

Summary of the 1988 Purse Seine Skipper
Questionnaires on Chinook Mortality

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INTRODUCTION

The Pacific Salmon Treaty has instigated a coordinated coastwide natural stock rebuilding program for chinook salmon since 1985. Thus, the Southeast Alaska purse seine fishery has operated under a quota system for chinook salmon. A non-retention regulation is typically in effect for chinook salmon during the early portion of the summer seine season in Southeast Alaska. This regulation is intended to limit the purse seine landed catch of large (≥ 28 " total length) chinook salmon to 11,400 fish (excluding Alaska hatchery add-on) as directed by the Alaska Board of Fisheries. Also, regulations concerning the legal size of chinook salmon have been in effect since 1985. Small chinook salmon (≤ 21 ") can be retained and sold at all times. Medium chinook salmon (21 - 28") can be retained for personal use but can not be sold at any time. And large chinook salmon (≥ 28 ") can be retained and sold only during chinook salmon retention periods. Retention and non-retention periods are specified by the Alaska Department of Fish and Game in an effort to maintain the seine fleet quota of 11,400 fish. Small chinook salmon do not count against this quota.

This report summarizes the questions put forth by the Southeast Alaska Seiners Association and answered by 132 purse seine skippers. The intent of the Seiners Association was to provide input, from the fishermen, regarding solutions to the problems associated with the chinook non-retention regulation and the seine fleet chinook salmon quota. The questionnaire was directed at providing skipper and gear profiles, as well as, fishing strategies, methods of landing fish, and methods utilized to conserve chinook salmon. Finally, estimates of chinook mortality by size class were provided and ideas and comments towards a) avoiding chinook salmon, and b) improving release methods to insure survival of chinook salmon were given.

For the sake of characterizing the skipper, vessel, and gear profiles of those fishermen that returned questionnaires, this information was simply summarized in frequency distributions. Ideas and suggestions were repeated verbatim.

RESULTS

- 1) Skipper Profile:
 - a) Number of seasons as skipper of a Southeastern Alaska salmon purse seine vessel?
 - b) Number of seasons as crewmember on a purse seine vessel?

Years of Experience	Number of Skippers (yrs. as skipper)	Number of Skippers (total yrs. fished)
1-5	28	4
6-10	36	14
11-15	18	22
16-20	12	27
21-25	12	20
26-30	13	14
31-35	4	13
36-40	5	6
41-45	0	6
46-50	0	1
51-55	1	0
56-60	3	3
61-65	0	1
66-70	0	0
71-75	0	1

2) Vessel Profile:		# of boats
a) Type of decking?	Wood	= 97
	Fiberglass	= 11
	Metal	= 19
Type of deck surface?	Smooth	=106
	Non-Skid	= 20
b) Type of hold?	Dry	= 5
	Dry with ice or slush bags	= 25
	Tanked	= 18
	Tanked with RSW or champagne ice	= 81
Type of hatch entry?	Flush	= 45
	Hatch Combing	= 81

3) Net Profile:	
a) Number of meshes deep?	
Depth (meshes)	Number of Responses
250	1
275	2
300	2
325	2
350	41
375	10
400	33
425	7
450	28
475	1

b) Average mesh size of body web?

<u>Mesh Size (inches)</u>	<u>Number of Responses</u>
2.75	1
3.00	0
3.25	2
3.50	86
3.75	13
4.00	24
4.25	2
4.50	0
4.75	1

c) Depth of Breast line on Bunt end?

<u>Depth (fthms.)</u>	<u>Number of Responses</u>
2.0	2
2.5	2
3.0	10
3.5	2
4.0	14
4.5	4
5.0	31
5.5	6
6.0	25
6.5	4
7.0	15
7.5	0
8.0	3
8.5	0
9.0	3
9.5	0
10.0	1

d) Type of material in bunt? Knotted = 106
Knotless = 24

e) Purse? Full = 13
Half = 119

4) Fishing Strategy?

a) Assuming a good return of pink salmon with a normal areawide distribution of fish and assuming a continuation of current management, in which districts would you normally fish? In what parts of the season would you expect to fish there?

The following table represents the number of skippers that responded concerning the districts and time of season in which they would normally fish.

District	July			August			September		
	Early	Middle	Late	Early	Middle	Late	Early	Middle	Late
101	31	32	30	28	33	35	18	9	9
102	8	11	15	28	38	40	20	9	7
103	1	1	2	18	34	55	17	4	4
104	46	54	71	79	71	60	14	11	11
105		1	2	5	10	7	1		
109	7	8	14	17	11	8	1		
110	9	18	14	8	6	5			
111	4	4	4	2	2	1			
112	26	24	22	14	11	8			
113	13	16	10	4	4	2			
114	21	18	13	5	4	3	2		
Hidden Falls	56	22	8						

b) Has your fishing pattern changed in the past few years? Yes = 60
No = 64

Has it changed because of the imposition of the sockeye quota in District 104? Yes = 39
No = 70

How?

- "Moved to Hidden Falls."
- "I used to spend all of July on the coast but one day in early July isn't enough, so I went to the northern districts for more time."
- "Have to travel more."
- "Openings are too short in District 104 in July, so travel north to get more fishing time in early July."
- "I'm more apt to go north in July."
- "I move to Hidden Falls for more fishing time in July, rather than fish only one day/week in District 104."
- "Fish northern districts and Hidden Falls instead of District 104 in early and mid July."
- "Many areas have been taken away, i.e., Icy strait, and Boca de Quadra, southern Behm Canal, and DeLong Island have been severely restricted."
- "Have to fish where the openings are..."
- "We have lost many extra days of fishing."
- "Staying out of low return areas."
- "Too many restrictions and regulations in District 104 and less fishing time."
- "Stay north longer."
- "Fished District 104 more prior to quotas."
- "Less fishing time in District 104, and over-concentration of the fleet in one area due to lack of good management."

- "Closing District 104 causes overcrowding in the inside districts."
- "Start fishing later in the season because it isn't worth it to fish one day openings in the first weeks."
- "Fish more inside since there are more openings."
- "Fewer opportunities in District 104 forces boats into other areas."
- "Spend less time in District 104."

Has it changed because of the imposition of the chinook quota on the seine fleet and the resultant non-retention chinook management?

Yes = 26

No = 92

How?

- "Less fishing time in District 104."
- "Don't fish some sets as close to the beach."
- "Avoid sets which produce kings."
- "Can retain only a limited number and size of chinook."
- "Stay away from areas with high chinook abundance."
- "Can't make money on chinook as in the past."
- "Avoid one area of Noyes Island because of chinook."
- "Less kings = less money."
- "It costs me money to throw my fish away."
- "Too many restrictions and regulations, and loss of fishing time."
- "I'm forced to abandon some sets due to high chinook concentrations."
- "I don't target on king sets."
- "I avoid king areas."
- "It takes time to deal with chinook and slows down fishing."
- "District 104 is not as profitable now with non-retention."
- "I move to new areas to avoid kings."
- "More boats fishing in my spots when king restrictions are in effect."

Other reasons it has changed?

- "The area I want to fish is not open."
- "Because more boats are coming inside to fish."
- "Pink prices."
- "Runs are better in the North end fishery."
- "Icy Strait closure in 1974."
- "Clarence Strait closure."
- "Management."
- "Some areas aren't open to us, or not until the fish have passed through."
- "Because of changing patterns of boat concentrations."
- "The upper part of District 102 has been turned into an escapement area for gillnetters and trollers."
- "We haven't been able to fish Chatham and Icy Straits on time."
- "Learning curve traits."
- "Too many areas are closed during peak migration times, and the fleet is concentrated in one area."
- "Icy Strait is closed (I fished there from 1945 to 1972)."
- "Too many seine areas are closed, putting the fleet in small areas."
- "More \$\$ on the coast."
- "Closure of Icy Strait."
- "There are more boats and less fishing time."
- "The lack of pinks returning to the north end fishery."
- "I have my family as crew now so fish more inside."
- "Areas are closed where I want to fish."

- "There are too many boats shifting to the west coast."

- c) During chinook retention periods, do you regularly target on chinook salmon? Yes = 0
No = 126

During chinook retention periods, do you periodically target on chinook salmon? Yes = 16
No = 110

5) Method of landing and sorting fish.

- a) Method of landing? Sock = 52
Rolling Strip = 57
Brailing = 19

- b) Material of sock or rolling strip or brailer? Knotless = 32
Knotted = 96

- c) Number of persons on work deck (not piling gear) during the landing of fish?

<u>No. of Crew</u>	<u>Number of Responses</u>
1	19
2	70
3	18
4	11
5	7
6	3

- d) Are fish always sorted on deck? Yes = 62
No = 69

Are fish always dumped directly in the hold? Yes = 13
No = 114

If you answered NO to both questions, under what conditions do you sort fish on deck?

Responses fell into the following categories:

- If the set has a small number of fish = 35 responses
- If there is kelp or garbage in the net = 16 "
- To retrieve chinooks = 13 "
- If the percent of money fish is high = 11 "
- Only during non-retention = 5 "
- When the weather allows it = 2 "
- When brailing = 2 "

6) Method of saving chinook salmon during non-retention.

- a) Do you routinely make efforts to return chinook salmon alive during non-retention periods? Yes = 129
No = 2

Do you routinely make efforts to return 21" to 28" chinook salmon alive throughout the season? Yes = 122
No = 8

- b) Do you attempt to release over 28" chinook salmon:
- from the net = 11
 - from the deck = 51
 - both = 68

- c) How many of your crewmembers are involved in attempting to release chinook salmon alive to the water?

<u>No. Crewmembers</u>	<u>Number of Responses</u>
1	6
2	27
3	23
4	19
5	16
6	5
All	33

- d) Describe methods you use to release chinook during non-retention periods and throughout the season for 21" to 28" chinook.
- "Return in the water when possible to get to them."
 - "Grab the base of the tail with one hand, support the belly with the other hand, slide through the scupper if small enough or release over the rail."
 - "Release from the deck (11 responses)."
 - "Look to insure they aren't injured."
 - "Try to release before lifting the bag by rolling chinook over the corkline (4 responses)."
 - "Two hand body hug" (5 responses).
 - "Hold by tail and belly and try to revive if not lively."
 - "Try to release from the net because if they hit the deck they usually don't make it."
 - "The skiff-man picks them out or if it is a small set, they are brailled aboard and released through the scuppers."
 - "I release both from the net and the deck depending on the weather."
 - "Throw large kings over the net if they are at the surface and the set is small. Spill fish alive on deck when in king areas and then sort small and large kings. They almost always swim away."
 - "Pick it up by the body with bare wet hands and throw back from deck."
 - "We get large chinook out with small hand brailer. We are constantly looking for kings in the seine."
 - "Try to get them out if seen in the net, otherwise quickly release them from the deck when they spill out of the net."
 - "Go slow while rolling fish, pick fish out from the deck."
 - "Usually can't see them until they are on the deck."
 - "If they are spotted in the sock, we'll empty it slowly so when a king drops out we get it overboard as soon as possible. If there is more than one king, we'll dump it all and every crewmember will cover a section of deck to get them all overboard."
 - "Bring the bunt to the side of the boat and dip net them out."
 - "When the bag is aboard, grab kings first and lift over the side with both hands as soon as possible. Try not to keep them dried up in the bag very long before bringing aboard."
 - "Stop hauling gear when we see them, and throw them overboard."
 - "Pinch the sock so that no fish can enter until the bunt is free of kings. Have a lightweight brailer for this purpose."

- "The smaller the sock, the easier it is on the fish and does less damage."
- "Release chinook with gloved hands."
- "Have marks on the bulwarks to measure chinook quickly."
- "Don't grab by the tail or stick your fingers in the gills."
- "Have doors in the bulwark to slide fish through head first by the tail (but don't lift or grab the fish solely by the tail)."

7) Non-retention mortalities.

a) What is your estimate of mortality on your boat for:

<u>Size Class</u>	<u>Percent Mortality</u>	<u>Number of Responses</u>
chinook salmon under 21"?	0	10
	10%	26
	20%	12
	30%	14
	40%	4
	50%	9
	60%	6
	70%	2
	80%	11
	90%	2
100%	6	
chinook salmon 21" to 28"?	0	13
	10%	31
	20%	12
	30%	15
	40%	4
	50%	12
	60%	5
	70%	1
	80%	5
	90%	1
100%	2	
chinook salmon over 28"?	0	16
	10%	39
	20%	10
	30%	18
	40%	4
	50%	5
	60%	0
	70%	1
	80%	4
	90%	3
100%	2	

b) What comments or ideas or observations do you have on ways the purse seine fleet could improve on releasing chinook alive to the water?

- "Make the breast line shorter at the skiff end of the net, allowing a deep net but not fishing on the beach."
- "Time the chinook retention period to the peak fishing periods."
- "Close Granite Point."
- "Deal with chinooks immediately when they come on board."
- "Limit the size of bags brought aboard."

- "Use knotless bunt or sock web."
- "On small sets, roll the chinooks directly out of the seine without bringing them on board."
- "Avoid scraping the rocks/shoreline at specific tide phases."
- "Be quick, gentle and careful in handling chinook."
- "Close specific sets or local areas during the non-retention period."
- "Make nets a maximum of 350 meshes deep."
- "Identify large chinook while in the water and dip them out."
- "Schedule troll openings just prior to seine openings."
- "Have a long-handled sport dip net available."
- "Taper the bunt end so it is shallower in the first 35 fathoms, and make the body 200 meshes deep for the first 20 fathoms and 300 meshes for the next 20 fathoms."
- "Wear wet gloves and oilskins to minimize scale loss when handling live chinook."
- "Avoid sets that produce kings."
- "Limit nets to 300 or 325 mesh depth with 3.5 inch body web."
- "Don't reduce the net depth, because shallow nets can still catch alot on the rockpiles, i.e., don't fish the rocks."
- "Tye the leadline to the corkline on the bunt when in areas with lots of kings."
- "Close the major areas where kings are: i.e., local areas such as Vita Bay, Granite Point, Ship Island sohre, Caamano Point, Meyers Chuck."
- "Dip net chinook out of the net from the skiff."
- "Open Icy Strait to relieve pressure on District 104."
- "Take the time and a little extra effort to release them."
- "Restrict seine depth to 3 1/4 strips."
- "Don't pick fish up by the tail, and make live release a first priority."
- "Restrict the mesh depth to 200, and a 10 fathom tow line in king areas."
- "Don't dump fish directly into the hold; don't target on kings; work on it."
- "Close the key beach areas; the humpies can be caught elsewhere and inside."
- "Dump the fish on a wooden grated deck."
- "Use shallower gear during the non-retention period."
- "Split the retention period by areas in order to time with the peak king runs."
- "Design a scoop to get them quickly and without handling before they exhaust themselves or get injured."
- "Stop the power block before kings get to it."
- "Have longer openings-- the kings spook after the first day of an opening and go deep."
- "Give up the proceeds from chinook, but go ahead and sell them rather than releasing dead fish, i.e., prevent targeting by not allowing any gain."
- "Educate the fishermen better of the consequences of high incidental chinook catches."
- "Don't use a sock in the bunt in July."
- "Put a smaller mesh size on the top strip to prevent the smaller chinook from getting gilled in the net."
- "Stay off the beach, especially after a long closure."
- "Open more inside areas consistently to spread out the effort."
- "Implement individual quotas to prevent targeting."

- "Don't patch the leaks in your net."
- "Keep working on non-retention."
- "Write less bizzare regulations for distribution during the season."
- "Encourage and educate fishermen towards full compliance with the current law."
- "Sell dead chinooks rather than tossing them, give the proceeds to other fishermen groups (i.e., American trollers, gillnetters, or Canadian trollers) who fished that year and didn't catch their quota."
- "Roll bunts onboard rather than using straps, strapped bags, and/or large socks which crush and suffocate fish."
- "Most key king areas are also key pink hook-offs."
- "Implement a tax on chinooks--make it a very high percent of the total to discourage targeting."