment Summary:**

Department:

- This would not complicate enforcement.

Federal Subsistence Representative: None.

Public Panel Comments:

- It would be unfair that Alaska residents could not use two rods while participating on a guided vessel.
- This proposal is unnecessary because there is no evidence that Alaska residents are being denied access to this fishery.
- Many anglers would like an opportunity to fish a second rod for salmon while anchored and fishing for groundfish.
- A board member commented that the intent of this proposal is to allow anglers the use of two rods. One rod could be used for salmon while the other is used for bottomfish.

**Public Panel Recommendation:** No consensus.



**PROPOSAL 253 – 5 AAC 29.155. Vessel Identification; and 5 AAC 47.041. Sport fishing from commercially licensed vessels; charter vessel registration.** Establish system for distinguishing between vessels participating in hand troll and guided charter fishing in Southeast Alaska. (*This proposal was erroneously cited under 5 AAC 29.155. Vessel Identification; and 47.XXX. New Regulation.*)

**Comment Summary:**

Department:

- Staff suggested changing the phrase “unprocessed” to “unpreserved” because the term “preserved” is defined in sport fishing regulations.
- RC 104 clarifies what a vessel is being used for on any given day thereby aiding in enforcement.
- RC 104 goes a long way towards preventing commercial fishermen from supplementing their harvest with sport-caught fish.

Federal Subsistence Representative: None.

Public Panel Comments:

- RC 104 was submitted with revised language. The following changes were made:
  - Dorsal fins would be removed to mark sport-caught fish unless there are paying customers on board.
  - The vessel would not be able to commercial and charter fish in the same day.
  - A vessel may not possess unprocessed salmon on board before commercial fishing.
  - Charter logbooks could be used to document whether a vessel was being used for guided charter fishing or commercial activity.
- This would close loopholes to prevent sport-caught fish from supplementing the commercial harvest.
- Possession was added to allow commercial fishermen to possess processed fish on board.
- Juneau/Douglas AC did not support the original proposal but now supports it as the amended language addressed their concerns.

**Public Panel Recommendation:** Consensus to support as amended. Substitute language provided in RC 149.

**PROPOSAL 255 – 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area.** Establish a Taku River king salmon sport fishery.

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

**Public Panel Comments:**

- This would need a separate approval process through the Transboundary Technical Committee.
- Juneau/Douglas AC clarified that they took no action on this proposal.

**Public Panel Recommendation:** No support.

**PROPOSAL 256 – 5 AAC 47.021. Special provisions for seasons, bag, possession, and size limits, and methods and means for the salt waters of the Southeast Alaska Area. Prohibit snagging at the mouth of Auke Creek.**

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

**Public Panel Comments:**

- A board member commented that there may be anglers that like to snag and would be opposed to this proposal.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 257 – 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area.** Prohibit the use of bait on Cowee Creek.

**Comment Summary:**

Department:

- The only place on the road system where bait is prohibited year-round is Montana Creek.
- The department has no stock assessment program for Cowee Creek.

Federal Subsistence Representative: None.

Public Panel Comments:

- The Juneau/Douglas AC clarified that they support this proposal.
- PVOA is incorrectly listed as opposing this proposal when they did not take action.
- Bait increases mortality of released fish; there are people who retain their bag limit then keep fishing.
- Without enforcement, anglers could catch their limit and then continue fishing.
- The use of bait is of serious concern due to hooking mortality.
- A board member commented that since the department has no stock assessment, they should act conservatively.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 258 – 5 AAC 47.021. Special provisions for seasons, bag, possession, and size limits, and methods and means for the salt waters of Southeast Alaska Area. Reopen Sitkoh Bay Sockeye sport fishery.**

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** Consensus to Support.

**PROPOSAL 259 – 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area.** Make fishing within the Sitka Historical Park on the Indian River a fly fishing-only, catch-and-release fishery.

**Comment Summary:**

Department:

- The board would have to clarify the differentiation between “fly-fishing-only” and the use of “artificial fly”.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** No support.

**PROPOSAL 262– 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area.** Extend the open season and period bait may be used in City Park Ponds until August 31, and modify the bag and possession limit for cutthroat trout, king, and coho salmon.

**Comment Summary:**

Department:

- A question was raised whether fish die in the ponds during the winter. The department responded that one pond is open to Ketchikan Creek and allows fish to escape the pond. The other pond is closed and fish are removed from the ankle deep pond using dip nets.
- City park ponds contain only hatchery reared fish.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 264 – 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area.** Allow use of bait in the Klawock River.

**Comment Summary:**

Department:

- When bait has been allowed in the Klawock River by emergency order, the time period open for the use of bait reflected the Southeast regional regulations (which allow the use of bait in freshwater from September 15 to October 15).
- The department would need to craft language for this proposal.

Federal Subsistence Representative: None.

Public Panel Comments:

- If passed this proposal would increase the difficulty to meet escapement goals.
- Nonresident anglers harvest a large number of coho salmon.

**Public Panel Recommendation:** No consensus. Substitute language provided in RC 150.



**PROPOSAL 263 – 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area.** Prohibit use of bait in the Klawock River.

**Comment Summary:**

Department:

- There is a wild run of coho salmon in the Klawock River.
- The largest concern with the use of bait in the Klawock River is associated with the catch of cutthroat and steelhead.
- Bait is not allowed after October in order to protect fall-run steelhead.

Federal Subsistence Representative: None.

Public Panel Comments:

- Craig AC had unanimous support for proposal 263.
- The use of bait results in increased release mortality.
- Concern was raised that anglers may selectively harvest females in order to use their roe as bait.
- Residents can get a federal subsistence permit for coho salmon and use bait.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 265 – 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area. Repeal Klawock River regulations applying to adipose fin-clipped steelhead.**

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 266 – 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area.** Clarify Klawock Harbor area closed to snagging and retention of sockeye.

**Comment Summary:**

Department:

- This would clarify that the entire harbor is closed.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 267 – 5 AAC 47.023. Special provisions for seasons, bag, possession, and size limits, and methods and means for the fresh waters of the Southeast Alaska Area. Align Post Office Lake regulations with Yakutat roadside systems regulations.**

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** Consensus to Support.

**PROPOSAL 269 – 5 AAC 01.1XX. New Regulation; and 5 AAC 77.6XX. 47.024. Harvest record required; annual limit.** Establish a catch report card system for subsistence, personal use, and sport finfish fisheries. (*This proposal was erroneously cited only under 5 AAC 47.024.* Harvest record required; annual limit.)

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** No support.

**PROPOSAL 274 – 5 AAC 77.682(c) and (g)(5). Personal use salmon fishery.** Modify the personal use fishery for salmon in Southeast Alaska to target king and coho salmon and include additional gear types.

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

**Public Panel Comments:**

- Opposition to any expanded or new king salmon fisheries including fresh water, marine or personal use fisheries.
- Concern was raised that participants could pass salmon to commercial fishermen.
- If a commercial fisherman wants homepack they can retain fish from their catch.

**Public Panel Recommendation:** No support.

**PROPOSAL 275 – 5 AAC 01.750. Vessel Specifications and Operations.** Remove the horsepower limit for the Klawock subsistence area.

**Comment Summary:**

Department:

- There is no escapement goal, but escapement is stable.
- Gear restrictions would stay the same but more horsepower could increase efficiency and harvest.
- Draft language is needed to define “seine skiff”.

Federal Subsistence Representative: None.

Public Panel Comments:

- Author’s intent was to allow people to use any engine they have, without additional cost.
- Larger horsepower motors would not aid in harvest because a net can only be pulled in so fast.

**Public Panel Recommendation:** No recommendation. Substitute language provided in RC 151.

**PROPOSAL 276 – 5 AAC 01.710. Fishing Seasons.** Change the subsistence sockeye fishery in the Klawock River from five to seven days per week.

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

**Public Panel Comments:**

- Craig AC opposed as written but supports an amendment to open weekend fishing while closing on Monday-Tuesday.
- Craig AC will submit an RC with amended language specifying Monday and Tuesday closure.
- Opposition to proposal because the front end of the sockeye run is weak.
- A board member commented that the intent of the weekend closure was to discourage participation by residents of other Prince of Wales communities.

**Public Panel Recommendation:** No Consensus.



**PROPOSAL 277 – 5 AAC 77.682. Personal use salmon fishery.** Allow dip nets in the Taku River for personal use.

**Comment Summary:**

Department:

- Permits are written for sockeye only but the retention of other species is allowed.
- Permits are valid July 1-July 31.
- This is a state managed personal use fishery in a nonsubsistence area.
- Dip nets are legal gear in some other personal use fisheries.

Federal Subsistence Representative: None.

Public Panel Comments:

- The setnet fishery on the Taku is limited to three sites which get crowded.
- There is concern that a Chitina-type dipnet fishery would be created.
- Concern that this proposal does not limit harvest to sockeye salmon only.
- Concern that this fishery would result in the additional harvest of king salmon.
- What is the composition of the Taku user group? It was suggested that the user group might be comprised of cabin owners.
- Dip nets may be a better method of selectively harvesting sockeye salmon and releasing king and coho salmon.
- There may be Treaty implications if this proposal is passed.
- Failure to see how the personal use needs are not being met.
- Additional harvest of sockeye would create allocation issues.
- Other systems near the Juneau area, such as Sweetheart Creek, provide harvest opportunities with a higher household limit.
- Sweetheart Creek is augmented by hatchery fish from Snettisham Hatchery.
- A large increase in gillnet sales intended for the Taku has been observed. There is concern that there will be increasing troubles with lost gear.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 278 – 5 AAC 77.682. Personal use salmon fishery.** Extend the personal use fishery season on the Taku River from mid-June through August.

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

**Public Panel Comments:**

- Juneau/Douglas AC voiced opposition because of their support for proposal 277.
- Opposition to the June opening because of the presence of king salmon which could result in increased harvest.
- King salmon stocks are fully allocated.

**Public Panel Recommendation:** No support.

**PROPOSAL 279 – 5 AAC 77.682. Personal use salmon fishery.** Increase Taku River sockeye salmon daily and annual bag limit per household based on number of persons in the household.

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

**Public Panel Comments:**

- As written this proposal could provide an excessive household limit for large families.
- Juneau/Douglas AC supports this proposal if amended to place a limit of 25 fish for a household of five or more people.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 280 – 5 AAC 01.725. Waters closed to subsistence fishing.** Clarify that subsistence in District 15 includes Lutak Inlet and opens time the day before commercial openings.

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 281 – 5 AAC 01.670. Lawful Gear and Gear Specifications.** Allow 75-fathom gillnet length in the Yakutat Bay subsistence fishery.

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

**Public Panel Comments:**

- It would be economical and convenient to use commercial gear in the Yakutat Bay subsistence fishery.
- In the Yakutat area other commercial and subsistence fisheries gear limits are identical (i.e., 20 fathoms in the Situk River).
- The 50 fathom net clearly differentiates subsistence gear from commercial.
- The proposal could alleviate concerns for king salmon by shifting effort from the Situk River to Yakutat Bay.
- A 75 fathom net is not excessive for subsistence harvest in a large area like Yakutat Bay.
- 50 fathoms is the standard subsistence gear statewide and a 75 fathom limit would be new.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 272 – 5 AAC 01.716. Customary and Traditional Subsistence Uses of Fish Stocks and Amount Necessary for Subsistence Uses.** Clarify subsistence herring and herring spawn customary and traditional use findings for waters of sections 3-A and 3-B.

**Comment Summary:**

Department: None.

Federal Subsistence Representative: None.

Public Panel Comments: None.

**Public Panel Recommendation:** Consensus to support.

## Alaska Board of Fisheries Committee Summary

# COMMITTEE D

### SALMON MANAGEMENT AND ALLOCATION PLANS AND THAS/SHAS

February 29, 2012

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#### Board Committee Members:

1. Vince Webster (Chair)
2. Tom Kluberton
3. Mike Smith

#### Alaska Department of Fish and Game Staff Members:

1. Troy Thynes – FBIII, Division of Commercial Fisheries
2. Gordie Woods – FWTV, Division of Commercial Fisheries
3. Grant Hagerman – FBII, Division of Commercial Fisheries
4. Nicole Zeiser – FBI, Division of Commercial Fisheries
5. Judy Lum – FBIII, Division of Sport Fish
6. Scott Walker – FBIII, Division of Commercial Fisheries
7. Flip Pryor – FBIII, Division of Commercial Fisheries
8. Justin Breese – FBII, Division of Commercial Fisheries
9. Dave Gordon – FBIII, Division of Commercial Fisheries
10. Kerry Tonkin – Program Coordinator, Division of Commercial Fisheries
11. Al Cain – Criminal Justice Planner, Division of Sport Fish
12. Sue Aspelund – Deputy Director, Division of Commercial Fisheries
13. Brian Marston – FBIII, Area Management Biologist, Division of Sport Fish
14. Tom Kowalske – FBII, Division of Commercial Fisheries
15. Pattie Skannes – FBIII, Division of Commercial Fisheries
16. Bill Davidson – FBIV, Division of Commercial Fisheries

#### Alaska Wildlife Troopers:

1. Lt. Steve Hall

#### Advisory Committee Members: (only those representing committees in committee)

1. Sitka AC, John Murray
2. Wrangell AC, Tom Sims
3. Yakutat AC, Casey Mapes
4. Juneau/Douglas AC, Mike Peterson

## Public Panel Members:

1. Steve Reifentuhl – Northern Southeast Regional Aquaculture Association
2. Tom Fisher – Self
3. John Burke – Southern Southeast Regional Aquaculture Association
4. Bob Thorstenson – Southeast Alaska Seiner’s Association - Commercial
5. Kathy Hansen – Southeast Alaska Fisheries Alliance - Commercial
6. John Oliva – Kake Non Profit Fisheries Corporation
7. Max Worhatch – Self
8. Chris Guggenbickler – Gillnet - Commercial
9. Eric Jordon – Chum Troller’s Association - Commercial
10. Larry Edfelt – Territorial Sportsmen
11. Julianne Curry – Petersburg Vessel Owner’s Association
12. Dave Otte – Self
13. Dale Kelley – Alaska Troller’s Association - Commercial
14. John Peckham – Self
15. Bruce Wallace – Self

## Federal Subsistence Representative:

1. Robert Larson

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The Committee met February 29, 2012 at 3:30 p.m. and adjourned at 5:40 p.m.

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PROPOSALS BEFORE THE COMMITTEE WERE: (17 total) 282, 283, 284, 320, 327, 328, 329, 330, 334, 335, 338, 339, 340, 341, 342, 343, and 344.

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**PROPOSAL 282 – 5 AAC 30.365. Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan.** Use the term “escapement”, as opposed to “inriver run”, as the criteria for triggering management actions in Situk-Ahrnklin and Lost River king salmon management. Additionally, in low king salmon abundance scenarios, a “nonretention” king salmon season would replace a “nonsale” season as a potential conservation measure.

**Comment Summary:**

Department:

- This proposal will not affect the way the fishery is managed. Fishery management is based on escapement.
- If the projection is below 451 three ocean age or older fish, the department is required to go to nonsale.
- All fisheries are closed when the escapement is projected to be below escapement of 350 large Chinook salmon.
- Nonsale does not work as a conservation measure and is not enforceable. Permit holders are not required to tend the net. Dead king salmon can be distributed to the public at the time of sale for sockeye salmon. The department cannot determine that less king salmon are killed under nonsale.
- King salmon returns have been low.
- This method allows for a sockeye salmon fishery in years of low king salmon returns.

Department of Law:

None.

Federal Subsistence:

- The Situk River has a subsistence fishery. Federal users have concerns about low returns and encourage the recording of all mortality and harvest.

Public Panel Comments:

- Unanimous support from Yakutat AC.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 283 – 5 AAC 30.365(c)(5). Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan; and 5 AAC 29.090. Management of the Spring Salmon Troll Fisheries.** Revise the *Situk River Management Plan* to remove the projected Situk River king salmon inriver run strength as a trigger for a potential spring troll fishery in Yakutat Bay.

**Comment Summary:**

Department:

- The department could manage the fishery under the proposed management plan revisions. The harvested fish could be sampled to gather genetic data to determine the percentage of Situk River king salmon present in the harvest.
- Current genetic data gathered from sport catch indicates that 1% or less are returning to the Situk River.
- The spring troll fishery is linked to the Situk-Ahrnklin Inlet and Lost River King Salmon Management Plan. The department does not currently have any data available to suggest the spring troll fishery would harvest significant Situk-Ahrnklin Inlet fish.

Department of Law:

None.

Public Panel Comments:

- Yakutat AC generated and supports this proposal. Genetic data collected from guided sport-caught fish in 2009 indicate less than 1% or less are Situk River fish. The test fishery will have a 1,000 fish allocation and effort will be low. This fishery will add fishing time during a time of year when fishing opportunities are limited.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 284 – 5 AAC 29.097. District 11 King Salmon Management Plan.** Establish longer troll fishing periods when the directed drift gillnet fishery is open in sections 11-A and 11-B.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments: (the public panel proposals 284 and 320 simultaneously)

- ATA stated this proposal opens up more time in a historic troll area. This area was reduced as a conservation effort 10 years ago. Trollers would like to share in the rebuilding success.
- ATA stated this fishery would occur during spring openings; historic harvest has been low and this fishery should not attract boats from other areas.
- Since 2005 the troll fishery was only open three years. The average harvest was 20 fish per year.
- Wrangell AC stated the proposal failed to carry: five in favor, one in opposition, and six people abstained from voting. The committee didn't know where the lines were. The Wrangell AC supports the concept of the AK trollers getting their allocation. This is a very popular sport fish area. Harvest of hatchery fish does not count against the Treaty.
- Juneau AC supports time increase, but not area increase.
- Territorial Sportsman opposed to complete proposal (no room for compromise). Increases time and area of troll fishery, which would infringe on popular sport fisheries. The lines increase area to the north tip of Douglas Island near hatchery release sites that are paid for by Sport Fish Division funding.
- Sitka AC is in support, but combined proposals 320 and 284. Time and area was designed to keep troll catch down. Mentioned a sunset clause as a possible compromise.
- When there is no allowable catch, trollers get to fish hatchery access areas and do catch some wild fish, while the gillnet fleet is on the beach.
- Mountain Point (near Ketchikan) has very active fisheries including troll, sport, and guided sport.
- The users learn to work together. Effort is not going to be very high. The trollers would like to get back in there after stepping down for conservation.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 320 – 5 AAC 29.097. District 11 King Salmon Management Plan.** Increase the area of Section 11-A open to commercial trolling when the directed Taku River king salmon fishery is conducted.

**Comment Summary:**

Department:

- No change in management, but there is an increase in area with time currently in regulation.

Department of Law:

None.

Public Panel Comments:

- The sport fishery extends to False Outer Point. This proposal changes the boundary to Outer Point and avoids False Outer Point, which probably will reduce conflicts between troll and sport fisheries.
- This proposal has the same area as proposal 284. If proposal 284 is passed, no action could be taken on proposal 320.
- Wrangell AC supports the proposal.
- Territorial Sportsman stated there is very little gear conflict up to Middle Point, but further north are hatchery releases targeted by sport fisheries.
- Juneau AC stated Outer Point line changes are in proposal 320, but not in proposal 284.

**Public Panel Recommendation:** No consensus.

**PROPOSAL 327 – 5 AAC 40.032. District 11: Douglas Island Pink and Chum (DIPAC) Special Harvest Area; 5 AAC 40.041. Herring Bay Special Harvest Area-Ketchikan; 5 AAC 40.043. Neets Bay Special Harvest Area-Behm Canal; and 5 AAC 40.051. District 3: Klawock Inlet and River Special Harvest Area.** Open and close these long-established hatchery special harvest areas (SHAs) by regulation rather than by emergency order (EO).

**Comment Summary:**

Department:

- Currently opening and closing times are set by EO. Proposal would put opening and closing date and time in regulation.
- EO authority could be used to handle unforeseen circumstances.

Department of Law:

None.

Public Panel Comments:

None.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 328 – 5 AAC 33.374. District 12: Hidden Falls Hatchery Terminal Harvest Area Salmon Management Plan.** Allow a floating weir-like structure to be used within Special Harvest Areas (SHAs) at Hidden Falls and Deep Inlet for the purpose of broodstock capture.

**Comment Summary:**

Department:

- The department originally supported, but defers comment to Department of Law.
- Net pens and holding devices can be used under a Commissioner's permit.

Department of Law:

- Department of Law comments are in RC 114. Small hand driven fish traps may be used instream. There is no mention for a "broodstock" exemption.
- There is a significant likelihood that the Department of Law would not approve the regulation proposed, but the board has the discretion to test this finding if it chooses.

Public Panel Comments:

- Proposer withdrew support due to Department of Law considering this a fish trap.
- There is a need to have a trap type device for catching broodstock at Hidden Falls Hatchery. Broodstock and cost-recovery capture is inefficient and poses risk to fishing nets.
- There is no definition of "fish trap" that goes with the statute.

**Public Panel Recommendation:** Take no action.

**PROPOSAL 329 – 5AAC 40.XXX. New Regulation.** Define a Special Harvest Area (SHA), in regulation, where Prince of Wales Hatchery Association (POWHA) may conduct cost-recovery operations in Port Saint Nicholas.

**Comment Summary:**

Department:

- Area proposed is slightly larger than what was done by EO in 2010 and 2011.

Department of Law:

None.

Public Panel Comments:

- Wrangell AC supports this proposal.
- This is a small release site and returns are not going to be very large.
- POWHA is a small hatchery but it is important to the community. Allowing a cost-recovery fishery is a reasonable method to allow POWHA to generate some income.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 330 – 5 AAC 33.375. District 13: Silver Bay (Medvejie Creek Hatchery) Salmon Management Plan.** Close a small portion of NSRAA’s Bear Cove Special Harvest Area (SHA) to the commercial troll fishery targeting hatchery-produced king salmon.

**Comment Summary:**

Department:

- The past two seasons have been closed by EO and stopped the problems associated with snagging.

Department of Law:

None.

Public Panel Comments:

- Sitka AC supports this proposal. Would like to see snagging made illegal.
- NSRAA stated the snagging mortality rate is 20%.
- A small number of hand trollers have learned that snagging fish, while anchored, can legally get them around the foul hook regulation.
- The best solution would be to get rid of snagging and allow trolling to continue, but that is not a practical solution.
- NSRAA tried to work with the user groups to come up with a solution, without success.

**Public Panel Recommendation:** Consensus to support.



**PROPOSAL 334 – 5 AAC 33.383. District 7: Anita Bay Terminal Harvest Area Salmon Management Plan.** Continue the 1:1 gillnet-to-seine fishing rotation in Anita Bay Terminal Harvest Area (THA) through 2017.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- This proposal is mentioned in the JRPT letter. The JRPT proposed 2014 be used as a sunset date instead of 2017.

**Public Panel Recommendation:** Consensus to support with substitute language found in RC 153, page 1.

**PROPOSAL 335 – 5 AAC 33.376(b)(1)(B). District 13: Deep Inlet Terminal Harvest Area Salmon Management Plan.** Extend the 1:1 time ratio of gillnet-to-seine openings in the Deep Inlet Terminal Harvest Area (THA), currently scheduled to sunset at the end of the 2011 season, until after the 2017 season.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- This proposal is mentioned in the JRPT letter. The JRPT proposed 2014 be used as a sunset date instead of 2017.

**Public Panel Recommendation:** Consensus to support with substitute language found in RC 153, page 2.

**PROPOSAL 338 – 5 AAC 33.377. District 2: Kendrick Bay Terminal Harvest Area Salmon Management Plan.** Enlarge the current Kendrick Bay THA to include McLean Arm as an additional harvest area.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- This proposal was supported in the JRPT letter.
- Large marine predators are feeding on the one release site. Area increase would disperse the release and mitigate whale predation. The release will rotate between the two sites.
- The area is currently open to trolling.

**Public Panel Recommendation:** Consensus to support with substitute language found in RC 153, page 3.

**PROPOSAL 339 – 5 AAC 33.383. District 7: Anita Bay Terminal Harvest Area Salmon Management Plan.** Change the start date for the Anita Bay Terminal Harvest Area (THA) from June 1 to May 1.

**Comment Summary:**

Department:

- This proposal does not change current management practices.

Department of Law:

None.

Public Panel Comments:

None.

**Public Panel Recommendation:** Consensus to support.

**PROPOSAL 340 – 5 AAC 33.383. District 7: Anita Bay Terminal Harvest Area Salmon Management Plan.** Open an area in Anita Bay Terminal Harvest Area (THA) for the commercial harvest of salmon within 0.25 nm of the northern shoreline of Anita Bay from June 15 to July 11.

**Comment Summary:**

Department:

- Regulatory language will be needed that clearly describes the proposed open area.

Department of Law:

None.

Public Panel Comments:

- Wrangell AC was involved with trying to change the lines. All user groups worked together to come up with a compromise so all user groups can use Anita Bay without gear conflict. Substitute language will be necessary to address enforcement issues.
- The original lines were put in because of Dungeness fishing in the bay, which led to the reduction in quality of hatchery king salmon harvest.
- This is allocative in that there are two net fisheries harvesting hatchery fish in the bay.
- This proposal should improve harvest quality, which will improve harvest value.
- SEAFSA supports this proposal.
- This does not allow total access to hatchery kings salmon, but it will help.

**Public Panel Recommendation:** Consensus to support with substitute language found in RC 153, page 4.

**PROPOSAL 341 – 5 AAC 40.073. District 9: Southeast Cove Special Harvest Area.** Establish a Terminal Harvest Area (THA) in Southeast Cove and would create a corresponding management plan allowing common property fisheries to occur within the THA.

**Comment Summary:**

Department:

- Would require substitute language.

Department of Law:

None.

Public Panel Comments:

- This proposal came from an agreement reached at a RPT meeting in association with an increase in permitted capacity. The RPT would like to see increased common property harvest of enhanced salmon returning to Southeast Cove remote release site.
- This proposal creates a THA in the Southeast Cove SHA. KNFC would like to create the THA now and work on gear and rotations later.
- The RPT could be used to set up gear group rotation.
- NSRAA and KNFC will work together to develop the plan.
- Wrangell AC supports this proposal but wants gillnet included if they are below their allocation range.
- There are three or four shared THAs in Southeast. The proposed area is a long way from a current gillnet fishery, so this is not the time to consider allowing the gillnet fleet into this area.

**Public Panel Recommendation:** Consensus to support the development of a THA, but no consensus on gear to be included. Substitute language can be found in RC 153, pages 7 and 8.

**PROPOSAL 342 – 5 AAC 33.374. District 12: Hidden Falls Hatchery Terminal Harvest Area Salmon Management Plan.** Allow the department, by Emergency Order (EO), to require registration of all seine vessels planning to harvest within the Hidden Falls THA prior to July 31 for the purpose of facilitating enforcement of an assessment tax. Whether cost recovery or an assessment tax is used for the purpose of generating revenue would be at the discretion of the NSRAA Board of Directors.

**Comment Summary:**

Department:

- Substitute language is required. The department agrees in concept to substitute language.

Department of Law:

None.

Public Panel Comments:

- Wrangell AC is opposed due to the allocative aspects of the proposal.
- The value of the catch would go to seine allocation. There is precedence for dealing with increased value with roe value, custom processing, etc. through the RPT.
- A statewide law allowing for an assessment tax on hatchery salmon harvested in a THA in lieu of conducting cost recovery harvest was passed in 2006, but NSRAA would be the first to adopt this.

**Public Panel Recommendation:** Consensus to support with substitute language found in RC 153, pages 5 and 6.

**PROPOSAL 343 – 5 AAC 33.374. District 12: Hidden Falls Hatchery Terminal Harvest Area Salmon Management Plan.** Open the Hidden Falls Terminal Harvest Area (THA) to troll gear from August 1 through September 20 to harvest returning coho salmon. The THA would remain open during any mid-August troll closure, with modified boundaries limiting the area to one nautical mile from shore.

**Comment Summary:**

Department:

- This puts into regulation what is done by EO each year.

Department of Law:

None.

Public Panel Comments:

- Chum Troller's Association supports this proposal.
- SEAFSA supports this proposal, but thinks the area should be closed until the broodstock goal is reached.
- NSRAA supports this proposal and is flexible on date.

**Public Panel Recommendation:** Consensus for support.



**PROPOSAL 344 – 5 AAC 33.376. District 13: Deep Inlet Terminal Harvest Area Salmon Management Plan.** Revise the western boundary of the Deep Inlet Terminal Harvest Area (THA) and the time period in which the revision would be in effect in order to increase troll fishery access to enhanced king salmon.

**Comment Summary:**

Department:

None.

Department of Law:

None.

Public Panel Comments:

- NSRAA submitted this proposal with the desired effect of increasing enhanced king salmon harvest by trollers.
- Sitka AC supported the proposal, but with amended language. Adopted language included a starting date of June 15 to give the seiners more time.
- Chum Troller's Association supports this proposal.

**Public Panel Recommendation:** Consensus to support.

Dear Chairman Johnstone

Please find attached a peer reviewed, published paper on stock delineation of Sitka Sound, Salisbury Sound, and Hoonah Sound herring stocks.

This may be of some interest to you, as this was a subject discussed during the Board of Fisheries meeting in Sitka, 2009.

I am unable to attend this year's meeting in Ketchikan.

Please use this paper in reference to 2012 Board of Fisheries proposal 230 - revisions to the Sitka Sound Herring Management plan, specifically 9) Maintenance of geographic distribution of the resource.

Respectfully,

Heather Meuret-Woody

Sitka Sound herring researcher

*Exxon Valdez* Oil Spill  
Restoration Project Final Report

Identifying Essential Habitat (Source vs. Sink Habitat) for Pacific Herring (*Clupea pallasii*)  
in Sitka Sound Using Otolith Microchemistry

Restoration Project 080834  
Final Report

Heather Meuret-Woody<sup>1</sup>  
Nate Bickford<sup>2</sup>

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<sup>2</sup>University of Great Falls  
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December 2009

“The *Exxon Valdez* Oil Spill Trustee Council administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The Council administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972. If you believe you have been discriminated against in any program, activity, or facility, or if you desire further information, please write to: EVOS Trustee Council, 441 West 5<sup>th</sup> Avenue, Suite 500, Anchorage, Alaska 99501-2340; or O.E.O. U.S. Department of the Interior, Washington D.C. 20240.”

*Exxon Valdez* Oil Spill  
Restoration Project Final Report

Identifying Essential Habitat (Source vs. Sink Habitat) for Pacific Herring (*Clupea pallasii*)  
in Sitka Sound Using Otolith Microchemistry

Restoration Project 080834  
Final Report

Heather Meuret-Woody<sup>1</sup>  
Nate Bickford<sup>2</sup>

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December 2009

Identifying Essential Habitat (Source vs. Sink Habitat) for Pacific Herring (*Clupea pallasii*)  
in Sitka Sound Using Otolith Microchemistry

Restoration Project 080834  
Final Report

**Study History:** Project 080834, “Identifying Essential Habitat (Source vs. Sink Habitat) for Pacific Herring (*Clupea pallasii*) in Sitka Sound Using Otolith Microchemistry,” originated from the need to better understand essential habitat for Pacific herring (*Clupea pallasii*) in Prince William Sound (PWS). Compared to the PWS herring stock, Sitka’s herring stocks remain healthy and relatively intact, and can be used as a control group, providing baseline data for comparison to other depleted herring stocks around the region. The close relationship of PWS herring and Sitka Sound herring was investigated further with the use of otolith microchemistry. The project addresses herring restoration in PWS by using trace elements in herring otoliths as markers to identify successful spawning and juvenile habitats in Sitka Sound. Essential herring habitat in Sitka Sound can be compared to PWS essential herring habitat. This 2-year project was conducted in Sitka between October 2006 and June 2008. The project began as Project 070834, and additional funding was provided by the Council for completion of the project in FY 2009. The project complements Project 070782, “Herring Restoration in Prince William Sound: Identifying Natal and Nursery Habitats.”

**Abstract:** The primary objective of this project was to obtain information leading to better identification of essential fish habitat in Prince William Sound. By using trace element signatures of edge portions of juvenile herring otoliths, we identified the otolith chemical signature of individual rearing bays within Sitka Sound. We used trace element signatures of edge portions of adult herring otoliths to identify the otolith chemical signature of spawning areas within Sitka Sound. We also used trace element signatures of edge portions to compare to core portions of juvenile and adult herring to identify source and sink habitat in Sitka Sound. The results of the technique used in this project indicate that herring use different and distinct habitats in Sitka Sound during their life. Once we know which population contributes more to the spawning groups, we can then identify those variables that enhance the life histories of the source population. This will allow managers to protect the most important populations and also identify which variables can be altered to improve habitat for other populations. These techniques used in Sitka Sound can be directly transferred to Prince William Sound, leading to better identification of essential fish habitat in Prince William Sound.

**Key Words:** Adult herring, *Clupea pallasii*, essential habitat, juvenile herring, microchemistry, otolith microchemistry, Pacific herring, restoration, Sitka Sound.

**Project Data:** Data was collected from adult herring collected during spawning and from juvenile herring in nursery bays. All biological data was processed in Sitka. The otoliths were sent to the University of Massachusetts for analysis of concentrations of trace metals using a laser ablation (LA; New Wave UP 213nm Nd: YAG) Perkin Elmer inductively coupled plasma – mass spectrometer (ICP –MS). All data was entered in Excel spreadsheets. Statistical analysis

included analysis of variance (ANOVA  $\alpha = 0.05$ ) to distinguish differences in the otolith chemical signature. Contact: Nate Bickford, University of Great Falls, Division of Biology, 1301 20th Street S., Great Falls, MT 59405.

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## Executive Summary

The Trustee Council has classified Pacific herring in Prince William Sound as a non-recovering injured resource based on population trends that became evident four years after the *Exxon Valdez* oil spill. One of the Council's long-term goals is to restock Pacific herring in Prince William Sound. The factors that continue to impede herring recovery in Prince William Sound not well understood. This research explored the utility of otolith chemistry in the reconstruction of past habitat use, the identification of essential habitat, and the similarity of Sitka Sound herring population structure to that of herring in Prince William Sound. The identification of essential spawning habitat, and the ability to assess recruitment within major herring populations, will have profound consequences for these forage fish. The results will assist in the prioritization of restoration of essential habitats, as well as in the continued management and sustainability of herring fisheries.

The primary objective was to obtain information leading to better identification of essential fish habitat in Prince William Sound. By using trace element signatures of edge portions of juvenile herring otoliths, we identified the otolith chemical signature of individual rearing bays within Sitka Sound. We used trace element signatures of edge portions of adult herring otoliths to identify the otolith chemical signature of spawning areas within Sitka Sound. We also used trace element signatures of core portions of juvenile and adult herring to identify source and sink habitat in Sitka Sound. These results from Sitka Sound can be compared to the source and sink habitats of Prince William Sound.

Otolith samples were collected in 2007 from adult and juvenile herring. The otoliths were analyzed for concentrations of trace metals using a laser ablation (LA; New Wave UP 213nm Nd:YAG) Perkin Elmer inductively coupled plasma – mass spectrometer (ICP –MS). Elemental abundances were compared to relative to Calcium content among otolith samples. Statistical analysis included analysis of variance (ANOVA  $\alpha = 0.05$ ) to distinguish differences in the otolith chemical signature (Mg/Ca, Mn/Ca, Sr/Ca,  $Sr^{86}/Sr^{87}$ , and Ba/Ca). The results from linear discriminant analysis geographically distinguished the distinct groups of herring and allowed us to classify the individuals into groups (i.e., natal group, nursery group).

Sitka Tribe of Alaska is a strong advocate for the conservation of herring and protecting the subsistence fishery. In recent years, Sitka Tribe has been unable to harvest their subsistence need of herring eggs, while the commercial sac roe fishery harvests record quotas year after year. Sitka Tribe became quite concerned for the overall health and sustainability of the Sitka Sound herring stock, and began researching the population in 2004. In 2005 and 2006, Sitka Tribe conducted a stock delineation project using herring otolith microchemistry and stable isotopes. Both edge and core chemistries of the examined otoliths revealed 2 distinct chemical signatures (i.e. Sitka Sound and Salisbury Sound). This analysis distinguished 2 distinct herring spawning locations and 2 distinct hatch locations. This previous study sparked the Tribe's interest in continuing with herring research and exploring the technology of otolith chemistry to identify the temporal and spatial migrations of larval, juvenile, and adult herring. Like most Alaska herring populations, little is known about the dynamics of the Sitka Sound herring stock, specifically larval drift, juvenile rearing areas, spawning habitat and ecosystem relationships, and the role of predators and disease. The *Exxon Valdez* Oil Spill Trustee Council funding provided the opportunity for the Sitka Tribe to research adult and juvenile populations and their habitats, and

yield results that can be used in the restoration of herring in Prince William Sound and the restoration of other herring populations in Alaska.

## **Introduction**

Native peoples throughout coastal Alaska, including Sitka Sound and Prince William Sound (PWS) have relied heavily upon herring as a subsistence food source since time immemorial. Herring eggs are one of the most prioritized traditional food sources for many Alaska coastal tribes, including Sitka Tribe of Alaska. Alaska Department of Fish and Game (ADF&G) surveys have documented the use of herring eggs by households of the Sitka Tribe. ADF&G has estimated 97% of Sitka Tribal households utilize herring eggs, and that an average household uses 177 pounds of subsistence herring eggs (Schroeder & Kookesh, 1990). In 2009, the State Board of Fisheries increased the amount reasonably necessary for subsistence use of herring eggs from 139,000 to 225,000 lbs as specified in 5 AAC 01.716(b), just for Sitka alone. Sitka Tribe has been conducting subsistence herring harvest surveys in subsistence households since 2002, to document the importance of herring to native people's diet and culture. The estimated harvest of herring roe by subsistence users in Sitka in 2004 was 381,226 pounds harvested on hemlock branches, hair seaweed and *Macrocystis* kelp (Turek & Ciccone, in preparation).

Since the early 20<sup>th</sup> century, Pacific herring stocks have been heavily targeted by a massive commercial fishing industry and a bounty of herring reduction plants. Elsewhere, once healthy herring populations have been challenged by habitat loss or environmental degradation, as in the case of PWS herring. In March 1989, during a period of high biomass, the tanker vessel *Exxon Valdez* ran aground on Bligh Reef in northeastern PWS and spilled 42 million liters of crude oil. Immediately following the oil spill, herring spawned in PWS. In 1989, herring embryos and larvae had low survival, morphologic and genetic damage. Herring larvae had slow growth rates (Hose et al., 1996; Kocan & Hose, 1995; Kocan et al., 1996; Norcross et al., 1996). Estimates of spring spawning herring biomass from 1989 through 2000 ranged from 102,481 metric tons in 1992 to 14,378 metric tons in 1994 (Morstad et al., 1998). Herring catches were reduced in 1993 (Funk, 1995; Marty et al., 1998, 1999), and the fisheries were closed from 1994 to 1996. The harvest prior to the collapse was 48,317 metric tons in 1992; the highest catch since 1993 was 10,979 metric tons in 1997. However, the population of herring in PWS again collapsed in 1999 (Marty et al., 2003).

As a comparison to the PWS herring stock, Sitka's herring stocks remain healthy and relatively intact, and can in fact be used as a control group, providing baseline data for comparison to other herring stocks around the region. Estimates of Sitka's spring spawning herring biomass from 1989 through 2008 ranged from 58,500 tons in 1989 to 87,715 tons in 2008 (Pritchett & Hebert, 2008). The highest commercial sac roe harvest on record was 14,723 tons, taken in 2008 (Pritchett & Hebert, 2008). Sitka's herring population is stable and supports one of Alaska's largest subsistence herring harvests, as well as one of the largest commercial herring sac-roel fisheries in the world.

The Trustee Council has classified Pacific herring in PWS as a non-recovering injured resource based on population trends that became evident four years after the *Exxon Valdez* oil spill. One of the Council's long-term goals is to restock Pacific herring in PWS. The factors that continue to impede herring recovery in PWS are not well understood. To date, there has been no

satisfactory explanation of the lack of recovery of herring in PWS. Why the herring populations in PWS remain in a non-recovered status twenty years after the *Exxon Valdez* oil spill is unknown. One of the Trustee Council's recovery objectives for Pacific herring in PWS is a highly successful year class that is recruited into the population when other indicators of population health are within normal bounds. Herring are an important part of the marine ecosystem, as forage fish they are the staple source of food for many marine mammals, birds and fish. In Sitka Sound, herring is the food for many congregating Steller sea lions (*Eumetopias jubatus*), humpback whales (*Megaptera novaeangliae*), and grey whales (*Eschrichtius robustus*). If the decline continues, species that rely on herring as a food source will more than likely decline as well.

It is important to investigate and understand the factors preventing herring populations from recovering in PWS. A major factor is herring habitat preference during all life stages. Essential fish habitat is difficult to identify, much less conserve or improve. Therefore, it is critical to protect those habitats that contribute a disproportionately large number of recruits to future generations. It is quite often difficult to identify these source habitats and distinguish them from those habitats that may contain significant biomass but produce few recruits (sink habitats). In the case of Pacific herring in PWS, recruitment success has been measured by comparing the abundance of spawning adults in different habitats thereby approximating the relative importance of different natal and nursery habitats (Norcross et al., 2001). The technology of otolith chemistry allows researchers to investigate survivorship, and as a result, identify essential spawning habitats. Trace element chemistry preserved by the otoliths provides powerful insight into the environmental life history of fish. For example, otolith chemistry has been used to determine population structure and dynamics at both large (between estuaries) and small (between sea grass habitats within an estuary) spatial scales (Thorrold et al., 2001; Dorval et al., 2002). Chemical analysis of trace element concentrations in otoliths can be used to identify the geographic signatures of natal habitats used by fish captured either as juveniles or adults (Bickford et al., 2003).

This investigation used otolith microchemistry to identify the essential habitat of Pacific herring in Sitka Sound (Figure 1). This technique can then be transferred to PWS for comparison of essential habitat of Pacific herring. The research explored the utility of otolith (fish ear bones) chemistry in the reconstruction of past habitat use, the identification of essential habitat, and the similarity of Sitka Sound herring population structure to that of herring in PWS. In Sitka Sound, the identification of essential habitat utilized by a control population will have profound consequences for the Pacific herring reclamation in PWS.

To date there has been no way to correlate larval, juvenile, and adult populations for Pacific herring. Otolith microchemistry offers researchers a way of identifying the temporal and spatial migrations of larval, juvenile, and adult herring. The use of otoliths to describe the potential transport of herring larvae from spawning sites to nursery areas, and the identification of the most important areas, will aid researchers in understanding the recovery status of herring and achieving the goals of the 1994 Restoration Plan (Bickford et al., 2003).

The life cycle of Pacific herring in Sitka Sound is conducive to otolith chemical analysis. In Sitka Sound, herring mature at 3-4 years old and annually migrate to coastal waters and

consistently spawn on tidal and sub-tidal shores. Adult herring migrate in mid March to spawn on 40-104 nautical miles of coastline in Sitka Sound (Davidson et al., 2006). Spawning in Sitka Sound usually occurs in the third week of March and continues into mid-April, and sometimes can occur through May in some areas. Sitka Sound herring eggs incubate in these spawning areas for about 14 days before hatching as larvae in May and June. The planktonic herring larvae tend to drift to the northern end of Sitka Sound, which serves as a retention area (Haldorson & Collie, 1990). Metamorphosis of the larval herring begins in June of that same year (Stokesbury et al., 2002). The herring then become nektonic and swim to favorable habitats where they are no longer at the mercy of the currents. In August, the young herring begin to form schools and aggregate at the heads of bays far from coastal waters (Brown et al, 2002; Stokesbury et al., 2000). These populations stay isolated in their respective nursery bays until June of their second year (Stokesbury et al., 2000). At that time this cohort of herring leaves the bays and joins adult schools (Stokesbury et al., 2000).

Throughout the life of a herring, as it migrates among Sitka Sound fjords and bays, the trace element content of the water is recorded in the otolith. This creates a permanent record of habitat use by an individual fish. Otolith bands are accrued during the fish's time of residence in the spawning areas, thus recording the unique spatial chemical signatures. Otoliths are formed in the latter part of the egg stage. The initial deposition of material becomes the core of the otolith (Wright et al., 2002). As the juvenile herring grows the otolith accretes bands of new material, which surround its original core deposit. Daily bands, monthly bands, and yearly bands are accrued as layers. Growth is recorded as assorted bandwidths inside the otolith, much as a tree accumulates annual rings. The daily, monthly, and annual bands have long been used as detectors of age and growth rate in fish (Campana & Thorrold, 2001). In recent years, the chemical composition of individual bands have been used to identify past habitat use of the fish (Rooker et al., 2003; Campana & Thorrold, 2001; Thresher, 1999). The incorporation of and the concentration levels of trace metals in the otoliths are a function of abiotic (i.e., temperature, salinity) and biotic (i.e., diet, fish growth rate) conditions (Thresher, 1999).

The *Exxon Valdez* Oil Spill Restoration Plan of 1994 set recovery objectives, strategies and goals for Pacific herring in PWS. One of the Trustee Council's recovery objectives for Pacific herring in PWS is a highly successful year class that is recruited into the population when other indicators of population health are within normal bounds. This project meets that objective and provides the information needed to improve the management and recovery of this important commercial and subsistence species. The *Exxon Valdez* Oil Spill Trustee Council has identified Pacific herring as not recovered to a healthy and productive state. The Council stated herring do not exist at pre-spill abundance. This project focuses on the reproductive success and identification of essential fish habitat. This identified habitat will support abundant recruits using a healthy herring population, located in Sitka Sound, as a control group. This project contributes greatly to knowledge needed for herring recovery in PWS.

This project determined chemical trace metal signatures found in rearing and spawning areas. Through otolith chemical analysis, the spatial and temporal description of where herring spend their early life history was identified. This technique is necessary to identify those habitats where enhancement of the herring population is needed. The first step is protection of the population that is the source group, with the hopes that more fish will be added to the environment. The

second step is identification of similar habitats without herring and seeding new herring into the environment. These steps require identification of source and sink habitats that control herring population numbers (Bickford et al., 2003). The data can also be used to consider the effect the *Exxon Valdez* oil spill continues to have on the recovery of herring populations in PWS. Using the data, we hope to identify where herring were spawned (natal), where they spent time after spawning (nursery), where they go to spawn, and whether or not they spawn at their natal beach. This data lends understanding to survival between the life stages, and which habitats contribute herring to the population.

There has been a consistent downward trend in the biomass of Pacific herring in PWS. These sub-tidal and tidal spring spawners have distinct spawning strategies, as well as unique habitat needs and life histories. Currently, the methods applied to identify spawning habitats and recruitment success include spawn deposition dive surveys, which allocate habitat based on the presence of spawning adults. This EVOS research explored the utility of otolith chemistry in the reconstruction of past habitat use, the identification of essential habitat, and the similarity of Sitka Sound herring population structure to that of herring in PWS. The identification of essential spawning habitat, and the ability to assess recruitment within major herring populations, will have profound consequences for these forage fish. The results will assist in the prioritization of restoration of essential habitats, as well as in the continued management and sustainability of herring fisheries.

### **Objectives**

The primary objective was to obtain information leading to better identification of essential fish habitat in Prince William Sound. By using trace element signatures of the edge portions of juvenile herring otoliths, we identified the otolith chemical signature of individual rearing bays within Sitka Sound.

- 1.) Use trace element signatures of edge portions of adult herring otoliths to identify the otolith chemical signature of spawning areas within Sitka Sound.
- 2.) Use trace element signatures of core portions of juvenile and adult herring to identify source and sink habitat in Sitka Sound.
- 3.) The techniques used in this project can be transferred directly to Prince William Sound, specifically EVOS Project No. 070782.

### **Methods**

Water temperature and salinity were sampled at 1-meter at each collection site using an YSI 85 hand-held meter. A Garmin eTrex Legend hand-held GPS unit was used to record coordinates of collection locations. The coordinates were entered into maps created in ArcMap GIS 9.2. A random sample of 25 winter herring was collected during the 2007 winter bait fishery. During the spawning event in March and April 2007, random samples of adult herring were collected during the spring from 9 different collection sites. A total of 374 adult herring were collected in 2007 (Figure 1). The herring were sampled for weight, length, sex, maturity, and otoliths were excised. The fish were lightly rinsed and wiped down. Each fish was weighed to the nearest 0.01 g using an Ohaus Scout Pro digital scale. Each fish was measured from snout to hypural plate to

the nearest 0.01 mm using Tesa IP65 waterproof digital calipers. Sex was determined by a visual inspection and will be classified as mature, spent, or immature. Sagittal otoliths were extracted from the herring in a clean environment using standard techniques (Bickford et al., 2003; Campana, 1999; Campana, et al., 1995). The otoliths were then rinsed and cleaned with distilled water, and placed in micro centrifuge tubes. Each tube was labeled with the fish identification number, date and collection site information. All adult herring otolith pairs were sent to Dr. Nate Bickford and then processed at the University of Massachusetts for trace metal analysis.

Random samples of juvenile herring were collected during winter 2007 from five near shore nurseries. A total of 407 juvenile herring were collected in 2007 (Figure 1). All juvenile fish were lightly rinsed. Each individual juvenile fish was then wiped off using paper towels. The fish were identified as 1-50 according to date and sample site. Each juvenile fish was weighed to the nearest 0.01 g using an Ohaus Scout Pro digital scale. Each juvenile fish was measured from snout to hypural plate to the nearest 0.01 mm using Tesa IP65 waterproof digital calipers. Because these were immature fish, they were not sexed. Sagittal otoliths were extracted from the herring in a clean environment using standard techniques (Bickford et al., 2003; Campana, 1999; Campana et al., 1995). The otoliths were then rinsed and cleaned with distilled water, and placed in micro centrifuge tubes. Each tube was labeled with the fish identification number, date, and collection site information. All juvenile herring otolith pairs were sent to Dr. Nate Bickford and then processed at the University of Massachusetts for trace metal analysis.

#### *Otolith Chemical Analysis*

Sagittal otoliths were thin sectioned using a Beuhler isomet low speed saw. This exposed the otolith core and edge for chemical analysis and aging (Campana, 1999). The sagittal otoliths were analyzed for concentrations of trace metals using a laser ablation (LA; New Wave UP 213nm Nd:YAG) Perkin Elmer inductively coupled plasma – mass spectrometer (ICP –MS) located at the University of Massachusetts. These analyses were performed on thin sections of otoliths on a transect extending from the core across to the otolith margin. All analyses were calibrated using the external matrix-matched standard USGS MACS-1 (carbonate standard). Each sample measurement was preceded by a gas blank measurement with re-calibration (gas blank and MACS-1) every 10 samples. The concentration of all elements was calculated relative to MACS-1 after proper correction for the gas blank, matrix, and drift effects. Elemental abundances were compared to relative Calcium content among otolith samples (Campana, 1999; Campana & Neilson, 1985).

Statistical analysis included analysis of variance (ANOVA  $\alpha = 0.05$ ) to distinguish differences in the otolith chemical signature (Mg/Ca, Mn/Ca, Sr/Ca,  $\text{Sr}^{86}/\text{Sr}^{87}$ , and Ba/Ca):

- Juvenile edge (nursery) vs. juvenile core (natal): if the signature is the same, then the fish has not left spawning grounds.
- Juvenile core (natal) vs. juvenile core (natal): if the signature is the same, then the fish were spawned in the same area.
- Juvenile edge (nursery) vs. adult area just outside the core (nursery): if the signature is the same, then the adult used the same nursery habitat as the juvenile.
- Adult edge (spawning area) vs. adult core (natal): if the signature is the same, then the adult returned to spawn in the same area in which it hatched.

- Adult core (natal) vs. adult core (natal): if the signature is the same, then the adults were hatched in the same area.

Linear discriminant analysis (LDA) explicitly attempts to model the difference between classes of data. The LDA results geographically distinguished the distinct groups of herring and allowed us to classify the individuals into groups (i.e., natal group, nursery group).

## Results

We analyzed the juvenile and adult herring otolith edge (known location) chemistries independently using nonparametric discriminant analysis (SAS v. 9.1) in order to validate whether we can correctly classify herring to their capture site using elemental ratios. We then used the validated otolith edge chemistries to classify otolith core (unknown location) signatures for determination of spawning locations of herring.

We were able to use all juvenile otolith elemental ratios (Mg/Ca, Sr/Ca, Sr/Sr, and Ba/Ca) to validate correct classification of the captured locations. Cove Marina (Zone II), Old Sitka Rocks (Zone II), and Barge Dock (Zone II) all had strong correct classifications (86%, 86%, and 74%, respectively). However, Bear Cove (Zone II) only had 57% of the individuals correctly classified (Table 2). Though this classification was not as strong as at other locations, it composed a majority of the individuals and allowed us to confidently proceed with the classification of the juvenile core signature. The juvenile core signatures were then primarily classified to the Barge Dock, indicating that most of the individuals were spawned in this region. However, herring captured at the Barge Dock did not classify to this region. A majority of the individuals from the Barge Dock (83%) had an elemental signature that did not meet the probability threshold of any location and thus classified into the 'Other' category. Overall: 57% of all individuals classified into the Barge Dock region; 9% classified into the Old Sitka Rocks region; and the remaining 34% of individuals did not meet the probability threshold and thus classified into the 'Other' category (Table 3). No individuals were classified into either Bear Cove or Cove Marina.

We then used Mg/Ca, Sr/Ca, and Ba/Ca elemental ratios to validate the otolith edge signatures of adult herring. We were unable to use individual sampling locations, but we were able to use the three defined zones of sampling locations. We were not able to use individual sampling locations due to overlap of chemical signatures. This is due to a majority of the sampling locations being found in close proximity to one another in Zone II. We had strong correct classification in Zone III (96%), Zone II (67%) and Zone I (67%) (Table 4). Though the correct classification of individuals from the region north of Zone I (56%) was not as strong as the other two regions, the majority still correctly classified into this region, allowing us to use this data to classify individuals using the otolith core of adult herring (Table 4). When we classified the adult core elemental signature, based on the adult edge elemental signature, we found that a majority of the individuals classified into Zone II (90%). Ten percent of the individuals classified into Zone I. No individuals were classified into the region north of Zone I or Zone III (Table 5).

We also classified the juvenile core elemental signature based on the adult edge signature. We found the majority of the individuals classified into Zone II (85%). Fifteen percent of the individuals classified into Zone I. No individuals classified into the region North of Zone I. Twenty-one percent of individuals could not be classified into a zone based on the given



elemental signature from the edge of adult herring (Table 6). These results are similar to all classifications based on otolith edge elemental ratios. Zone II appears to be an important region for the spawning of Pacific herring in the Sitka area.

## **Discussion**

The adult Pacific herring otolith chemistry indicates that many of the adult fish hatched in Zone II. Adult Pacific herring that hatched in Zone II could not be defined, on a smaller scale, to sites within Zone II due to chemical overlap. This overlap is likely due to the fact that the adults move very quickly from area to area and many of the sites within Zone II are in close proximity to one another. The signature of the otolith is composed of about 7 days worth of a fish's life and consequently if that fish does not stay in one area then the chemical signature can be a mix of multiple sites. That is one of the reasons that juvenile fish are so important to a study like this. Juvenile fish typically do not move around as much as adults. Consequently the otolith chemical signature has the potential for a much better site discrimination. We find that in Sitka Sound, herring juveniles do have better site discrimination than other regions in Alaska. The adult otolith chemistries indicate that Zone II is a source habitat. The juvenile otolith chemistries indicate that the area south of Starrigavan Bay, in Zone II, appears to be the most productive source area in Sitka Sound. The bulk of herring spawn occurs in the area. Ninety percent hatch in Zone II and over 57% of juvenile herring use the Barge Dock area as a nursery bay. Based on the results of the otolith chemistries from the juvenile herring sampled, the Barge Dock appears to be the most productive rearing habitat for juvenile herring in Sitka. The Cove Marina site is less than 1 nautical mile south of the Barge Dock and less than 0.5 nautical miles northeast of the Old Sitka Rocks. The Barge Dock is located within the highly productive Starrigavan Bay estuary (Sitka Parks and Recreation Plan, 1991). Starrigavan Bay is located in Zone II and herring consistently spawn in this area and along the entire eastern shoreline south of Starrigavan Bay. Although these sites are in close proximity to each other, the Barge Dock area appears to be optimum herring habitat, as it supports spawning habitat and nursery grounds. As described by Sundberg (1981), the northward flowing ocean currents move along the Sitka shoreline, probably transporting herring larvae into the Old Sitka Rocks, Cove Marina, Barge Dock, and the Starrigavan Bay estuary where they would retain, undergo metamorphosis, and utilize the habitats as nursery bays (Figure 2). The planktonic larvae of the herring that spawn in areas distant from the Starrigavan Bay estuary face a wide variety of biotic and abiotic factors that can greatly influence their dispersal into this area. These factors can greatly influence larval survival and recruitment. Successful recruitment events can ultimately affect adult populations.

Although information describing oceanographic characteristics of Sitka Sound is quite limited, most of the surface ocean currents in Zone II move in a northerly direction (Sundberg, 1981). Herring that spawn in the eastern portion of Zone II may have a higher larvae survival rate than herring that spawn along the western portion of Zone II, i.e. Kruzof Island shoreline. The ocean currents may drive larvae from the eastern portion of Zone II into the protected estuaries, bays, inlets, and near shore habitats like the Barge Dock area, Starrigavan Bay estuary, and even Katlian Bay and Nakwasina, thus increasing their success. The ocean currents along the Kruzof Island shoreline may advect herring larvae out of Sitka Sound and into the Gulf of Alaska where the survival rate is predicted to be extremely low (Figure 2). The herring spawning beaches in Zone III have greater exposure to open ocean conditions than the herring spawning beaches

within the greater Sitka Sound. Herring larvae from Zone III are more than likely driven northward into Zone II by the ocean currents that arrive in Sitka Sound from the south.

Herring hatch in Zone II and then disperse to other sites such as Salisbury Sound. Sitka Sound appears to be supplying Salisbury Sound, along with other nursery areas north of Zone I, with juveniles. Salisbury Sound may be a source population for Hoonah, but also a sink population for Sitka Sound. Fourteen percent of fish collected in Hoonah Sound hatched in Salisbury Sound and the remainder came from Zone II. Based on the results, we hypothesize that the ocean currents may drive herring larvae from Salisbury Sound north, through Peril Straits, to Hoonah Sound. The currents in the greater Sitka Sound area may drive herring larvae up through the narrows into Salisbury Sound and, subsequently, Hoonah Sound. The Alaska Department of Fish and Game manages Salisbury Sound and Sitka Sound as one stock, and Hoonah Sound as a separate stock. According to this data, all three populations should be managed as separate stocks, or combined as one metapopulation.

In 2005 and 2006 the otolith chemistry of spawning adult herring collected on the northern part of Salisbury Sound (Zone I), specifically east of Kane Island, was distinct from those herring that were collected in Sitka Sound (Zone II). In 2007 the herring sampled in Zone I spawned on a different beach, Sukoi Inlet, in southern Salisbury Sound. The chemistry of the herring collected in 2007 is different from the chemistry of the herring collected in 2005 and 2006. In 2006 the ADF&G commercial herring sac roe fishery harvested 4,204 tons, about half the guideline harvest limit, in Zone I (Davidson et al., 2009). This large commercial harvest in Zone I may have contributed to the inability to locate herring for sampling in 2007. None of the herring collected in 2007 in Zone I were hatched in Zone I, while 50% hatched in Zone II and 50% hatched in an unknown location.

## **Conclusions**

The Barge Dock is along the Sitka road system and is an industrial area; there is a barge services facility and the Alaska State Marine Highway ferry terminal located at the sample site. The Cove Marina, also located on the Sitka road system, is a small boat harbor located less than 1 nautical mile south of the Barge Dock. Future development of this shoreline must be thoroughly considered, because it is the most important habitat for Sitka Sound herring that we sampled. From this research we conclude the following: Zone II is the most productive area for both adult and juvenile herring in Sitka Sound; the area along the northeast shoreline of Sitka Sound, specifically the Barge Dock shoreline and also Old Sitka Rocks and the Starrigavan Bay estuary, is the most essential habitat for juvenile herring production; and the Sitka Sound herring metapopulation contributes greatly to the Zone I population, the Zone II population, and the Zone III population; and finally, the Zone I population contributes to the Zone II population and the north of Zone I population.

Using otolith chemistry we were able to identify both source and sink habitats in Sitka Sound. Based on this study and other work done in Sitka Sound, the greatest weakness of the technique to identify essential habitat is obtaining a complete sample from all habitats. The greater number of sites sampled, the greater the range of collection site chemical signatures. This data complements the Bickford and Norcross EVOS Project No. 070782, "Herring Restoration in PWS: Identifying Natal and Nursery Habitats." With the knowledge gained from this project,

this technique will be able to transfer directly to Prince William Sound in order to identify other habitats that may be suitable for herring recolonization projects.

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We would like to thank Tom Gamble and Dr. Keith Cox for the transportation to and from the sample sites. We also thank the following individuals for their assistance: Dr. Brenda Norcross and Matt Keyse at the University of Alaska Fairbanks, Dave Gordon and Eric Coonradt at the Alaska Department of Fish and Game, Lon Garrison at Northern Southeast Regional Aquaculture Association, Amy Howard, Ray Nielsen, Kim and Jessica Perkins, Jay Clifton, Cal Hayashi, and the late Ralph Guthrie. We would also like to thank the Sitka Tribe of Alaska Herring Committee for their continued support, and the *Exxon Valdez* Oil Spill Trustee Council for funding this research.

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Figure 1. Locations of collection sites and dates of adult and juvenile herring samples from 2007 in the Sitka Sound area, including Salisbury Sound and Hoonah Sound. Sitka is located at N 57° W 135°.

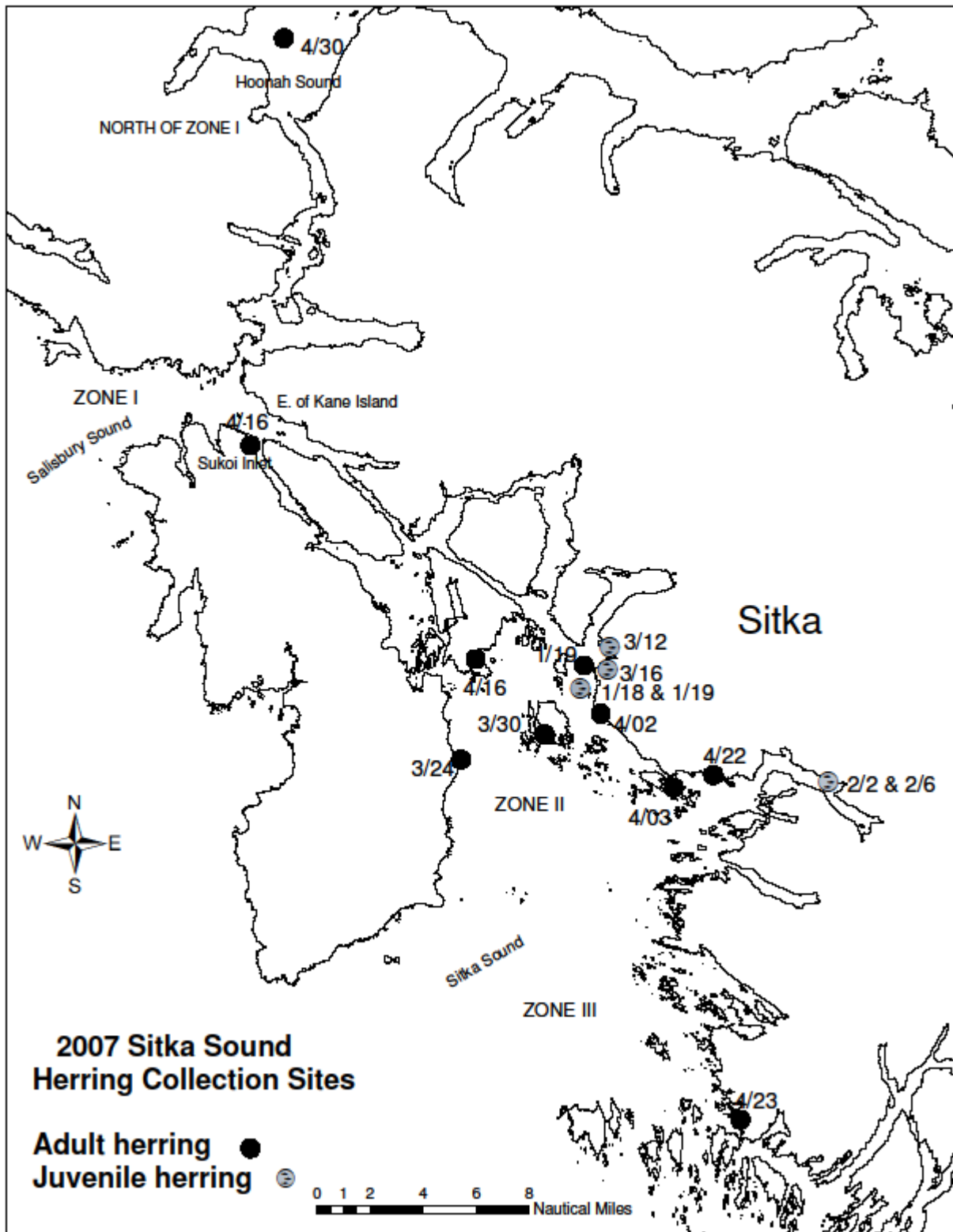


Figure 2. Sitka Sound circulation study from Sundberg, 1981. Net surface circulation flows northward along the Sitka shoreline to the Barge Dock and north to the Starrigavan Bay estuary.

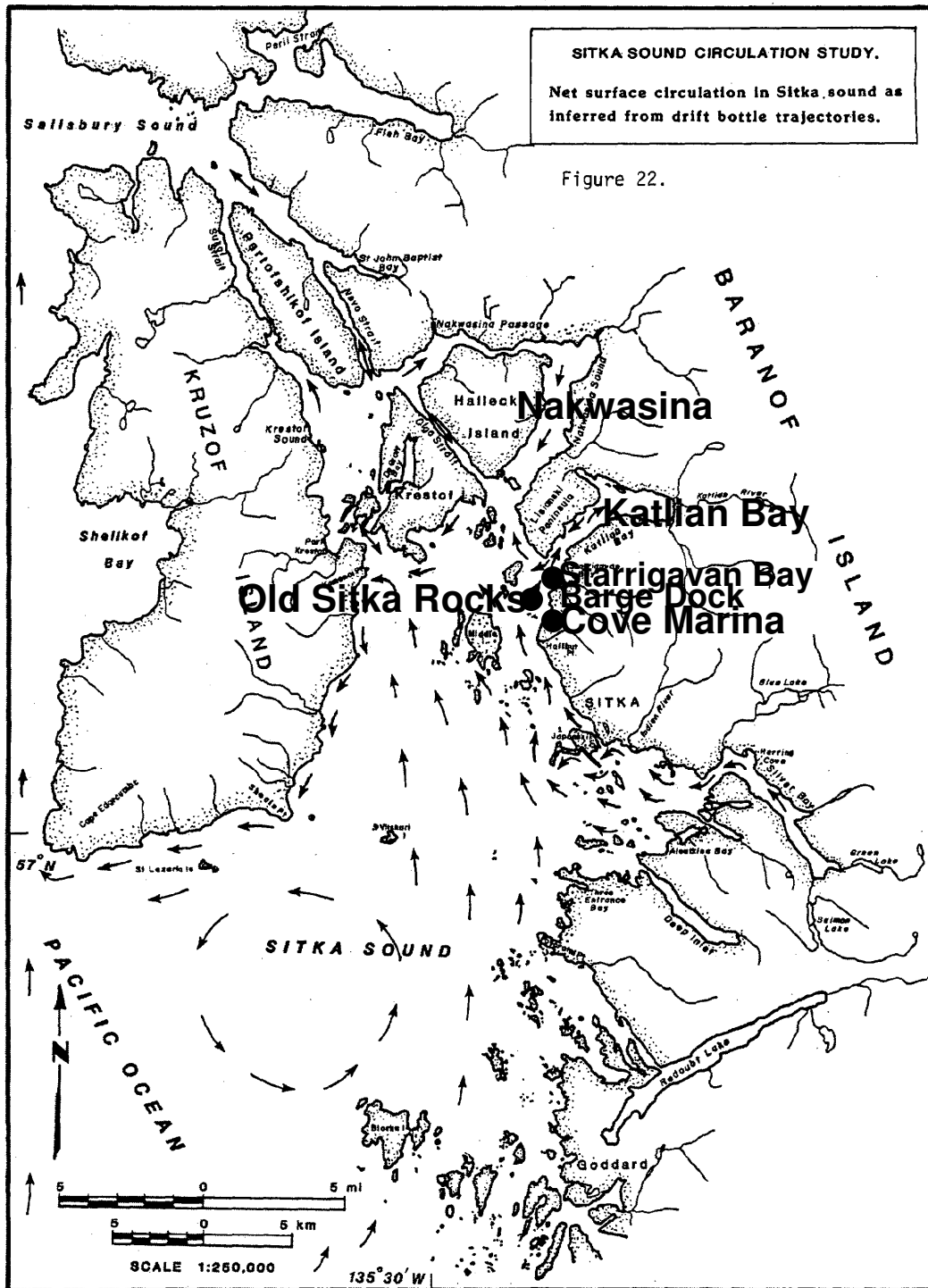


Table 1. Number of individual Pacific herring collected in each sampling location and zone, and where adults and juveniles were collected.

Location	Zone	n	Age Class
Bear Cove	II	37	Juvenile
Kliuchevoi	III	22	Adult
Cove Marina	II	21	Juvenile
Harbor Point	II	23	Adult
Hoonah Sound	N. of I	21	Adult
Magic Island	II	19	Adult
North Inner Point	II	19	Adult
Old Sitka Rocks	II	14	Adult
Old Sitka Rocks	II	14	Juvenile
Promisula Bay	II	25	Adult
Sage Rocks	II	20	Adult
Barge Dock	II	23	Juvenile
Sukoi Inlet	I	18	Adult
Thimbleberry Bay	II	20	Adult
Whiting Harbor	II	20	Adult

Table 2. Validation of correct classification of juvenile otolith edge elemental ratios using nonparametric discriminant analysis with Mg/Ca, Sr/Ca, Sr/Sr, and Ba/Ca as the variables. The shaded column represents juvenile collection locations; rows represent the classification into each zone.

Juvenile collection location	Zone II	Zone II	Zone II	Zone II	Other	Total
	Bear Cove	Cove Marina	Old Sitka Rocks	Barge Dock		
Bear Cove	57% n=21	19% n=7	19% n=7	5% n=2	0%	100% 37=n
Cove Marina	10% n=2	86% n=18	5% n=1	0%	0%	100% 21=n
Old Sitka Rocks	7% n=1	7% n=1	86% n=12	0%	0%	100% 14=n
Barge Dock	9% n=2	4% n=1	9% n=2	74% n=17	4% n=1	100% 23=n
Total	27% n=26	24% n=27	23% n=22	20% n=19	1% n=1	100% 95=n

Table 3. Classification of juvenile otolith core elemental signature based on the otolith edge elemental signature. The shaded column represents juvenile collection locations; rows represent the classification into each zone.



Juvenile collection location	Zone II	Zone II	Zone II	Zone II	Other	Total
	Bear Cove	Cove Marina	Old Sitka Rocks	Barge Dock		
Bear Cove	0%	0%	5% n=2	73% n=27	22% n=8	100% 37=n
Cove Marina	0%	0%	14% n=3	81% n=17	5% n=1	100% 21=n
Old Sitka Rocks	0%	0%	29% n=4	43% n=6	29% n=4	100% 14=n
Barge Dock	0%	0%	0%	17% n=4	83% n=19	100% 23=n
Total	0%	0%	9% n=9	57% n=54	34% n=32	100% 95=n

Table 4. Validation of correct classification of adult otolith edge elemental ratios using nonparametric discriminant analysis with Mg/Ca, Sr/Ca, and Ba/Ca as the variables. The shaded column represents adult collection locations; rows represent the classification into each zone.

Adult collection location	Zone I	Zone II	Zone III	Zone N of I	Total
Zone I	56% n=10	22% n=4	11% n=2	11% n=2	100% 18=n
Zone II	12% n=19	67% n=106	11% n=17	10% n=16	100% 158=n
Zone III	0%	0%	96% n=22	4% n=1	100% 23=n
Zone N of I	14% n=2	14% n=3	14% n=4	67% n=14	100% 21=n
Total	14 n=31	51% n=112	20% n=45	15% n=32	100% 220=n

Table 5. Classification of adult otolith core elemental signature based on the otolith edge elemental signature. The shaded column represents adult collection locations; rows represent the classification into each zone.

Adult collection location	Zone I	Zone II	Zone III	Zone N of I	Total
Zone I	11% n=2	89% n=16	0%	0%	100% 18=n
Zone II	11% n=18	89% n=140	0%	0%	100% 158=n
Zone III	0%	100% n=23	0%	0%	100% 23=n
Zone N of I	14% n=3	86% n=18	0%	0%	100% 21=n
Total	10% n=23	90% n=197	0%	0%	100% 220=n

Table 6. Classification of juvenile otolith core elemental signature based on the adult otolith edge elemental signature. The shaded column represents juvenile collection locations; rows represent the classification into each zone.

Juvenile collection location	Zone I	Zone II	Zone III	Zone N of I	Total
Bear Cove	14% n=5	86% n=13	0%	0%	100% 37=n
Cove Marina	24% n=5	76% n=16	0%	0%	100% 21=n
Old Sitka Rocks	0%	100% n=14	0%	0%	100% 14=n
Barge Dock	17% n=4	83% n=19	0%	0%	100% 23=n
Total	15% n=14	85% n=81	0%	0%	100% 95=n

RC122

November 15, 2011

The Honourable Christy Clark  
Premier of British Columbia  
PO Box 9041  
Station Provincial Government  
Victoria, BC  
V8W 9E1

**Dear Premier Christy Clark,**

*RE: Environmental consequences of multiple development projects in the British Columbia – Alaska transboundary region*

We are writing to ask for your leadership to balance the rush to develop mineral and energy resources on the Canadian side of the British Columbia – Alaska transboundary region with safeguarding the unique and irreplaceable ecological values of this largely pristine area. The impending construction of an industrial transmission line into west central British Columbia is the catalyst behind a spate of new proposals for mining and power generation, yet no process is currently in place to meaningfully assess cumulative impacts. Of particular concern are the international salmon runs of the Stikine, Iskut and Unuk Rivers. If allowed to proceed haphazardly, without careful consideration and thoughtful planning, the rush to develop this extraordinary region will almost certainly result in unnecessary destruction of fish and wildlife habitat and a diminishment of water quality and overall ecosystem health.

Vast, interconnected, and largely pristine, the transboundary watersheds of northwestern British Columbia and southeast Alaska comprise spectacularly diverse and wild natural environments. The Stikine, Iskut, and Unuk river watersheds are of profound importance to First Nations on both sides of the border. The watersheds support robust populations of all five North American species of Pacific salmon, and sustain international fisheries. The coastal estuaries are essential stopover sites for migratory birds, and the varied landscapes are ideal habitat for wildlife species of concern such as wolverine and grizzly bear, along with iconic species such as mountain goat, Stone's sheep, and caribou. Owing to their location, biophysical complexity, and largely intact state, the transboundary watersheds are climate change sanctuaries of global importance.

In British Columbia, a multitude of industrial projects is planned or proposed for these watersheds. The Northwest Transmission Line (NTL) – a 287 kV industrial transmission line extending 344 km (215 miles) into the region – has received environmental approvals. Characterized by proponents as a "gateway to a completely transformed region over time," the NTL is a government subsidized venture that's being constructed to power massive mining (11 proposed sites), energy (coal bed methane), and hydroelectric (at least 18 sites) developments. Collectively, these mean that roads, pipelines, pollution and haphazard human infrastructure will undoubtedly follow.

As this burst of development activity proceeds, no organization (government or non-government) has comprehensively addressed the huge scope of ecological and social issues that are likely to arise across the entire region. The scale and intensity of proposed development certainly will fragment the watersheds with roads, transmission lines, river diversion projects, and open pit mines. Habitat for salmon and other wildlife will be destroyed at the development sites. Cumulative impacts likely will cascade throughout the watersheds in the form of altered flow and temperature patterns, disturbance to wildlife interacting with roads, and reduced water quality

associated with sedimentation and acid mine drainage. There is much at stake, and the existing baseline inventories are entirely inadequate to assess, project, monitor, and prevent cumulative impacts anticipated from burgeoning resource development.

The Stikine, Iskut and Unuk River watersheds contain pristine salmon habitat and form some of the largest contiguous wildlife habitat in North America. A resilient future for these watersheds depends on sustainable management policies and stewardship practices that reflect a commitment to sound science, healthy environments and community wellbeing. However, as the B.C. Auditor General reported in July 2011, with regard to certified development projects in the province, "the Environmental Assessment Office cannot assure British Columbians that mitigation efforts are having the intended effects because adequate monitoring is not occurring and follow-up evaluations are not being conducted." Furthermore, "information currently being provided to the public is not sufficient to ensure accountability." Given that proposed development would be occurring in transboundary river headwaters, the downstream impacts to Alaskan interests will also likely not receive adequate consideration.

We respectfully ask for your support for a renewed focus on creating a well-structured and transparent ecosystem-based approach for assessing new development proposals in the British Columbia-Alaska transboundary watersheds. Before further development is approved, British Columbia must initiate a comprehensive assessment of potential cumulative impacts arising from the multiple development proposals in the watersheds. The cumulative impacts assessment must be rooted in a more complete baseline understanding of ecological values in the region. In addition, a formal mechanism must be established to incorporate downstream U.S. concerns about potential Canadian development projects into review processes.

Sincerely,

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BRITISH COLUMBIA

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Honourable Rich Coleman, BC Minister of Energy and Mines  
Honourable Terry Lake, BC Minister of the Environment  
Honourable Steve Thomson, BC Minister of Forests, Lands and Natural Resource Operations  
Steve Carr, Deputy Minister, Ministry of Energy and Mines  
Cairine MacDonald, Deputy Minister, Ministry of the Environment  
Doug Konkin, Deputy Minister, Ministry of Forests, Lands, and Natural Resource Operations  
Kevin Kriese, Assistant Deputy Minister Northern Region, Ministry of Forests, Lands and  
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Juan de Fuca  
Nathan Cullen, MP, Skeena-Bulkley Valley

ALASKA

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Senator Lisa Murkowski  
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