Submitted By Robert Suarez Submitted On 12/22/2021 3:58:44 PM Affiliation Charter Business Owner

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My family and I are charter business owners in Sitka, Alaska. I have been in the charter business for 24 years as an owner and operator, and have lived in Sitka for 31 years. Our family business is based on salmon and halibut day charters out of Sitka. We employ a captain, and the business provides day trips for over 100 days each season taking 4-6 guests each day. Guests stay in Sitka for 4-6 nights, providing an economic benefit to the local businesses (hotels, restaurants, and local shops). Our business is highly dependent on the king salmon opportunity- **we support proposal 83**. We support keeping resident access open, but we don't support inseason closures or annual limits that are too restrictive that would keep anglers from coming to Sitka to fish. Liberalized limits at high abundance seasons don't compensate for seasons with closures or too little opportunity for anglers. Thank you for your time.



Submitted By Robert Sylvester Submitted On 12/22/2021 12:14:54 PM Affiliation citizen Phone

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As a former troller and 40 year resident of Southeast Alaska I have watched the decline of herrng stocks and the apparent unwillingness of the powers that be to address the issues surrounding herring, a noble fish that is the diet of so many fish important to our other fisheries. It is time we act like herring are a integral part of our food web and not just another commodity.

I support Herring Proposals 156, 157 and 158.

I oppose Herring Proposals 159, 160, 161, 163, 164, 165 and 166.

Thank you!



Submitted By Rochelle Miller Submitted On 12/20/2021 3:12:51 AM Affiliation

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I am writing today in support of proposals 156, 157, and 158 which would lead to safer management of the commercial herring fishery in Sitka Sound by better protecting population resilience while doing less harm to the subsistence roe-on-branch harvest.

I am opposed to proposals 159, 160, 161, 163, 164, 165, 166, which lack good scientific justification, disrespect subsistence users and modern and traditional Tlingit knowledge, and run the risk of further damaging and reducing herring populations.

Further, I believe that none of these proposals go far enough to advance respectful stewardship and protect the herring for generations to come.

Respectfully,

Rochelle Miller



Submitted By Romy Bekeris Submitted On 12/21/2021 1:48:32 PM Affiliation

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As a citizen of Sitka, I stand in support the Sitka Tribe of Alaska's proposals for further herring management. Specifically, proposals 156, 157, and 158 best represent compromise between stakeholders and ensure a better future for our herring. Those who rely on herring subsistence have long noticed dwindling numbers in their populations, as well as a decrease in areas where the fish now live and spawn. These fish, so important to the ecosystem of southeast, have historically been overfished. If all stakeholders are to continue to benefit from the existence of herring, there needs to be positive change in the leeway and patience afforded to herring spawn. Proposal 156 is very reasonable. It asks that the same Harvest Control Rule for herring in other parts of Southeast Alaska be applied also to Sitka Sound. This proposal is in line with the consistency that the Sitka Tribe of Alaska envisions for herring management, and data cited within the proposal explains that mismanagement of this Harvest Control Rule is likely the cause of current overfishing. Focus in better harvest procedure is key to ensuring a healthy number of herring populations. Proposal 157 supports better protection of older herring, which are a fundamental guiding factor for the survival of younger herring. It simply asks for a slight change in the limit of what percent should be harvested, in consideration of the age of the herring. Failure in adjusting harvest limits for older herring, as noted by recent research, will lead to younger herring less able to find their spawning areas. This would harm subsistence fishers, industry stakeholders, as well as the ability of herring populations to spawn reliably. Proposal 158 further protects the survivability of herring populations. It asks that the fishery not be conducted should there not be a safe minimum number of integral older herring. The current sac roe herring fishery consistently targets the older herring, despite their importance to the younger herring and future herring generations. This spells out danger for all the herring of Southeast, and if we are to prevent complete disaster moving forward, this would be a smart and safe precaution to ensure the continuity of their spawn. These proposals, 156, 157, and 158, entail safe precautions, open-minded solutions, and great opportunities for stakeholder compromise. Proposals that I and the Sitka Tribe of Alaska oppose are proposals 159, 160, 161, 163, 164, and 165. These proposals do not align with a fishery that hopes for long-term, sustainable herring fishing. Please consider placing your support in the Sitka Tribe of Alaska, and those who have long safeguarded the stability and health of local herring. Thank you for your time in considering the proposals of our community.



RE: proposal 207

I have read proposal 207 that wants to close "the head of the bay"& thought I would pass my feelings about it sources & give a bit of a history lesson about Dungy crab in Whale pass !

Regarding comment about sea otter I was fishing Dungies in Whale pass before sea otter came around the corner @ Pt Baker, there a real problem now &

they killed Lava creek & Exchange cove in 1 winter. Also it seems like a advisory board would/could bring up the sea otter issue with ADFG NMFS ETC put them on the spot tell them your subsistence lifestyle story instead

I have NEVER set gear directly down the beach so that it impedes skiff traffic from the homes along the beach; I have also NEVER set gear in such manner around the airplane float that it interferes with airplane traffic.

For quite a few years now I have only fished for 3 weeks in Oct then put my gear away & this 2020 fall season I am not even fishing because of depressed prices due to the virus.

I really don't like it when folks act like hillbillies! "it's mine because I lived here for a while" 2 years ago I was there Oct 1 about 10 AM trooper boat took ½ the subsistence pots with him when he left! Is it such that "local's" don't need to follow the simple rules (name & address & cotton)

Whale Pass can hardly be considered a isolated community any longer there's always been airplane traffic "ya might be a few days when the weather curtails flights" but WP is a few miles from a paved highway that is state maintained year around & its about 50 miles to the 2 largest towns on POW 1 with a 5000 ft paved runway with IFR capabilities & another 20+ miles puts you at the Hollis terminal with regular ferry service to Ketchikan. As far as depressed economy & few jobs most small comminutes in SouthEast are the same so WP is NOT unique in that respect.

History lesson:

1.

I have lived & worked "logged/fished/towboat" around East POW most of my life including Whale pass.

2.

Back in the 60's/ 70's there were no Dungy crab inside Whale pass (there were a few out the N entrance in 25 fm) how do I know this I lived in the floating camp had dungy pots & never caught a crab inside "the point" I use to bring crab in from exchange cove, red bay, Also FYI back then Barns lake & Lake Bay also did not have crab, My Dad is the guy who planted Dungies in WP BL & LB he would catch them elsewhere & then dump them overboard while passing through the above areas.

PC305 2 of 4

3.

Back a number of years ago @ a board meeting I suggested the "inside bay" be opened for the winter season WHY you ask ? because for years when I showed up on Oct 1 there would be NO subsistence pots in the water period ! & for years after the inner bay was opened I would show up Oct 1 NO subsistence pots in the bay yet locals would whine about the nasty commercial guy !!! for the last 4-5 years now on Oct 1 I have

seen $\frac{1}{2}$ dozen or so subsistence pots out when I show up.

4.

ADFG reports that the 2020 summer dungy season is the second best on record & could take # 1 spot with the added fall poundage, Here's the news clip from KTOO news.

Fishermen brought in 5.81 million pounds of crab in a commercial season that ran from mid-June to mid-August.Joe Stratman leads crab management in Southeast for the Alaska Department of Fish and Game.What was taken this summer is more than double the previous ten year average," he said.The summer harvest was so good that it's higher than nearly all other full-season harvests, which also include the fall and winter fisheries. This year was only topped by the record year of 2002-2003.

My comments about proposal 206, You want to close the inside bay to "nonresident" sport dungy fishing but yet you want all those nonresident tourists to come spend their \$\$ at Whale Pass ! the term "biting the hand that feeds you comes to mind" you say the tourists ck there pots & other peoples pots (I know for a fact some of my pots get picked & even cut off!!)

I suggest you go to the board meeting & offer a less pots & smaller bag limits for nonresident sport approach.

Ron Opheim F/V Chatham P O box 2118 Wrangell,AK 99929 907 305 0992 Suijuris1@gci.net Ron & Helen Opheim P O box 2118 Wrangell, AK 99929 F/V Chatham 907-305-0992 , <u>suijuris1@gci.net</u>

Hello from the 2 of of us, & thank you for your service, I myself have been involved in commercial fishing most of my life & my wife has actively fished for the last 20 years together we hold SE gillnet, Dungy, Halibut, pot shrimp, cucumber permits.

PC305

3 of 4

SOLIT 12-16-0

Dungy proposals: Folks keep asking for more closed areas yet according to ADFG'S Joe Stratman we had a very good 2020 Dungy season & I agree!

We **Oppose** all Dungy crab proposals that ask for more closed area to commercial fishing, in particular the following.

Proposal 205: **Oppose** We have commercially fished Dungy's for over 20 years in the Coffman cove area & personally never set gear inside Coffman cove out of respect for the locals! And personally I have never seen commercial gear inside the cove.

Proposal 207: **Oppose** We have commercially fished Dungy's for over 20 years in Whale pass! Whale pass has 2 areas "outside the point" is open for the summer & fall season, "inside the point" is closed during the summer season & open for the fall season (waters inside the point is what proposal 207 is referring to)

We take proposal 207 is a personal attack against us as we are the only commercial boat that's fished the waters inside the point in years!! The wording in 207 suggests sea otter have caused the commercial fleet to be displaced from other areas (this is very true) BUT personally we have fished inside Whale pass before sea otter were ever swimming around the corner @ Point Baker!! 20+ years, 207 goes' on to suggest "we" set our commercial gear directly inside the point in direct competition with the locals, I have told this story in oral testimony at board meetings & will tell it again, years ago & for many years we would show up on Oct 1 there wouldn't be 1 subsistence pot in the whole bay now for the last 3-4 years there has been about 1/2 dozen personal use pots out (3-4 years ago 9 am Oct 1 trooper skiff took 3/4 of them with him) We normally fish for 3 weeks then put the gear away in doing so we are always leaving plenty of crab for the 30+ – year around residents & we didn't even fish this fall season because of low prices caused by the pandemic, When we set gear we always stay away from the beach's where the houses are/airplane float/etc so as to not impede skiff/airplane traffic, We the only commercial fall crabber WILL be impacted if this area is closed!! additional side note back in the late 60's-70's there were no Dungy's in Whale pass "I lived there"

Proposals 204 & 206: Maybe its time to somehow limit nonresident sport fishing We strongly feel residents both commercial & subsistence should have first priority to the natural resources.

Proposal 209: Suggest rewording to include all of SE reg area A reduce the number of pots & bag limit for nonresident angler's

Proposal 121: **Oppose** As a gillnetter its been my observation that its not the "local year around residents" who are having problems with nets in the waters around Coffman cove in fact some locals own gillnetters, but it's the nonresident summer crowd & visitors who are having problems.

Thank you & be safe Ron & Helen Opheim Wrangell, AK



Ron & Helen Opheim P o box 2118 Wrangell, AK 99929

Dec 13 2021

RE: comments from 2020 & additional comment for 2021 meeting

Hi, Have a safe meeting ! This is just a additional comment to cover the 2021 seasons events in and around Coffman Cove & Whale pass proposals

We fished the Oct season for 3 weeks in Whale pass & without fail Oct 1 when we sat gear we counted 2 local personal use pots in the area proposed to be closed, several days later we counted 10 or so personal use pots deployed, So my opinion is the locals are only prompted to fish when the commercial guy shows up & then write unnecessary proposals!

From my observations Sea Otter are a way bigger threat then commercial fisherman! You the board have the power to do something about that BUT for whatever reason choose to turn a blind eye to the devastation the sea otter have & are causing.

Thank you Ron & Helen Opheim

ALSO ATTached 15 My Letter TO

Submitted By Russell Thomas Submitted On 12/22/2021 8:15:32 AM Affiliation Alaska Sportfishing Expeditions

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I am writing in support of proposal 83. The proposal addresses issues related to long chinook closures in the sport fishery in years of low abundance. In short, it allows the department to go back to the old way of managing the fishery "on average" and over time, rather than implementing a hard 20% cap.

The new annex of Pacfic Salmon Treaty (2018 - 2027) provisions are onerous in that it requires a payback if the Alaska all-gear quota is exceeded. Unfortunatley, there is no reciprocal "carry-forward" or "bank" for fish that we do not harvest that could be used when we go over. The hard cap has forced the department to implement measures to ensure the sport fleet does not exceed its 20% allocation, which has resulted in long in-season closures.

This proposal balances the needs of sportfishermen and the troll fleet. We static bag limits at each tier, it is clear that a re-allocation between sport and troll is not likely needed. With the ability to manage "on average" and proposal 83 bag and annual limits, the troll fleet gives us some fish in years of low abundance, in exchange for fish in years of high abundance. It also protects residents by giving them preference over non-resident anglers, and steps up their bag limit prior to increasing the bag and annual limit for non-residents at each progressive tier.

Allocation is a difficult discussion because in most cases, someone has to lose for another person to win. Proposal 83 balances the needs of each user group in a way that solves the problem of extended chinook closures in the sport fishery, while doing the least amount of harm to the troll fleet and still protecting resident anglers.

In closing I should note that this process is already working to the benefit of the troll fleet, although there is not a similar provision that would allow it to benefit the sport fleet. In the last two years, the troll fleet has been able to catch sport and net allocation that was not going to be utilized by the sport and net fleet. I agree, this is what should happen. But the benefit should not be one-sided and a small tweak in the management regime would allow the department to effectively manage all the fisheries to ensure that the fish are utilized in a way that brings maximum economic benefit to SE and doesn't unfairly penalize any one user group.

Thank you for your time.

Russell Thomas

Alaska Sportfishing Expeditions

Ketchikan



Submitted By Ryan leroy Cook Submitted On 12/22/2021 1:44:02 AM Affiliation SE Gillnet permit owner



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I write in opposition to proposals 122 & 123 because in 2018 when this last deal was made between USAG and the seiners, it was suppose to sunset in 3 years and return back to it original language. And with the Gillnet fleet under there allocation on Sockeye and Pink Salmon, these proposals would not help them try and get more of there allocation.

I write in support of proposal 124 because this proposal brings back the original plan implemented in 1989, where it puts a 15,000 Wild Sockeye cap on the Hawk Inlet shorline fishery in July. This is to allow passage for north bound sockeye going to the Chilkat, Chilkoot and Taku rivers. This plan has worked since 1989 and should be what language this goes back to.

I write in opposition to the Northern SE Alaska King Salmon action plan. In the action plan passed in 2018 it stated that if the Chilkat River meet 3 consecutive years of king salmon escapement the SOC statues would be lifted. And if the department would include ALL of the date through the 2021 season it would show that the Chilkat river has meet that goal. Also if the correct & current data was used it would show that the commerial fleet isn't the primary harvestor of the Chilkat King Salmon, Sport fishing actually is.





PROPOSAL 166

Establishing an open pound herring spawn on kelp fishery in Sitka Sound.

Thank you for taking the time to look at these documents supporting Proposal 166. This proposal would establish an alternative harvest method of open pound herring spawn on kelp within the current sac roe fishery in Sitka Sound.

In 1998 and 1999 an experimental open pound herring roe on kelp fishery was conducted in Sitka Sound. This project identified open pounds as a viable alternative to the sac roe fishery and produced published studies, data, and video which demonstrate the positive results of this alternative harvest method. The Department report, marketing reports, and other documents included in this packet have been submitted to the Board during past meetings. Clearly a lot of time has passed since this experimental fishery occurred but the data, studies, and reports produced are still very relevant today. The market for herring roe products has not changed much from the time these documents were produced. There is still a finite market for existing herring roe products but expansion is still possible with the addition of the thinner product that would be produced with open pounds in Sitka Sound.

The proposal for open pounding in Sitka Sound was first presented to the Board of Fisheries in 1996 and the political environment surrounding the sac roe fishery since then has changed. Issues regarding resource conservation and subsistence needs have come to the forefront and, under current market conditions; the economies of the fishery have declined. Diversifying the fishery with open pound spawn on kelp as an alternative harvest method would address many of the political concerns surrounding the fishery while also improving the overall value of the fishery.

This packet contains the following:

- Spawn on Kelp and the Sitka Sound Herring Fishery.
- ADFG Report to the Board re: 1998-99 Experimental spawn on kelp fishery in Sitka Sound.
- Spawn on Kelp Market Trends and Opportunities.
- Spawn on Kelp Market Study.
- Letter from Elderwood Trading regarding open pound fishery in Sitka Sound.

Respectfully Submitted,

Ryan Kapp



Roe on Kelp and the Sitka Sound Herring Fishery

Allowing an Open Pound Roe on Kelp (ROK) fishery in Sitka Sound as an alternative to seining will be a benefit to both the value and sustainability of the fishery. ROK will increase the overall value of the fishery while killing less fish than the existing harvest method.

The biology of spawning herring is a big factor in producing more value from the same biomass.

Currently, herring harvest can begin when roe recovery is sampled at 10% roe weight. Put simply: 100 tons of fish equals 10 tons of eggs. In some Sitka Sound openings roe recovery has been as high as 13%. In an experimental ROK fishery conducted in Sitka Sound in 1998 and 1999, Alaska Department of Fish and Game determined that 100 tons of herring biomass harvested with open pound ROK converts into 27 tons of product. This represents a recovery of 27% which more than doubles the existing fishery egg recovery.

The reason for this increase in weight is biological. Upon fertilization the herring egg hydrates with water increasing the weight of the egg. ROK eggs are spawned, fertilized eggs that are hydrated while seine caught sac roe are pre spawn eggs and not hydrated. Because of this hydration the weight of an individual egg produced with ROK is more than twice as heavy as an individual sac roe egg.

With ROK the value of the eggs is increased as well. For example: 100 tons of herring at current prices (realistically figure \$150 per ton) is worth \$15,000. That same 100 tons of herring harvested with ROK equates to 27 tons of product or, for simple math, a little over 50,000lbs. 50,000lbs of product sold at current prices (realistically figure \$5 per pound) is worth \$250,000. In this scenario the ROK product is worth more than 16 times the value of the traditional sac roe product.

While harvesting with ROK increases the value of the fishery product the best part is that with Open Pound ROK no herring are killed. With an Open Pound ROK fishery the herring can swim into and out of the kelp as they please. There are no nets used at any time. The fish swim in, spawn, and return to sea making them available to spawn again in the future.

Increasing the value of the resource while causing the resource less harm is a win / win scenario. This is something every fishery management plan should strive for. Incorporating Open Pound ROK into the Sitka Herring fishery would be a benefit both now and well into the future.



REPORT TO THE ALASKA BOARD OF FISHERIES, 1998 AND 1999 SITKA SOUND HERRING SPAWN-ON-KELP EXPERIMENTAL TEST FISHERIES



By

Bill Davidson, Dave Gordon, and Dave Carlile

Regional Information Report¹ No. 1J00-01

Alaska Department of Fish and Game Division of Commercial Fisheries Juneau, Alaska

January 2000

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The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data, this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.



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ACKNOWLEDGEMENTS

The authors would like to acknowledge Eric Parker, Nicole Duklos, Marie Murray, and Karl Wolfe for their field work and data collection efforts. Amy Holm, Ryan Scott, Christine Schmale, and John Preus conducted the analysis of herring samples in 1998 and 1999 respectively. The authors would like to thank Gronholdt and Associates and Alaska General Seafoods for their cooperation throughout the two years of this study.



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ABSTRACT

During the January, 1997 meeting in Sitka, the Alaska Board of Fisheries deferred action on a proposal which would have created the option for fishers to alternately use open platform gear to produce herring spawn-on-kelp and/or purse seine gear to produce sac roe herring. The board requested that the department conduct an experimental test fishery to evaluate the possibility of an open platform gear fishery. The department contracted with a team of fishers by competitive bid in 1998 and 1999 to conduct the test fishery. This report summarizes the planning, development, and results of the test fisheries, and department research in 1998 on a spawn-on-kelp to herring conversion rate. Using four, 40' x 60' rafts each year, the contractor successfully produced and marketed 27.2 tons of spawn-on-kelp which sold for \$311,528 in 1998, and 20.6 tons of spawn-on-kelp which sold for \$227,765 in 1999. To support the test fisheries 5.0 tons of *Macrocystis* kelp was harvested from Sea Otter Sound in 1998, and 4.6 tons were harvested in 1999. No conflicts were reported between the test fishery and either the subsistence fishery or the sac roe fishery. Department research determined a conversion factor estimating that 0.273 tons of spawn-on-kelp product are produced by 1.0 ton of spawning herring. The conversion is based on 1998 studies of Sitka herring fecundity and on a determination of the total egg deposition on spawn-on-kelp product. Based on this conversion 99.7 tons of herring were utilized during the 1998 test fishery and 75.6 tons were used in 1999. The department found no significant conservation or management concerns with a possible spawn-on-kelp fishery in Sitka Sound, but cautions that gear conflicts are possible depending on the amount of gear which might be allowed in such a fishery.



INTRODUCTION

In January of 1997 the Alaska Board of Fisheries considered a proposal that would allow the use of two alternate gear types during the limited entry herring fishery in Sitka Sound. Proposal 441 called for a new regulation that would create the option to fish open platform gear to produce herring spawn-on-kelp in lieu of, or in addition to, fishing with purse seine gear to harvest roe herring. The intention of the proposal was to reduce economic uncertainty, increase fishery value, and to reduce unnecessary mortality of herring caused by the fishery. Successful open platform fisheries now occur in British Colombia and in San Francisco Bay.

Testimony presented to the board concerning this proposal indicated that there were numerous, legal, policy, fishery management, and socioeconomic questions regarding this proposal. A past board proposal to create a herring spawn-on-kelp fishery in Sitka Sound had been rejected because the Sitka Sound herring stock was already fully allocated and utilized for sac roe herring by purse seine gear. Past proposals to allow the use of gillnet gear in Sitka Sound had likewise been rejected. Proposal 441, however, did not require reallocation to new users. Instead the proposal would offer existing users the choice of fishing an alternate gear based on economic considerations. A representative of the Commercial Fisheries Entry Commission explained that, should the economics of the fishery fundamentally change, a past economic study to determine optimum numbers of participants for the herring fishery in Sitka would be subject to further review and additional entry would be possible (CFEC, 1992; AS 16.43.300). Some limited entry permit holders in the Sitka fishery did not support the proposal due to the threat of more entrants into the fishery. Another major concern from a legal perspective was the question whether this alternate gear fishery would set statewide precedent allowing alternate gear types in other fisheries, thus creating economic uncertainties throughout the fishing industry. Further questions arose concerning the potential economic impact on other herring pound fisheries that produce spawn-on-kelp for the Japanese market. Given that the Sitka Sound herring stock is one of the larger stocks in Alaska, and the proposal was open ended, economic concerns were heightened.

In addition to policy, legal, and social considerations, an open platform herring spawn-on-kelp fishery had not been demonstrated in Alaska. Would the fishery be economically feasible? How would the fishery mesh with the existing subsistence spawn-on-kelp and spawn-on-hemlock fisheries? Would there be a need for closing certain waters? Would there be any conflicts with the herring sac roe fishery? Would there be any herring conservation concerns? Is there any mortality of herring as a result of this fishery? How would the department account for utilization of herring? What sort of gear would be allowed? How much spawn-on-kelp might the fishery produce? What would be the basis for allocation of the available herring guideline harvest between sac roe production and spawn-on-kelp production? What would the department and/or Fish and Wildlife Protection require to monitor and manage a new spawn-on-kelp fishery concerning personnel, reporting requirements, dockside sampling, new regulations, and financial resources? Would sufficient *Macrocystis* kelp be available to support a potentially large new fishery in Sitka Sound and might early season use for Sitka affect kelp availability in other existing fisheries? Would the department need to develop a kelp management program to ensure kelp conservation and allocation?

Because of the many unanswered questions regarding proposal 441, the Board of Fisheries took no action at the January 1997 meeting. Instead, the board directed the department to conduct an experimental test fishery to gain familiarity with the potential new fishery and to help resolve some of the unanswered questions.

Given the three-year Board of Fisheries cycle, the department considered the best approach to a test fishery would be over a two-year period. During the first year the department would focus on as many

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fishery management issues as possible. During the second year the emphasis would shift to obtaining information on *Macrocystis* kelp abundance, distribution, and productivity.

This report describes the experimental fishery and how it was conducted, and presents experimental design and results of data gathered during the first year of the fishery conducted in the spring of 1998. Since many aspects of the 1999 experimental fishery were similar to that of 1998 fishery, this report only briefly summarizes the conduct and results of the 1999 fishery. The research emphasis of the 1999 experimental fishery was to obtain information on the abundance, distribution, and productivity of *Macrocystis* kelp and the results of that work are reported in Van Tamelen and Woodby, 1999 (RIR 1 J99-24).

BID SPECIFICATIONS AND CONTRACTING

The department sought a contractor to conduct the experimental herring spawn-on-kelp test fishery. An Invitation to Bid was issued on January 19, 1998. Elements considered crucial to the success of the test fishery were: 1) to ensure that any contractor had sufficient experience in the harvesting and marketing of spawn-on-kelp, 2) to ensure that spawn on kelp produced was successfully marketed, 3) to ensure that the contractor would have access to necessary resources to carry out the project, and 4) to ensure that the department generated adequate funding to cover all department expenses necessary for monitoring and research. Bid requirements to accomplish these projected needs included: two years experience in the harvesting and marketing of spawn-on-kelp, a signed letter of intent to purchase all marketable product from a licensed Alaska processor, a commercially licensed and USCG inspected fifty foot vessel, harvest platforms of at least 2,400 square feet of surface area, and a credible harvesting, processing, and marketing plan. The department's budget for the project was \$64,000. The bid was structured so that this amount was advanced to the department as a surety deposit. The contractor would be able to recover the bid amount as well as other expenses up to the amount bid based on the sale of herring spawn-on-kelp produced by the test fishery. These combined requirements, and the \$64,000 surety deposit in particular, led to a test fishery planned by experienced fishers and structured at a scale to meet the necessary financial demands.

The contract was to be awarded to the lowest bidder who met the necessary terms and conditions. Only one bid was received. The contract was awarded to Gronholdt and Associates (PGA) on February 25, 1998. PGA consisted of twenty individuals that included 13 Southeast herring seine sac roe permit holders. The bid amount was \$336,000. The bid was based on the planned production of 40,000 pounds of product worth an expected average price of \$8.40/lb. Under terms of the contract the contractor was required to maintain detailed records of the various elements of the fishery including kelp harvesting activity, operation of kelp harvest platforms, and harvesting, processing and marketing of the product. The contractor was required to provide a detailed report summarizing all of these activities including a statement concerning product acceptance in Japan. In addition, all phases of the experimental fishery would be subject to direct observation by department personnel assigned to the project to both monitor and to conduct biological sampling.

OPERATIONAL GUIDELINES



As a department sponsored test fishery, the contractor was required to work under the terms and authority of an "Experimental Fishing Gear Permit" (Appendix A) and a "*Macrocystis* Kelp Harvesting Permit" (Appendix B). These permits provided the detailed operational guidelines for the fishery and set forth specific obligations between the department and the contractor.

In determining the guidelines for operation of open platform gear in Sitka Sound consideration was given to whether areas known to be important in the subsistence spawn-on-kelp or spawn-on-branch fishery should be closed. The department did not want the test fishery to negatively impact the subsistence fishery, however, the relatively small scale of the test fishery suggested that impacts would be minimal. Also, given that the time and location of herring spawning is uncertain, it was decided that the contractor should have the maximum flexibility in deciding where to locate the fishing platforms. A permit stipulation required that the contractor contact the department representative immediately in the event of any conflict with subsistence users. The department would then intervene, if necessary, to resolve any disputes. The contractor also hired a subsistence liaison, a member of Sitka Tribe of Alaska, to help coordinate with local subsistence users.

Under terms of the Experimental Fishing Gear Permit, individuals, gear, vessels, aircraft, and totes would be available according to the contractor's bid. Access would be provided to department personnel for monitoring and sampling purposes. Logs of kelp placement, raft positions, and harvest inventory would be kept. All marketable product would be delivered to the Seafood Producers Cooperative plant in Sitka for sale to Kanaway Seafoods, Inc. and all sales would be recorded on the department's test fish card both as drained, wet weight and as brined weight by grade. In addition the contractor was to provide written reports by specified dates.

Terms of the *Macrocystis* Kelp Harvesting Permit required harvest in accordance with existing kelp harvest regulations (5 AAC 37.300), notification of the department 24 hours in advance of harvest, provisions for accommodations and workspace for two department technicians aboard the kelp harvesting vessel, a logbook and inventory of kelp harvested, notification of any kelp discarded prior to harvest, and provisions for sampling of kelp by the department. Kelp harvest was allowed in districts 3-13 with limitations. Portions of Districts 3, 4, 5, and 13 were closed to prevent harvest in areas where herring spawning might occur or where harvest supported other existing fisheries. Since the department had already received complaints about kelp availability or harvest activity prior to this test fishery, District 3 was closed under this permit south of the latitude of Tonoweck Narrows (in the Craig vicinity) and District 4 was closed in waters around Bucarelli Bay. Since the contract established a limit on the dollar value of product which could be sold and reimbursed to the contractor, there was no limit set on the amount of kelp which could be harvested under this permit. Based on discussions with the contractor it was expected that 40-45 totes of kelp would be required to provide kelp for four 40' x 60' rafts.

The Invitation to Bid, in combination with the contractor's bid response and harvest plan, the Experimental Fishing Gear Permit, and the *Macrocystis* Kelp Harvesting Permit are the documents which determined the structure, size, and outcome of the Sitka spawn-on-kelp test fishery.

SUMMARY OF FISHING OPERATIONS



Kelp Harvest

The contractor's initial plans called for harvest of kelp from District 13 in an area south of Sitka Sound. Following a survey of kelp beds near Sitka prior to the fishery, the contractors determined that there was insufficient mature kelp in the area to support the experimental fishery.

The contractor responded by use of two spotter planes and vessel reconnaissance to locate kelp beds suitable for harvesting. A suitable bed was located in District 3 near Gas Rock on the northern shore of Heceta Island in Sea Otter Sound (Figure 1). Kelp harvest timing was coordinated with monitoring events prior to the Sitka herring spawn and fishery. Harvesting of kelp began on March 16, 1998. Two technicians hired by the department accompanied the kelp harvest cruise aboard the F/V Starrigaven.

Kelp was harvested from two skiffs. Kelp fronds were lifted from the water using a gaff hook and inspected for blade quality. The top two feet of the apical portion of fronds was removed, and the next 6-8 feet of useable frond was cut and placed into totes on board the skiff. When full, totes were transported to the tender and loaded with a crane. Net weights of kelp totes were recorded to the nearest pound on the kelp harvest logbook. Totes were covered and secured on deck for transport to Sitka. Only 35 of 40 totes harvested were weighed due to an oversight. Total wet weight of 35 totes was 8,825 pounds. Adjusting this weight for the five totes not weighed indicated a total harvest of 10,085 pounds. Kelp harvesting was completed in nine hours by seven people. Transport to Sitka from Sea Otter Sound required 22 hours, and kelp arrived in good condition.

Raft Assembly

Four 40' x 60' aluminum platforms (rafts) were used in the experimental fishery. This gear is owned by two members of the contractor's team and used in the San Francisco Bay open platform spawn-on-kelp fishery. Sections of these rafts were loaded into containers and shipped to Sitka for assembly. The rafts were assembled on March 14 in Thompson Harbor. The rafts consisted of two 30' sections bolted together to form two 60' pontoons. The pontoons were bridged together at each end with two 40' sections (Figure 2).

Kelp Rigging

Shortly after arrival in Sitka, kelp fronds from Sea Otter Sound were rigged on 3/8" polyethylene lines for suspension into the water spanning the 40' distance between pontoons of the rafts. The rigging operation took place beginning on March 17 in Thompson Harbor and involved 37 people for seven hours from



8:00 p.m. until 3:00 a.m. Beckets spaced 16 inches apart were used to attach the kelp fronds to the polylines, and the top of the frond was weighted with a single four-ounce lead weight to hold the frond in a vertical position in the water (Figure 3). In general each line had 30 fronds attached. Lines with attached kelp were coiled into totes for transport to the platforms. Lines were attached between pontoons of the raft at two-foot intervals. Two rafts contained 30 lines with 30 fronds each, for a total of 900 fronds. One raft had 29 lines with 30 fronds each, for a total of 870 fronds. One raft had 36 lines of 30 fronds each, for a total of 1,080 fronds. The overall amount of kelp deployed for the four kelp rafts was: 89 lines, 3,750 kelp fronds, and (based on 15.7 kelp blades per frond) a total of 58,875 kelp blades.

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Raft Deployment

A generalized description of a raft fully rigged with kelp and secured in a fishing location is shown in Figure 4. The time and location of raft placement in relation to the herring spawn event is critical to the success of the open platform gear fishery. The department began monitoring herring and herring predator activity by aerial survey on March 10, and began roe sampling on March 12. Survey and sampling reports were available on a recorded message as well as on VHF radio broadcasts. In addition to monitoring department surveys, the contractor flew aerial surveys to help coordinate raft placements. Based on increasing roe maturity and observations of herring near traditional spawning areas, the sac roe fishery was placed on two-hour notice at 8 a.m. March 16. Harvest of kelp in Sea Otter Sound also began on that date. Three Sac roe fishery openings occurred on March 16, March 18, and March 19 to harvest the 6,900 ton herring guideline harvest level. Kelping of the rafts was completed on the early morning of March 18. First spawn for the 1998 season was observed by the department on March 19 with 0.3 nautical miles observed on southwest Middle Island. The contractor's group met on March 19 to discuss options for raft placement locations, developments of the spawn, and to consider subsistence concerns. On March 19 the first two rafts with kelp attached were towed to areas along the southern shoreline of Middle Island (Figure 5). On March 20 spawning increased to 2.2 nautical miles at South Middle Island, Crow Island, and at Halibut Point. The contractor then towed the two other rafts to positions along Halibut Point Road and at Kasiana Island. The position of each raft as well as the location of herring spawn is shown in Figure 6. Spawning activity increased daily to 14 nautical miles on March 21, to 27.5 nautical miles on March 22, and to a peak of 37.5 nautical miles on March 23. The raft placements coincided with initial spawn activity in each location, and there was no need to move any raft to a better location. All rafts remained in place for a period from three to five days through the peak of the spawn.

Rafts were positioned at three locations using two shore lines and one anchor line on the seaward side of the raft. The fourth raft was tied to a private dock along the Halibut Point Road shoreline. In relation to the sea floor, rafts were positioned deep enough that at the lowest tides the kelp fronds would be suspended over the bottom. Rafts were lighted at night as per US Coast Guard regulations. Rafts were guarded at night by members of the contractor's team.

Although subsistence fishers were observed setting hemlock branches in the vicinity of each raft, there were no conflicts. The contractor's subsistence representative set hemlock branches directly underneath the raft located along Halibut Point Road and reported good egg coverage on those branches. Likewise there were no conflicts reported with the sac roe fishery, except that one seine skiff towing on a completed set lightly bumped a kelp raft being towed into position. The latter action caused no damage, was unnecessary, and could easily have been avoided.

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Towing for Spawn-on-Kelp Harvest



In order to maintain kelp quality, spawn-on-kelp is generally removed from the water and preserved within 10 days of the date of harvest. Once spawning began to subside the platforms were towed 5-7 nautical miles to Cedar Cove in Katlian Bay in preparation for harvest at that location (Figure 6). The contractor explained that towing spawn-on-kelp to a milt free area was necessary to prevent the blades of product from sticking together when layered into totes during harvest. Cedar Cove was outside of the herring spawning area and in a protected location. The first platform was towed on March 23, and the other three rafts were towed on March 24.

Harvesting of Spawn-on-Kelp

Harvest of the first platform from the Halibut Point location occurred in Cedar Cove on March 24 from 7:45 a.m. to 11:00 a.m. Harvest of the additional three platforms occurred on March 25 from 7:30 a.m. to 5:00 p.m. Harvest into totes and transporting to the Seafood Producers Cooperative plant was carried out by a crew of 33 people. With this crew, harvest of each platform took approximately three hours. Individual kelp platforms were secured between two seine vessels for harvest (Figure 7). Product was harvested simultaneously from two sides of the platform. Two pairs of stantions on opposite pontoons of the raft were used to rig a loop of line through pulleys attached at the top of each 5 foot high stantion. Lines holding spawn-on-kelp fronds were then pulled toward each pontoon where the crew removed the product and handed it up to the deck of the seine boat. Fronds were placed on a processing table, and blades were cut from the fronds (Figure 8). The stipe and pneumatocyst were discarded, and the kelp blades were harvested into totes. An inventory of totes with tare weights was kept. When raft harvesting was completed, full totes were transported directly to the processing plant.

Processing of Spawn-on-Kelp

After harvest and following transport to the Seafood Producers Cooperative plant in Sitka, totes containing product were allowed to drain before weighing. Total drain time was 1-4 hours between harvesting and weighing. Total wet (unbrined), drained weight of spawn-on-kelp product was 54,468 pounds (27.2 tons).

After weighing, totes were filled with saturated brine solution. Product was fully submerged in the brined totes using a plastic grate weighted with 4×4 lumber. Brine was periodically drained and replaced with fresh saturated brine until the salinity of drained brine reached 100%. The product was held in brine for 14 days before final draining, trimming, grading, weighing, pailing, and labeling for market.

Details of fishing activity and production for each of the four rafts is summarized in Table 1. Individual raft designations by location are shown in Figure 4.

In order for the department to observe the details of processing, grading, and pailing of product and to take biological samples of product, a condition was made that all product would be processed in Sitka at the Seafood Producers Cooperative plant. During grading, however, some of the product from two of the platforms was found to be contaminated with sand and/or silt. Members of the contractor's group speculated that this problem was caused either by kelp stipes directly touching the bottom, or by bottom sediments stirred up by herring spawning activity. In order to maintain quality control standards, product from two platforms (B-1 and B-2) were allowed to be shipped to the Home Port Seafoods plant in Bellingham, Washington where a light table and product washer were available for processing. This procedure was successful and all of the product was either trimmed or washed free of contamination. Processing of product occurred in Sitka from April 8-15, and in Bellingham from May 10-20, 1998. Eight to fourteen workers processed product in Sitka, and ten workers processed product in Bellingham.

In order to obtain final weights of brined product, which are the weights used for marketing purposes, spawn-on-kelp is placed in baskets on edge and drained for a minimum of one hour to remove brine. Product of the same grade is placed into square plastic pails. Pails are labeled with weight and grade, filled with brine, topped with salt, tapped with a mallet to remove bubbles, then sealed, and finally palleted for shipment or storage. Product is stored in a temperature regulated cold room.

Total brined weight of the 1998 spawn-on-kelp produced by the experimental fishery was 57,038 pounds, somewhat heavier than the 54,468 pounds recorded prior to brining. An accounting of weight by grade is presented in Table 2. Spawn-on-kelp is generally graded as "jumbo, #1, #2, #3, #4, and #5 (Figure 9). Actual grading standards may vary between processing companies, but grading used by Kanaway Seafoods are roughly described as follows:

Jumbo--large pieces with thick coverage (over 1 cm) on both sides;

- #1-- large pieces with multiple, even layers of eggs on both sides;
- #2-- large pieces with multiple, even layers on one side and thinner or uneven layers on the other side;
- #3-- smaller palm size pieces, or larger pieces with thin even coverage on both sides;
- #4-- variable egg coverage, or smaller than palm size pieces;

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#5-- minimal, sparse or absence of egg coverage on one side, trimmings, peelers (eggs which have separated from the kelp).

Percentage of total weight by grade for the test fishery was 21% #1, 53% #2, 16% #3, and 11% other grades. No Jumbo grade was produced. The two platforms designated K1 and K2, located south of Middle Island produced a higher percentage of #1 grade product (Table 2). K1 and K2 product is combined since the contractor failed to keep product from those two rafts separated while harvesting.

Marketing

Marketing by Kanaway Seafoods in Bellingham follows direct inspection of spawn-on-kelp product by buyers from Japan. Such inspections allow buyers to compare graded product from different fisheries to establish price, and generally occur about the time of similar inspections for the Canadian fisheries in Vancouver, British Columbia. Product was inspected in late June. The final domestic sale of product from Sitka was made to two buyers around June 29, 1998, and shortly thereafter product was shipped to Japan.

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Average exvessel price was \$5.46/pound for a total value of \$311,538.49 for 57,038 pounds (28.5 tons), (Table 2). Summary statistics for the 1998 fishery are presented in Table 3. Price varied from \$7.58/pound for #1 grade to \$0.45/pound for #5 grade. Kanaway Seafoods worked with the contractor as a processor and product brokering agent. Some processing costs, e.g. totes and brine, were paid for by the contractor, and a brokering fee was applied to the sale before paying the State and reimbursing the contractor. Due to this marketing arrangement exvessel prices paid might be somewhat higher than for similar product from a traditional fisher-processor relationship where the processor is making a profit as well as covering all processing costs.

Since the sale amount was less than the \$336,000 bid by the contractor, the department reimbursed the total value of sales, and retained the initial \$64,000 surety deposit to cover the departments costs associated with the test fishery.

DEPARTMENT SAMPLING AND MONITORING PROCEDURES

Visual Documentation

Since a successful open platform spawn-on-kelp fishery has not yet occurred in Alaska, the department's goal was to observe and to document the various stages of the test fishery. The department utilized 8 mm video and 35 mm camera to document the fishery and will present a 20 minute summary of the test fishery in coordination with the staff oral report to the Board of Fisheries at the January 15-24, 2000 meeting in Juneau.

Kelp Sampling

Although closed pound spawn-on-kelp fisheries in Southeast Alaska generally suspend individual kelp blades from lines within pound nets, this test fishery was planned to hang sections of kelp fronds with multiple blades still attached to the stipe. The department's sampling goals included direct observation of the kelp harvesting process, determination of the total amount of kelp harvested, measurement of the number of fronds and blades of kelp utilized, and determination of average size of fronds and blades utilized.

Department technicians on the kelp harvesting cruise in Sea Otter Sound ensured that kelp harvest logbooks were maintained to document location and total weight of kelp harvested. Despite this, total weights were taken on only 35 of 40 totes harvested. Totes of kelp were weighed to the nearest pound on a 2,000 pound capacity electronic hanging scale. Four of 40 totes of kelp harvested were sampled on the grounds to determine a count of the number of kelp fronds/tote, and the number of blades of kelp per frond. Additionally, upon arrival in Sitka and 24-hours after kelp was harvested, department technicians randomly selected 31 kelp fronds and took weights of each stipe and blade to the nearest gram.

Spawn-on-Kelp to Herring Conversion Rate



A primary objective of our research efforts was to determine the total amount of herring eggs and the equivalent herring biomass used in the production of spawn-on-kelp. This conversion rate is necessary to determine the relative impact of spawn-on-kelp harvest on the herring resource and to allocate available quota between users if a spawn-on-kelp fishery is allowed. An additional sampling goal was to compare spawn-on-kelp weights before and after brining to form a basis for catch reporting requirements.

Subsampling of spawn-on-kelp was conducted as a two-way, stratified random sampling design (Bryant, et al. 1960). The two criteria for stratification were the platforms and the position of kelp within the platforms. The three platform strata corresponded to the Platform B-2, Platform B-1, and Platforms K-1 and K-2. Platforms K-1 and K-2 were combined into a single stratum because the kelp from these two platforms was inadvertently combined when harvested by the contractor. The two position strata were an inner block of fronds (inside stratum) surrounded by an outer band of fronds (outside stratum). Position of kelp within the platforms was used as a stratifying criterion because Moore and Reilly (1989) indicated that herring spawn deposition nearer the center of open platforms ("pounds") was denser than that closer to the perimeter of the platforms. To further explore this finding 20 fronds were selected at random from positions closer to the center of the platform, an arbitrarily demarcated "inside" block of fronds, and 20 fronds. Appendix C depicts the random locations of the fronds sampled from each platform.

Just prior to harvesting, a small boat was deployed inside the platform and the pre-selected fronds were marked by tying flagging tape to the butt end of the frond. A permanent marker was used to write the frond location (i.e. line number and position number) on the flagging so that positioning of the frond could be recorded during sampling.

During harvest if the frond was marked with flagging tape, the entire frond was placed in a separate tote for sampling. Each randomly-selected frond, including the attached herring roe, was weighed to the nearest gram at the site of harvest. The total number of blades on each randomly-selected kelp frond was counted. From each of the randomly-selected fronds, five blades were systematically selected, removed from the stipe, and weighed (w_{eghi}), to obtain an estimate of the mean weight of blades plus roe. Blades removed for weighing, counting from the top of the frond down, were the first, third, seventh, tenth, and last blades. After weighing each of the five blades, each blade was tagged with a white "T"-bar tag and the tag number recorded to enable relocating and re-weighing each blade after the brining process. The weighed, tagged blades were segregated from the rest of the blades to facilitate post-brining re-weighing of the blades. A systematically-selected subset of the tagged blades was segregated from the other tagged blades to facilitate subsampling for egg counts.

After the five blades were removed, tagged and weighed, all of the remaining blades were removed and the bladeless stipe, including any roe on the stipe, was weighed (w_{stghi}) . Just above the attachment point of the seventh blade to the stipe, a seven-cm section of the stipe was cut out, weighed to the nearest gram and placed into a labeled plastic jar filled with Gilson's solution. The stipe sections were sent to the ADF&G herring lab in Ketchikan, along with post-brine sections of blades plus spawn, to obtain counts of the total number of eggs on the stipe sections.

The tagged blades were soaked in 100% brine solution for 14 days at the processing plant. The tote was drained of brine and the tagged blades were weighed a second time to obtain the post-brining weights (w_{ebrghi}) . The thickness of the spawn-on-kelp was measured to the nearest millimeter at the mid-section of the blade using calipers and a processing technician assigned a grade to each sampled blade. A transverse



axis strip, approximately two-cm wide, of kelp plus roe, was cut from one of the five blades from each randomly-selected frond. The blades from which strips were subsampled were selected systematically. The first subsample was taken from the first blade down on the first randomly selected frond, the second subsample was removed from the third blade down on the second randomly-selected frond, etc. This pattern was repeated, cycling through the five blade positions described above to eventually sample one blade from each of the selected fronds from each of the platforms. These strips of kelp with roe were weighed (s_{ghi}) and placed in labeled plastic jars filled with Gilson's solution for later enumeration of eggs to determine the egg density (eggs/gram of spawn-on-kelp product).

All eggs on the transverse axis strips were removed and weighed to obtain the total weight of eggs on each strip. From the total sample of eggs removed from the strips, two, 1-gram sub-samples of the eggs were selected from each strip and the number of eggs counted (e_{ghij}) to yield an estimate of the number of eggs per gram of eggs. These counts, in combination with the total weights of eggs removed from each subsample, and the weights of subsamples (kelp + eggs) were used to estimate the density of eggs (eggs/gram) on the kelp blades. Egg density on stipes was based on a count of the total number of eggs on each of the approximately seven-cm long stipe sub-sections (e_{stsghi}) which were removed from just above the attachment point of the seventh blade of each frond.

Egg counts on kelp were related to an experimentally derived fecundity-at-size relationship for 1998 spawning herring. A fecundity study was completed in 1998 on Sitka herring as part of this study to provide an accurate conversion rate of the spawn-on-kelp weight to the equivalent biomass of herring utilized. Approximately 100 pre-spawning herring representing the range of mature herring sizes were collected during pre-sac roe fishery sampling. Samples were analyzed by the ADF&G herring lab in Ketchikan. The methodology of the fecundity experiment are reported in Larson, et al. (1999).

Parameter Estimation

All estimates were based on the two-way, stratified random sampling design. A primary parameter estimated in this study was the total number of eggs $[E_T$; Appendices D (notation) and F (point estimator diagram)] deposited on all kelp within the four open platforms. This estimate, used in combination with an estimate of fecundity (F), yielded an estimate of the total weight of herring (W_H ; Appendices D and F) contributing to the deposition on the platforms. The ratio of the total weight of spawn-on-kelp product (W_{SOK}) to W_H , yielded an estimated ratio (C) of the weight of open platform, spawn-on-kelp (OP-SOK) product to weight of herring estimated to have produced that amount of product.

A nested ANOVA was conducted to test for differences in mean egg deposition among platform and position strata. Scheffe's test was conducted to further identify significant differences between individual platform strata.

Associations between the point and variance estimators for C, as well as parameters that are precursors to C, are indicated in Appendices E and F. Appendix G is a discussion of why a covariance term used in estimating the term p_{ub} has been excluded.



RESULTS

Kelp Sampling

A total of 4,040 *Macrocystis* kelp fronds weighing 10,085 pounds were harvested for this fishery. The number of fronds placed into the four rafts and fished was 3,750 fronds. The mean number of blades on the harvested portion of the frond was 15.7 amounting to a total of 58,875 *Macrocystis* kelp blades fished. The mean weight of fronds based on samples taken in Sitka was 984 g, the mean stipe (stalk without the blades) weight was 299 g and the mean blade weight was 47 g.

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Spawn-on-Kelp to Herring Conversion Rate

The mean wet weight of an unbrined, untrimmed blade of spawn-on-kelp was 414.8 g (95% CL = 401.7-427.9). Brining the blades increased the mean weight by almost 20%, to 497.1 g (95% CL = 479.1 – 511.2). The estimated total number of eggs deposited on all harvested blades was 10,108,483,281. The estimated total number of eggs deposited on all stipes was 117,963,192. The estimated total number of eggs deposited on all stipes was 117,963,192. The estimated total number of eggs deposited on all fronds (blades + stipes) from the four platforms was 10,226,446,473. Thus, approximately 98% of the total egg deposition occurred on the kelp blades. Based on this estimate of total egg deposition and a 1998 Sitka-specific herring fecundity estimate of 102,567,376 eggs per ton of spawning herring (Larson 1999), the total estimated weight of herring needed to produce the 27.2 tons of SOK product harvested was 99.7 tons (Table 4).

The estimated ratio of the weight of herring spawn-on-kelp product to the estimated weight of herring required to produce that weight of product (C) was 0.273 (95% CL = 0.247-0.299; Table 4). Estimates of additional parameters that are precursors to C are listed in Table 3.

There were no statistically significant differences ($\alpha = 0.05$) in mean number of eggs per gram of brined spawn-on-kelp product between platform Strata 1 (Platform B-1; 346.2 eggs/gram) and Strata 3 (Platforms K-1 and K-2; 351.3 eggs/gram). However mean deposition on both of these strata was significantly greater than on Strata 2 (Platform B-2; 314.9 eggs/gram). The mean weights of whole spawn-on-kelp blades was 466 gm for Platform B-1, 424 gm for Platform B-2, and 393 gm for Platforms K-1 and K-2. This discrepancy would suggest that the size of the blades fished in Platform B-1 were, overall, larger than those fished in the other platforms. Although mean deposition in the outside position strata was greater than on the inside (345.3 vs. 337.1 eggs/gram), this difference was not statistically significant (P = 0.088).

The thickness of the spawn-on-kelp measured by grade showed mean thickness of 11.1 mm - grade #1, 9.1 mm - grade #2, 6.3 mm - grade #3, 3.7 mm - grade #4.



REVIEW OF 1999 EXPERIMENTAL FISHERY

Following is a brief summary of the experimental spawn-on-kelp fishery conducted in Sitka Sound during the spring of 1999. Many aspects of the 1999 experimental fishery were similar to those of the 1998 fishery including the bidding procedures and the general conduct of the fishing operations. The contractor, Gronholdt and Associates, was again awarded the bid which was \$399,000 based on expected production of 50,000 pounds of spawn-on-kelp product at the expected price of \$7.98/pound. The contractors had a marketing agreement with Alaska General Seafoods (formerly Kanaway Seafoods) to process and market the product. A surety deposit of \$74,000 was required to cover the department costs associated with management of the fishery as well as to fund research on the abundance, distribution, and productivity of *Macrocystis* kelp in Southeast Alaska.

Kelp harvesting occurred on March 21 at a kelp bed located at the eastern entrance to Port Alice in District 3 (Figure 1). A total of 2,880 fronds were harvested weighing 9,151 pounds. Kelp was transported on the tender vessel *Evermore* arriving to Sitka on March 22.

The four rafts were rigged with kelp on March 23 inside the Thompson Harbor breakwater. The amount of kelp harvested was not enough to fully deploy kelp in all four rafts. The shortage of kelp was apparently due to insufficient totes available during the harvest, and kelp fronds were larger than during the 1998 test fishery. Fronds measured averaged 21 blades per frond compared with 16 blades per frond in 1998. Two of the rafts (#1 & #2) were fully strung with 870 kelp fronds, one raft (#3) had 690 fronds and one raft (#4) had only 450 fronds. All four rafts were deployed to fishing locations on March 23.

Major spawning began March 22 and continued through March 30. Rafts #1 and #2 were positioned together in a cove on the southwest shoreline of Middle Island, raft #3 was secured to a private dock on Halibut Point Road and raft #4 was positioned on the west side of Kasiana Island (Figure 10). All three locations were also used during the 1998 experimental fishery. Raft #3 was moved to the north side of Kasiana Island on March 26 because of a weak herring spawn at the initial site. All other rafts remained in place until ready for harvest.

On March 27, all rafts were towed to Cedar Cove and allowed to soak overnight in waters free of milt. All four rafts were harvested on March 28 with 36 people involved in the harvesting operations. The totes of spawn-on-kelp were transported to Seafood Producers Cooperative in Sitka where they were weighed and then brined. The total weight of the unbrined product was 41,256 pounds.

The contract specified that the product was to be trimmed, graded, and pailed in Sitka, however, the contractors requested that they be allowed to ship the product to Home Port Seafoods in Bellingham, Washington for processing. This request was made because the Bellingham plant was equipped with a light table for inspecting the product for silt or other particulate contaminants as well as a specialized machine for rinsing contaminants from the spawn-on-kelp. The request was granted under an agreement that a department representative would be flown to Bellingham to observe the process at the contractor's expense. The trimming, grading, and pailing began on May 3 and a department technician was present on May 3 to observe and document the grading process as well as to conduct further sampling.

A limited sample of spawn-on-kelp was taken to conduct egg counts to estimate the number of eggs per unit of product weight. Two samples were taken form each of the four rafts and resulted in a mean of 335 eggs/g of spawn-on-kelp. This compares with a mean of 343 eggs/g from sampling in 1998. The estimated total amount of herring utilized to produce 41,256 pounds of spawn-on-kelp was 75.5 tons



based on the ratio of 0.273 tons of spawn-on-kelp per ton of herring derived in 1998. A comparative summary of the 1998 and 1999 experimental fishery statistics is shown in Table 3.

The total value of the spawn-on-kelp was \$227,965 based on 43,131 pounds of graded product at an average price of \$5.29/pound. A comparison of poundage and exvessel value by grade between the two years is presented in Table 5.

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DISCUSSION

Little is known about the biology and abundance of *Macrocystis* kelp in Southeast Alaska. Historically, District 3 has provided over 90% of the total *Macrocytis* kelp harvested for spawn-on-kelp fisheries in Alaska. A majority of that harvest has come from Sea Otter Sound and the Maurelle Islands (Scott Walker, *personal communication*). In 1998, a total of harvest 23.7 tons was reported on harvest permits and 79% was reported from Sea Otter Sound. This harvest supported five spawn-on-kelp fisheries including Prince William Sound, Nome, Hoonah Sound, Crag/Klawock, and the Sitka experimental spawn-on-kelp fishery.

All of the kelp harvested for the experimental fishery was from a single bed that was estimated to be approximately 800 yards long and 50 yards wide. On April 9, 1998 the bed was re-visited by the department technicians that observed the kelp harvest. Three and one-half weeks after harvest there was no visually apparent change to the bed or any obvious evidence of harvest. More detailed studies of the kelp would be necessary to determine the impacts the harvesting.

PGA inspected kelp beds in the Sitka area (District 13) but found insufficient mature kelp to support the experimental fishery. Significant beds are known to exist in the Sitka area, however, kelp in the Sitka area has a later growing season than kelp in the more southerly areas of Southeast Alaska. The historic pattern of kelp harvest and the relatively early timing of the Sitka Sound herring spawn during recent years would suggest that District 3 would be an important source of kelp for a Sitka Sound spawn-on-kelp fishery. The concern of how increased harvest might affect kelp quality or availability to other spawn-on-kelp fisheries, which occur later during the season, would likewise require further research.

The amount of kelp harvested was determined by the contractor's bid amount, their need to cover expenses, and the size and amount of platform gear to be used. The department set no limits on the amount of kelp harvested. A total of 3,750 fronds were observed to be placed into pounds and fished. During the stringing of the kelp a number of excess fronds were culled out and discarded. Though an exact accounting of the number of fronds discarded was not obtained, it was estimated by department observers at approximately 400 fronds. An additional 31 fronds were sampled by the department and discarded. This would mean approximately 4,181 total fronds were harvested, a 10% smaller amount than the 4,584 calculated based on weights taken on the grounds in 1998. This discrepancy might be explained since the kelp weights obtained on the grounds were taken soon after harvest while in wet condition. The individual frond sampling was conducted 24 hours later and the fronds were well drained. The most accurate estimate of kelp harvest in 1998 is based on the product of the number of fronds harvested times the drained average weight of a frond, or 10,085 pounds (5.04 tons) rather than the measured grounds weight. In 1999 smaller numbers of heavier fronds were used. The kelp harvest for 1999 weighed 9,151 pounds (4.6 tons) as measured following draining and transport to Sitka.



Given the small number of platforms used in the experimental spawn-on-kelp fishery it was difficult to assess the potential for conflicts with the sac roe fishery and the subsistence roe-on-branch fishery. The only interaction between the sac roe fishery and the spawn-on-kelp fishery occurred when two platforms were towed through an area that was open to seining. Though no disruption to seining activity was noted a seine skiff being used to separate a seine boat from a tender in the process of pumping of herring made contact with a raft that was being towed to the grounds. The sac roe fishery targets herring just prior to spawning and this would be the time when spawn-on-kelp platforms would be actively placed on location to fish. The four rafts were fished close to shore and the specific locations of the rafts made it unlikely that the rafts would have interfered with seine sets if the area was concurrently open to sac roe seining. Certainly seine sets for sac roe herring do occur in shallower near-shore areas and it would have to be assumed that there would be some interaction between the two gears with the potential for conflict increasing with higher numbers of rafts.

Three of the rafts were located in areas traditionally used by subsistence roe-on-branch fishers and there were no reported conflicts between subsistence fishers and the spawn-on-kelp fishery. Here again, one would have to assume that the likelihood of conflict would increase as the level of effort in the spawn-on-kelp fishery increased. The four rafts occupied an insignificant area relative to the magnitude of the spawn.

Sitka Sound received a total of 65 nautical miles of spawn in 1998. Spawning occurred throughout northern Sitka Sound, the Eastern Channel area, Redoubt Bay, and Windy Pass. Spawn locations in northern Sitka Sound are shown in Figure 6. The most intense spawning occurred in the Middle Island, Kasiana Island, and Halibut Point area. In 1999 there was a total of 60 nautical miles of spawn. Estimated escapement was somewhat greater in 1999 with 43,173 tons compared with 35,518 tons in 1998. Spawning in 1999 occurred throughout northern Sitka Sound, in Jamestown Bay, Eastern Channel, and Aleutkina Bay (Figure 10). Spawn mileage for both years was roughly comparable, however, intensity of spawn around raft fishing locations appeared greater in 1998. Somewhat better product quality produced in 1998 is reflective of spawn intensity at raft locations.

Observations of the rafts during routine aerial spawn surveys showed that spawning herring appeared to be attracted to the suspended kelp. In two platforms, active spawn (herring milt) could be seen in and around the platforms before spawning activity was evident along adjacent shoreline. It is well documented that *Macrocystis* kelp is a preferred herring spawning substrate and the presence of rafts in areas where little wild *Macrocystis* exists would logically attract spawning herring.

Stringing of kelp fronds and the harvesting of product were the most labor intensive activities during the experimental fishery. A total of 37 fishers were involved in stringing kelp and 33 fishers were involved in harvesting of product. The fast pace of the harvest made it difficult to account for losses of spawn-on-kelp blades breaking off the fronds or the loss of whole fronds into the water during harvesting. There were instances when two kelped lines became entangled and a number of entire fronds were lost. Though the exact amount of lost product could not be determined it was estimated that less than 1% of the blades were lost during harvest. Since claims had been made that any lost eggs hatch and survive, the department conducted an informal investigation by placing egg covered blades and stipe in a mesh bag and suspended it in the harbor. The mesh bags were periodically inspected and it appeared that no eggs survived to hatching, succumbing to bacteria and/or fungus. From department observations of the closed pound spawn-on-kelp fisheries, kelp generally begins to rot about 10 days after harvest, preceding herring egg hatch, which is about 21 days after the spawn. Accounting for discarded or lost product and eggs might be significant in fisheries where re-kelping is possible, but would be insignificant in Sitka Sound where there is generally only one major spawning event.

The spawn-on-kelp blades sampled by the department showed an increase in weight of 20% from use weight un-brined weight to the brined weight. In contrast, the total gross wet weight of spawn-on-kelp blades of 54,468 pounds increased by only 4.7% to 57,038 pounds of brined finished product. In 1999 the wet weight of spawn-on-kelp blades of 41,256 pounds increased by 4.5% to 43,131 pounds. The finished weight included all the product that was originally landed including the trim. The difference in weight increases between department sampling of 20% and industry sampling of around 5% can be explained by the fact that the brined spawn-on-kelp blades were placed in racks on edge for 1-2 hours to drain prior to grading, trimming, and weighing. The tote containing the department's samples was drained of brine but individual blades were not placed on racks for draining resulting in a higher retention of brine. The conversion factor derived in this study is based on un-brined product weight. In the event that deliveries are reported as brined weights then conversion of brined weight to un-brined weight would be necessary before applying the factor to determine the amount of herring utilized. Because the exact method of draining of either fresh or brined spawn-on-kelp product may result in a different weight, these methods should be standardized for the most accurate reporting on fish tickets.

In 1998 all of the fronds fished had good coverage of eggs. With 74% graded #2 or better the quality of the spawn-on-kelp product was considered excellent for an open pound fishery. The grades of spawn-on-kelp product generally correspond to the thickness of eggs and the uniformity of coverage on the kelp blade. Grading criteria are somewhat subjective and may vary between processing companies, between fisheries, or between seasons within a fishery. The processor, which graded the product from this fishery, acted as a broker for the contractor and provided for inspection of product from different fisheries by Japanese buyers to establish the price for each grade.

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Production in 1999 of 43,131 pounds (21.56 tons) was 75.6% of production in 1998 of 57,038 pounds (28.5 tons). This difference is partly due to a 9.3% decrease in the amount of kelp used, but also was due to lesser egg coverage. Decreased coverage was reflected in less grade # 1, the same amount of grade # 2, and more grade # 3 in 1999 compared with 1998. Overall average price per pound was \$5.46 in 1998 and \$5.29 in 1999, a decrease of only 3%. Overall exvessel value was \$311,528 in 1998 and \$227,965 in 1999. Product from both years was successfully marketed. Lower value in 1999 is mostly due to lower production.

In the event there is an open platform fishery in Sitka Sound, there will be a need to manage the harvest to stay within the annual guideline harvest level (GHL) set for the fishery. Since the harvest in this fishery is in the form of a portion of the spawn instead of a portion of the herring population, the conventional use of fishery mortality does not apply. Provided that herring spawning is above some minimal (threshold) amount, there does not appear to be a relationship between the amount of spawn deposition and the subsequent recruitment of new herring into the population. Above the fishery threshold, now set at 20,000 tons, the potential impact of a spawn-on-kelp harvest is probably minimal when compared with the harvest of herring.

Studies from the 1998 experimental fishery developed a spawn-on-kelp to herring conversion factor of 0.273 with a 95% confidence interval of 0.247-0.299. This conversion rate is roughly similar to the rate of 0.21 used in management of the San Francisco Bay spawn-on-kelp fishery. Division of a given weight of spawn-on-kelp product by the factor indicates how much herring was utilized to produce that amount. For the 1998 experimental fishery 99.7 tons of herring were utilized to produce 27.2 tons of product. Application of this factor to the 1999 experimental fishery indicates that the eggs from 75.6 tons of herring were utilized to produce 20.6 tons of product. For each 40' x 60' raft about 25 tons of herring was utilized in 1998, and 19 tons in 1999.

There may be a number of different ways to account for the amount of herring used in an open platform fishery in relation to the annual guideline harvest level (GHL). Directly subtracting the amount of herring



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utilized to produce spawn-on-kelp from the GHL would result in a more conservative harvest rate than removal of the same amount of herring sac roe since there is no direct mortality. A determination of the impact on a herring population in terms of loss of future production from decreased spawn would be difficult, since recruitment is so variable from year to year and is poorly correlated to spawn deposition. The choice of a method to account for the use of eggs from a herring stock may depend on social or allocation considerations as well as biological considerations.

In summary, an open platform spawn-on-kelp fishery in Sitka Sound has been shown to be an economically viable option by the results of the 1998 and 1999 experimental fisheries. There do not appear to be any biological or fishery management related concerns with this potential new fishery provided there is an appropriate regulatory structure and management program. Depending on the amount of gear allowed there is some potential for conflicts with subsistence fishers or with sac roe fishers, although there were no conflicts observed during the test fisheries.

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Table 1. Details of fishing activity of individual rafts fished in the Sitka Sound experimental spawn-on-kelp fishery.

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Finished SOK Product (Brined)	13,968	10,540			57,038
fo sbruod			* * *	* * *	
Pounds of SOK Product (Not Brined)	13,306	12,332	* *	* *	54,468
Total Number of Fronds	1,080	006	006	870	3,750
Total Number of Lines	36	30	30	29	125
Date Platform Harvested	25-Mar	24-Mar	25-Mar	25-Mar	
Numbers of Days Platform In Active Spawn	2	3	3	e	
Date/Time Platform Towed To Harvest Area	24-Mar 5:30 p.m.	23-Mar 8:00 p.m.	24-Mar 4:30 p.m.	24-Mar 5:00 p.m.	
Latitude and Longitude	57 ⁰ 05 00" 135 ⁰ 24 58"	57 ⁰ 06'47" 135 ⁰ 23'45"	57°05'23" 135°26'15"	57 ⁰ 05'15" 135 ⁰ 26'35"	
Location of Platform	East Kasiana Is	Halibut Point	South Middle Is	South Middle Is	
Date/Time Platform Fishing	20-Mar 12:00 noon	20-Mar 8:30 p.m.	19-Mar 7:00 p.m.	19-Mar 5:45 p.m.	
Date/Time Kelp Introduced	18-Mar 3:00 a.m.	18-Mar 3:00 a.m.	18-Mar 3:00 a.m.	18-Mar 3:00 a.m.	
Date of Raw Kelp Harvest	16-Mar	16-Mar	16-Mar	16-Mar	
Platform	B-1	B-2	K-1	K-2	Totals

** Total weight of spawn-on-kelp harvested from platforms K-1 and K-2 was 28,830 pounds. *** Total finished weight of spawn-on-kelp harvested from platforms K-1 and K-2 was 32,530 pounds.



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An accounting of weight by grade of spawn-on-kelp by raft and value by grade for product harvested in the 1998 Sitka Sound spawn-on-kelp fishery. Table 2.

Lot		#1	#2	#3	#4	#5	#5-P	T-2#	Total
Platform	Pounds	1,054	6,936	1,666	272	442	102	68	10,540
B-1	Percentage	10%	66%	16%	3%	4%	1%	1%	
Platform	Pounds	1,335	8,274	2,992	493	791	83	I	13,968
B-2	Percentage	10%	59%	21%	4%	6%	1%	%0	
Platform	Pounds	9,296	14,718	4,386	969		884	2,040	32,020
K-1, K-2	Percentage	29%	46%	14%	2%	%0	3%	6%	
Sample	Pounds	136	238	34	I		68	34	510
Lot	Percentage	27%	47%	%L	%0	%0	13%	<i>20℃</i>	
Total	Pounds	11,821	30,166	9,078	1,461	1,233	1,137	2,142	57,038
	Percentage	21%	53%	16%	3%	2%	2%	4%	
Value	Price/Pound	\$ 7.58	\$ 5.78	\$ 4.40	\$ 3.21	\$ 1.19	\$ 0.45	\$ 0.45	
	Total Value	\$ 89,603.18	\$ 174,359.48	\$ 39,943.20	\$ 4,689.81	\$ 1,467.27	\$ 511.65	\$ 963.90	\$ 311,538.49

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Table 3. Comparative summary of fishery statistics for the 1998 and 1999 experimental spawn-on-keip fisheries.

Description	1998	1999
Date of kelp harvest	March 16	March 21
Location of kelp harvest (lat./Lon.)	55°49'30"/133°31'24"	55°49'59"/133°35'27"
Total pounds of Macrocystis kelp harvested	10,085	9,151
Mean weight of fronds (g)	984	1,441
Mean number of blades per frond	15.7	21.3
Mean weight of blades (g)	47	65
Mean width of blades (cm)	NA	18
Mean length of blades (cm)	NA	77
Mean length of fronds (cm)	NA	233
Number of 40'x 60'rafts fished	4	4
Total number of fronds fished	3,750	2,880
Total number of blades fished	58,875	60,480
Dates of major spawning in Sitka Sound	March 21-25	March 22-30
Dates rafts actively fishing	March 19-23	March 23-28
Total pounds of spawn-on-kelp (pre-brined)	54,468	41,256
Total pounds of spawn-on-kelp brined and graded	57,038	43,131
Average price/pound of spawn-on-kelp product	\$5.46	\$5.29
Total value of spawn-on-kelp	\$311,528.47	\$227,964.68
Mean weight (g) of brined, untrimmed blade of spawn-	495	430
on-kelp		
Mean number of eggs/g of spawn-on-kelp	343	335
Conversion of tons of spawn-on-kelp to tons of herring	0.273	*0.273
Tons of herring utilized to produce spawn-on-kelp	99.7	75.6

* Conversion derived in 1998 used to calculate herring utilization.

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WEIGHT / NO FRONDS = WT GROND 10,085/3750 = 2,6893333 (1998) 9150/2880 = 3,17768333 (1999)

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Table 4.	

Verbal Description (include unit of measure)	Notation	Point Estimate or Measurement	Variance	Std. Error	Lower 95% CL	Upper 95% CL
Total number of fronds	S	3750	0			
Mean wet weight (g) of unbrined, untrimmed blade of kelp w/ spawn	w e	414.84	44.82	69.9	401.71	427.96
Mean wet weight (g) of <i>brined</i> , untrimmed blade of kelp w/ spawn	W ebr	495.14	67.15	8.19	479.08	511.20
Ratio mean weight brined:unbrined SOK blades (w,/w,w)	du d	1.194	0.0005343	0.02	1.15	1.24
Mean no. of eggs gram $^{-1}$ wet field weight of brined eggs + kelp	e brk	342.8	25.5	5.05	332.9	352.7
Mean number of eggs per stipe	е з	30,994.0	1,975,262.8	1,405.4	28,239.3	33,748.7
Total grams of blades + eggs (SOK product) harvested (from fish tickets)	T_{FT}	24,706,140.1	0			
Total number of eggs on all harvest blades	E,	10,108,483,281.0	60,493,047,856,187,100	245,953,344.9	9,626,414,725.0	10,590,551,837.0
Total number of eggs on all stipes	Е "	116,227,527.5	27,777,132,820,516	5,270,401.6	105,897,540.4	126,557,514.6
Total number of eggs (blades + stipes)	E_T	10,224,710,808.5	60,520,824,989,007,700	246,009,806.7	9,742,531,587.4	10,706,890,029.6
Fecundity (eggs/ton herring)	Ŀ	102,567,376	18,240,591,376,284	4,270,900.5	94,196,411.0	110,938,341.0
Tons of SOK product	W sok	27.2	0			
Tons of herring required for estimated spawn deposition on SOK platforms	W "	2.66	23.0	4.79	90.3	109.1
Conversion - Tons SOK product per ton of herring (Wsok/Wil)	С	0.2732	0.000172671	0.01314	0.247	0.299

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Table 5. Comparative summary of pounds and value by grade from the 1998 and 1999 experimental spawn-on-kelp fisheries.

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			1998						1999			
Grade	Pounds	Percent	Price/	'Pound		Value	Pounds	Percent	Pric	e/Pound		Value
1	11,821	21%	\$	7.58	∽	89,603.18	2,142	5%	\$	6.13	↔	13,130.46
2	30,166	53%	∽	5.78	⇔	174,359.48	22,844	53%	⇔	6.13	∽	140,033.72
3	9,078	16%	⇔	4.40	∽	39,943.20	15,315	36%	Ś	4.54	⇔	69,530.10
4	1,461	3%	⇔	3.21	∽	4,689.81	1,504	3%	⇔	2.94	↔	4,421.76
S	4,512	8%	÷	0.65	⇔	2,932.80	1,326	3%	⇔	0.64	↔	848.64
Total	57,038				÷	311,528.47	43,131				∽	227,964.68



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Figure 1. Map showing location of *Macrocystis* kelp harvest for the 1998 and 1999 experimental spawn-on-kelp fishery.



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Figure 2. A photograph of one of the 60' x 40' rafts used in the experimental fishery. This raft was secured to a private dock along the Halibut Point Road system and actively fishing at the time the photo was taken.



Figure 3. Description of *Macrocystis* kelp frond and a general picture of kelp rigged on to lines for attachment to raft.

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Figure 5. Photograph of two spawn-on-kelp rafts fishing off south Middle Island. Herring milt can be seen around the raft in the foreground of the photograph.



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Figure 6. Map shows location of raft assembly and rigging of kelp, positioning of rafts for fishing (B1, B2, K1, and K2), and location of product harvest during the 1998 experimental spawn-onkelp fishery in Sitka Sound. Also shows shoreline of northern Sitka Sound receiving herring spawn in bold black.



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Figure 7. Photograph of seines vessels tied to either side of a spawn-on-kelp raft in preparation for harvesting.



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Figure 8. Photograph of harvesters pulling fronds from a raft and transferring product to a processing table on board a seine vessel.



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Figure 9. Cross-sectional view of spawn-on-kelp comparing relative thickness of eggs by grades 1 through 4.



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Figure 10. Map shows location of raft assembly and rigging of kelp, positioning of rafts for fishing (#1, 2, 3, and 4), and location of product harvest during the 1999 experimental spawn-on-kelp fishery in Sitka Sound. Also shows shoreline of northern Sitka Sound receiving herring spawn in bold black.



Appendix A. Experimental Fishing Gear Permit.

This permit authorizes Paul Gronholdt and Associates (PGA) to fish Open Harvest Platforms in Sitka Sound to produce herring spawn-on-kelp product for commercial sale to Kanaway Seafoods Inc. under contract with ADF&G as per bid number 11-122-98 and delivery order number 344635 as authorized by AS 16.05.050 (10) and according to the terms and conditions stated in this permit.

Paul Gronholdt and Associates includes the following individuals:

Paul Gronholdt	Darrell Kapp	Robert Glenovich	Matt Luck
Ronald Porter	Alan Otness	Nels Otness	Bill Menish
Bill Glenovich	Jim Beaton	Joe Lindholm	Linda Lindholm
Terry Kilbreath	Scott McAllister	Philip Mundy	John Gissberg
Michelle Ridgeway	Mike Miller	Frank Footy	Dennis Thacker.

The mailing address for Gronholdt and Associates is #1 Airport Road, P.O. Box 288, Sand Point, AK 99661.

Darrell Kapp (F/V Ryan D. Kapp) will be the individual responsible for coordinating fishing and harvesting activities. One or more of the above named individuals must be present when positioning rafts, when kelping rafts, and during all kelp harvesting activities.

The following vessels may be used when fishing and harvesting under this permit:

F/V Starrigavan, F/V Sea Prince, F/V Ryan D. Kapp, F/V St. Zita, F/V St. Francis, F/V Dorothy Jean, and/or F/V Commander. PGA will notify the department which vessels will fish and harvest spawn-on-kelp and may make vessel substitutions. All vessels and skiffs used must have a valid 1998 CFEC license. All crewmembers must have valid crewmember license or a valid CFEC license.

CONDITIONS OF PERMIT

- 1. PGA will provide the following gear and equipment: four 2,400 square foot kelp harvest platforms, fishing vessels and skiffs, 50 totes for harvesting spawn-on-kelp, 60 totes for brining spawn-on-kelp, airplanes and pilots as specified in their bid.
- 2. PGA will provide access to kelp, rafts, radios, GPS plotting equipment, scales, records and deck space for two department technicians to monitor, measure, and sample all aspects of the production of herring spawn-on-kelp throughout this test fishery including assembly of rafts, positioning of rafts, kelping of rafts, harvest of product, weighing of product, transporting of product, brining, grading, trimming and pailing of product.
- 3. PGA will notify the department technicians in advance when kelp will be placed in each raft and, 24 hours in advance prior to the initial harvest of spawn-on-kelp from each raft.
- 4. PGA must keep a log of kelp placement in each raft including the date of kelp placement, the number of lines with kelp, the number of stipes on each line, a typical number of blades of kelp on a stipe, and the total weight and volume of kelp used in each raft. Department technicians may assist with determining the average number of blades per stipe, average weight of stipe, and average weight of kelp blades.



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- 5. PGA must keep a chart showing the daily position of each of the four platforms throughout the time when rafts have suspended kelp. Daily GPS latitude and longitude and the purpose of any raft movement should be included.
- 6. Mike Miller will coordinate raft placement with subsistence fishers. Bill Davidson or Dave Gordon (ADF&G, Sitka) must be informed of any potentially serious conflict or disputes with a subsistence user, and efforts will be made to resolve conflicts and to provide subsistence fishers with a reasonable opportunity to meet subsistence needs.
- 7. PGA must harvest all the spawn-on-kelp product and kelp from each platform. If harvested kelp does not meet standards for commercial sale and will be discarded, then PGA will inform the department technicians and obtain a total weight so they can take samples prior to discard. Otherwise, PGA will harvest all spawn-on-kelp into inventoried totes marked with tare weights. PGA will keep a log of the number of totes filled from each platform, total drained net weight of kelp in each tote, along with an estimate of product grade.
- 8. Department technicians will be allowed to sample and weigh selected stipes or individual blades (by position in raft and/or by grade if known), and will remove spawn-on-kelp samples from select areas of a blade for later analysis.
- 9. Upon delivery to Kanaway Seafoods, Inc. at the Seafood Producers Cooperative dock, total wet weight of unbrined product will be recorded by raft prior to trimming. Weight will be recorded of trim and scrap if removed prior to brining. If possible, the department will sample individual kelp blades by grade prior to brining and trimming.
- 10. All landings of will occur in Sitka on the department's test fish card. Fish ticket weight shall include total wet drained weight of product and trimmings, and final brined weight by grade of product sold. Department technicians will measure individual brined and drained blades by grade, and will collect subsamples of spawn-on-kelp by grade for later laboratory analysis. The department will work out any further details for sampling with PGA, Kanaway Seafoods, Inc., and SPC once the department's sampling design has been finalized.
- 11. PGA will provide the department a written draft test fishing report by May 15 and a final report by June 15, 1998. The report will include the following information: completed kelp harvest log book, log of kelp placement in each platform, log of daily raft position, spawn-on-kelp harvest inventory sheets, product inventory in processing plant, summary of any conflicts with subsistence fishers or with the sac roe herring fishery, report of advance payments to PGA, report of transport from Alaska, and report of final domestic sale in Bellingham, WA including final price by grade of product sold, report of product acceptance by foreign buyers, summary of number of fishers, crewmembers, and processing employees employed by each phase of the test fishery, and an overall narrative summary of activities. If final domestic sale occurs after June 30, 1998, then information concerning the final sale and product acceptance can be deferred until that information is available.
- 12. The department may impose additional conditions including time and area closures as deemed necessary for conservation and management purposes. In the event of unforeseen circumstances requiring additional measures, Bill Davidson will first discuss possible remedies with PGA representatives and try to work out an informal solution. The department, however, reserves the right to amend this permit if necessary.



13. This permit is valid when signed by the department and the permit holder, Paul Gronner and Associates, and one copy must be available on each Fishing Vessel participating in this test fishery (vessels listed above).

Signature of Permit Holder ______Date:_____Date:______Date:______Date:______Date:______Date:______Date:____Date:____Date:____Date:____Date:____Date:____Date:____Date:____Date:____Date:____Date:____Date:____Date:____Date:___Date:____Date:___Date:___Date:____Date:____Date:____Date:____Date:___Date:___Date:___Date:____Date:____Date:____Date:____Date:___Date:___Date:___Date:___Date:____Date:____Date:___Date:__Date:___Date:____Date:____Date:____Date:____Date:___Date:___Date:____Date:____Date:____Date:____Date:____Date:____Date:____Date:___Date:___Date:____Date:____Date:____Date:____Date:____Date:___Date:___AAte:____AAte:____AAte:___AAte:___AAte:__AAte:___AAte:____AAte:____AAte:____AAte:____AAte:___AAte:__AAte:____AAte:____AAte:____AAte:____AAte:____AAte:____AAte:___AAte:___AAte:____AAte:____AAte:_____AAte:____AAte:___AAte:___AAte:___AAte:_

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Signature of ADF&G Representative ______Date:_____

Questions concerning this permit may be addressed to ADF&G, 304 Lake Street, Rm. 103, Sitka, AK 99835. ADF&G Phone number is (907) 747-6688.



Appendix B. *Macrocystis* Kelp Harvesting Permit.

This permit authorizes Paul Gronholdt and Associates (PGA) to harvest and transport *Macrocystis* kelp for use in the Sitka Sound Spawn-on-Kelp Experimental Fishery subject to the kelp harvest regulations (5AAC 37.300) and according to the terms and conditions stated in this permit. Paul Gronholdt and Associates includes the following individuals:

Paul Gronholdt	Darrell Kapp	Robert Glenovich	Matt Luck
Ronald Porter	Alan Otness	Nels Otness	Bill Menish
Bill Glenovich	Jim Beaton	Joe Lindholm	Linda Lindholm
Terry Kilbreath	Scott McAllister	Philip Mundy	John Gissberg
Michelle Ridgeway	Mike Miller	Frank Footy	Dennis Thacker.

The mailing address for Gronholdt and Associates is #1 Airport Road, P.O. Box 288, Sand Point, AK 99661.

Jim Beaton will be the individual responsible for coordinating kelp-harvesting activities. One or more of the above named individuals must be present during all kelp harvesting activities. The following vessels may be used in the harvest of kelp:

(Primary)F/V Starrigavan, (Substitutes) F/V Sea Prince, F/V Ryan D. Kapp, F/V St. Zita, F/V St. Francis, F/V Dorothy Jean, and/or F/V Commander. PGA will notify the department which vessels will harvest kelp and may make substitutions. All vessels and skiffs used must have a valid 1998 CFEC license.

CONDITIONS OF PERMIT

- 1. Jim Beaton or his designee will notify the department 24 hours in advance of any kelp harvesting activity which vessels will harvest kelp and where kelp harvesting activity is expected to take place.
- 2. The two department technicians assigned to the project will be allowed to inspect the fishing vessel prior to departure to verify current USCG Courtesy inspection within the past 12 months. The vessel operator will show the location of survival equipment including life raft, survival suits, fire extinguishers, first aid kit, etc. The operator will indicate deck working area, scales, GPS, and radios.
- 3. PGA will provide bunk space and meals for the two department technicians while aboard the kelpharvesting vessel so they may photograph and make video recordings of kelp harvesting activities during at least the first two days of kelp harvesting activities. PGA will provide some limited deck space for the two department technicians to measure, quantify, and sample kelp harvested.
- 4. There is no set limit on the amount of kelp to be harvested, however it is expected that 40-45 totes will be harvested for this project, consistent with providing kelp for four 40'x60' kelp rafts.
- 5. PGA will weigh and inventory each tote of kelp harvested, and fill out kelp harvest logbook information including: harvest location description, GPS latitude and longitude of kelp beds harvested, dates of harvest, amount (volume, weight, and number of stipes) harvested by location, platform number of use, and of kelp discarded.



- 6. Department technicians will either depart on the kelp harvest cruise or will fly out and mee. The harvest vessel by floatplane. Arrangements will be made so department technicians can be aboard either their own or PGA's skiff to observe kelp harvesting activities.
- 7. Department technicians will require some limited samples of kelp stalks such as used by PGA.
- 8. This permit allows the harvest of *Macrocystis* kelp in regulatory Districts 3 through 13 except that the following areas will be closed:

<u>Section 13-B</u>: will be closed in waters of Sitka Sound east of a line from Shoals Point to the northernmost tip of Legma Island to the northernmost tip of Rachek Island and then to point on the Lodge Island shoreline at 56°46'06" N. latitude, 135°16'46" W. longitude (located just north of First Narrows on the southern entrance to West Crawfish Inlet).

District 5: will be closed north of the latitude of Ruins Point.

District 3: will be closed south of the latitude of Tonowek Narrows.

<u>District 4:</u> will be closed (only in Statistical Area 104-30) south of the latitude of Cape Bartolome, in all waters of Bucarelli Bay, and north of the latitude of Cape Lookout.

Other Areas: any area where herring spawning is occurring or expected to occur may be closed.

- 9. This permit must be in the possession of the kelp harvest at all times while harvesting and delivering kelp, and is valid when signed by a representative of PGA and by the department.
- 10. Methods used to harvest kelp must be in accordance with 5 AAC 37.300.

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- 11. This permit is valid when the PGA contract with the State of Alaska is in effect from March 6, 1998 through June 30, 1998.
- 12. The logbook information requested on this permit must be turned into ADF&G Office in Sitka when spawn-on-kelp product has been harvested and no further kelp harvesting is necessary.

Signature of Permit Holder ______Date:_____

Signature of ADF&G Representative _____Date:_____Date:_____

This permit may be returned by mail to ADF&G, 304 Lake Street, Rm. 103, Sitka, AK 99835. ADF&G Phone number is (907) 747-6688



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- 6. Department technicians will either depart on the kelp harvest cruise or will fly out and meet the kelp harvest vessel by floatplane. Arrangements will be made so department technicians can be aboard either their own or PGA's skiff to observe kelp harvesting activities.
- 7. Department technicians will require some limited samples of kelp stalks such as used by PGA.
- 8. This permit allows the harvest of *Macrocystis* kelp in regulatory Districts 3 through 13 except that the following areas will be closed:

<u>Section 13-B</u>: will be closed in waters of Sitka Sound east of a line from Shoals Point to the northernmost tip of Legma Island to the northernmost tip of Rachek Island and then to point on the Lodge Island shoreline at 56°46'06" N. latitude, 135°16'46" W. longitude (located just north of First Narrows on the southern entrance to West Crawfish Inlet).

District 5: will be closed north of the latitude of Ruins Point.

District 3: will be closed south of the latitude of Tonowek Narrows.

District 4: will be closed (only in Statistical Area 104-30) south of the latitude of Cape Bartolome, in all waters of Bucarelli Bay, and north of the latitude of Cape Lookout.

Other Areas: any area where herring spawning is occurring or expected to occur may be closed.

- 9. This permit must be in the possession of the kelp harvest at all times while harvesting and delivering kelp, and is valid when signed by a representative of PGA and by the department.
- 10. Methods used to harvest kelp must be in accordance with 5 AAC 37.300 (Xerox copy is attached).
- 11. This permit is valid when the PGA contract with the State of Alaska is in effect from March 6, 1998 through June 30, 1998.
- 12. The logbook information requested on this permit must be turned into ADF&G Office in Sitka when spawn-on-kelp product has been harvested and no further kelp harvesting is necessary.

Signature of Permit Holder ______Date:_____

Signature of ADF&G Representative _____Date:_____Date:_____

This permit may be returned by mail to ADF&G, 304 Lake Street, Rm. 103, Sitka, AK 99835. ADF&G Phone number is (907) 747-6688





Appendix C. Random locations of fronds sampled from platforms B1, B2, K1, and K2.

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Appendix D. Notation of symbols used in statistical analyses. Formulae are shown in Appendices E and F.

 α = estimate of intercept for the linear regression of # eggs vs. female body weight (g)

 β = estimate of slope for the linear regression of number of eggs vs. weight (g) of female body wt.

C = ratio of the weight of spawn-on-kelp product (tons) to the estimated weight of spawning herring (tons) required to produce that SOK product; the conversion rate of herring to SOK product (fish ticket wt.)

 E_b = estimated total number of eggs on all kelp blades from all SOK platforms

 E_{st} = estimated total number of eggs on all kelp stipes from all SOK platforms

 E_7 = estimated total number of eggs (on blades + stipes) from all SOK platforms

 e_{brk} = mean no. of eggs·gram⁻¹ wet field weight of brined kelp + eggs

 e_{brkeh} = the mean number of eggs per gram of brined eggs + kelp in position stratum g, platform stratum h.

 $e_{brk \phi hi}$ = the estimated mean number of eggs per gram of brined eggs + kelp on blade *i*, in position stratum *g*, platform stratum *h*.

 e_{eghi} = the estimated mean number of eggs per gram on the kelp blade section from blade *i*, in position stratum *g*, platform stratum *h*.

 e_{ghi} = the measured weight (g) of eggs only on the kelp blade section from blade *i*, in position stratum *g*, platform stratum *h*.

 e_{ghij} = the count of number of eggs in 1 gram of eggs in egg subsample *j*, from the kelp blade section from blade *i*, in position stratum *g*, platform stratum *h*.

 e_{st} = estimated stratified mean number of eggs per stipe

 e_{stph} = estimated mean number of eggs on stipes within positions stratum g, platform stratum h

 e_{stghi} = estimated total number of eggs on stipe *i*, from position stratum *g*, platform stratum *h*

 e_{stsehi} = enumerated total number of eggs on the subsection of stipe *i*, from position stratum *g*, platform stratum *h*

 e_{Tghi} = the estimated total number of eggs on the kelp blade section from blade *i*, in position stratum *g*, platform stratum *h*.

F = herring fecundity; i.e. estimated number eggs ton ⁻¹ of male and female herring

 F_f = herring fecundity [number of eggs ton ⁻¹ of herring (female only)]

 G_{brkgh} = a weighting factor that accounts for the proportions of brined kelp blades in both the population (i.e. from all platforms) and the sample G_{ebrgh} = a weighting factor that accounts for the proportions of brined kelp blades in both the population (i.e. from all platforms) and the sample G_{egh} = the weighting factor for the weight of unbrined blades of kelp + spawn that accounts for the proportions of brined kelp blades in both the population (i.e. from all platforms) and the sample gopulation (i.e. from all platforms) and the sample

 G_{stgh} = a weighting factor that accounts for the proportions of kelp stipes in both the population (i.e. from all platforms) and the sample

N = estimated total number of blades on all fronds from all strata

 n_{brk} = number of brined blades (kelp + spawn) sampled from all strata to obtain egg counts

 n_{brkeh} = the number of brined blades sampled to obtain egg counts in position stratum g, platform stratum h

n_{brkg.} = number of brined blades (kelp + spawn) sampled from to obtain egg counts from position stratum g, across all platform strata.

 $n_{brk,h}$ = the number of brined blades sampled in platform stratum h, across all position strata.

 n_{ρ} = number of blades (kelp + spawn) sampled from all strata.

 n_{ehr} = number of **brined** blades (kelp + spawn) sampled from all strata

 n_{ebrg} = the number of brined blades sampled in position stratum g, across all levels of platform strata

 $n_{ebr,h}$ = the number of kelp blades sampled in platform stratum h, across all levels of position strata

 n_{ebrph} = number of brined blades (kelp + spawn) sampled from platform stratum h and position stratum g

 n_{eg} = number of blades (kelp + spawn) sampled from position stratum g, across all platform strata.

 $n_{e,h}$ = number of blades (kelp + spawn) sampled from platform stratum h, across all position strata.

 n_{egh} = number of blades (kelp + spawn) sampled from position stratum g, platform stratum h.

 n_{st} = number of stipes sampled for eggs in all strata

 n_{steh} = number of stipes sampled for eggs in position stratum g and platform stratum h

 P_{hrkeh} = the estimated proportion of the total number of brined kelp blades from all platforms in position stratum g, and platform stratum h.

 P_{egh} = the estimated proportion of the total number of *un*brined kelp blades from all platforms in position stratum g, and platform stratum h.

Pebreh = the estimated proportion of the total number of kelp blades from all platforms in position stratum g, and platform stratum h.

 P_{stgh} = the proportion of the total number of fronds from all platforms in position stratum g, and platform stratum h.

 p_{ub} = estimated ratio of the mean weight unbrined to brined kelp blades + spawn

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Appendix D. (page 2 of 2)

S =total number of fronds from all platforms

 s_{ghi} = the measured weight (g) of the section of brined eggs + kelp from blade *i*, in position stratum *g*, platform stratum *h*, sampled to estimate

the mean number of eggs per gram. $\tau = 1$ ton expressed in grams; a constant

 T_{ff} = weighed total grams of brined blades + eggs harvested (from fish tickets)

 \tilde{W}_{H} = Estimated weight of herring needed to produce the estimated total number of eggs from all SOK platforms.

 W_{SOK} = Weight of spawn-on-kelp product (tons) from fish tickets; a constant.

 w_{ρ} = estimated stratified mean weight (g) of unbrined blades of kelp + spawn

 w_{ebr} = estimated stratified mean weight (g) of brined blades of kelp + spawn

 w_{ebrgh} = mean weight of brined blades of kelp + spawn from platform stratum h, position stratum g

 w_{ebrghi} = weight of individual brined blade i of kelp + spawn from platform stratum h, position stratum g

 w_{egh} = mean weight of unbrined blades of kelp + spawn from position stratum g, platform stratum h.

 w_{eghi} = weight of individual *unbrined* blade *i* of kelp + spawn from platform stratum *h*, position stratum *g*

 w_{stghi} = measured weight of the entire stipe + eggs from frond *i* in position stratum *g* and platform stratum *h*

 w_{stsghi} = measured weight of the a subsection of stipe + eggs from frond i in position stratum g and platform stratum h

 x_{brkgh} = product of G_{brkgh} and e_{brkgh}

 x_{ebrgh} = product of G_{ebrgh} and e_{ebrgh}

 $x_{egh} =$ product of G_{egh} and e_{egh}

 x_{stgh} = product of G_{stgh} and e_{stgh}



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Association between point estimators and parameters for estimating the conversion rate, C, of spawning herring to spawn-on-Appendix E.

LASK T $\sum_{a} \left(e_{brk} \right)^{2} = \frac{\sum_{a} \left(e_{brkghi} - e_{brkgh} \right)^{2}}{\sum_{a} \left(e_{brk} \right)^{2}}$ $\sum_{=gh} \left(e \ ebrghi \ - e \ ebrgh \ \right)^2$ $\frac{P}{n} \left[\sum_{A} \left(P_{gh} - f_I(n_{g.}, n_{.}h) \cdot G_{gh} \right) \cdot G_{gh} \right]$ $\frac{\sum_{\left(e_{st}\right)=\frac{gh}{2}}\left(e_{stghi}-e_{stgh}\right)^{2}}{\left(e_{st}\right)=\frac{gh}{2}}$ $\sum_{e} \sum_{e} (w e_{e}h_i - w e_{e}h)^2$ 1 - 4⁸ n 1 - 4⁸ n 1 - 48 n n ₈h - 1 NOTE: The notation Var(e,w) is a generic notation for the 2-way, stratified variance estimator applicable, with **parameter**-specific values for n_{gh} , x_{gh} , n_{g} , n_{h} , $and s_{p}^{2}$, associated with variance estimates for the **parameters** w_{e} , w_{ebr} , e_{st} and e_{bh} $\frac{1}{k} = \left| -\sum_{gh} \frac{n}{n-1} \left| \sum_{h} n_{gh} x_{gh}^2 - \frac{\left(\sum_{gh} n_{gh} x_{gh}\right)^2}{\left(\sum_{gh} n_{gh} x_{gh}\right)^2} \right| \right|_{S}$ $f_{I}(n_{g,n},n,h) = \left(\frac{n-1}{n^{2}}\right) \left\{ 1 + \left(\frac{n-n_{g,n},h}{n}\right) \left(\frac{1}{n_{g,-1}} + \frac{1}{n_{g,-1}} - \frac{1}{n-1}\right) \right\}$ $\sum_{2=gh}^{J} (n_{gh} - 1) \cdot s_{gh}^{2}$ $\sum_{gh} n_{gh} - n_{I}$ $Var(E_{st}) = E_{st}^{2} \left| \frac{Var(e_{st})}{Var(e_{st})} \right|$ e 2 81 $\left(\sum_{\sigma}^{n} n_{gh, x} g_{h}\right)^{2}$ Ч° и $\sum_{n \, gh \cdot x \, gh}^{2}$ Var(e brk) $+\sum_{n=n-1}^{n}$ e brk $Var\left(E_{T}\right) = Var\left(E_{b}\right) + Var\left(E_{st}\right)$ (^w ebr) W ebr $-\left|\sum_{h}^{n} n_{gh} x_{gh}^{2} - \frac{\left(\sum_{h}^{n} n_{gh} x_{gh}\right)^{2}}{\left(\sum_{h}^{n} n_{gh} x_{gh}\right)^{2}}\right|$ Var(p ub) p ub $Var(E_b) = E_b^{T}$ $Var\left(p \ ub\right) = p \ ub^{-1}$ $Var(E_T)$ E_T^2 $\left< \frac{Var\left(W H\right)}{N} \right>$ W_H² $\left|\sum_{i=1}^{n} \frac{g_i}{2}\right|$ $ar(F_{f}) = Var(\beta r) + Var(\alpha)$ Var(F) $Var(\beta r) = (\beta r)^2 \left(\frac{Var(\beta)}{\beta^2} \right)$ $Var(F) = F^2 \frac{Var(F_f)}{2}$ $Var(C) = C^2$ Ŀ. $Var(W_H) = W_H^2$ $Var(e,w) = \frac{(n-1)}{2}$ Appendix F.

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Variance estimator for C, as well as parameters which are precursors to C.

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One precursor parameter to the SOK product: herring conversion, C, is p_{ub} , the ratio of the mean weights of unbrined (w_e) to brined (w_{ebr}) SOK product (i.e. eggs + kelp). This ratio is based on individual kelp blades of SOK product weighed prior to brining and after brining. Particularly because the same kelp blades were weighed before and after brining, some covariance between w_e and w_{ebr} is expected, which would influence the variance of p_{ub} . However, in estimating the variance of p_{ub} , we did not account for the covariance term, due to the complexity of estimating the 2-way stratified covariance term. Normally, in estimating the variance of a ratio, any positive, non-zero covariance would reduce the overall estimate of variance (e.g. Stuart and Ord 1994). Therefore, our exclusion of the positive covariance term would be expected to increase the variance estimate of p_{ub} , and in turn, the variance estimate for C. However, this increase in the variance estimate for C, incurred by excluding the covariance term from the p_{ub} variance estimate, was expected to be relatively minor. As an indication of the probable magnitude of the difference in variance with and without the covariance term, we estimated C, with and without the p_{ub} covariance term included, analyzing the data under a 1-way stratified design, where the strata of interest was the platforms. While still an involved series of calculations, estimation of the stratified covariance term for a 1-way stratified design is more straightforward than that of a 2-way stratified covariance term. The variance of the 1-way stratified estimate of p_{ub} with and without the covariance term included was 0.0000944 and 0.0005961, respectively. The variances of the 1-way stratified estimate of C with and without the covariance term included for p_{ub} were 0.000144 and 0.000170, respectively. The 95% confidence limits for C with and without the p_{ub} covariance term were 0.253-0.300 and 0.251-0.302. The point estimates of p_{ub} and C remain unchanged regardless of whether or not the covariance term is included in the variance estimate for p_{ub} .

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SPAWN ON KELP MARKET TRENDS AND OPPORTUNITIES

Prepared by Seabridge Strategies Ltd for Blewett Associates Inc.

Introduction

Seabridge Strategies was retained by Blewett Associates Inc to contribute to a study of markets for spawn on kelp (SOK). Seabridge was asked to look at

- Trends in existing market segments and opportunities for increasing sales
- Opportunities for creating new consumers in either existing markets or new areas
- Actions that could be taken to expand markets for SOK

The analysis below is based on interviews with players in the SOK market on both sides of the Pacific, the expertise of the Canadian Embassy in both Tokyo and Seoul, local Japanese chefs and wholesalers, and the consultant's experience with other seafood products in Japan and elsewhere.

Spawn on Kelp

Spawn on kelp (SOK) or *kazunoko kombu* is a specialty seafood product composed of kelp covered with herring eggs, produced on the Pacific Coast of North America in San Francisco, British Columbia and Alaska and intermittently in Russia. Other potential producers such as Finland, Sweden and Atlantic Canada are considering developing similar products but with no real success to date.

In BC, spawn on kelp is produced using both open and closed pond methods although it is generally mixed product that is sold in the marketplace. BC product has a reputation, largely deserved, for better quality than San Francisco or Alaska. Open pond methods generally produce a thinner egg layer, while closed ponds produce a thicker layer that corresponds to top quality. Closed ponds offer more opportunity for controlling both intrinsic quality (silt and sand) and adapting to new market demands (thinner rather than thicker).

Raw product is trimmed, salted or brined on the grounds, then graded and packed into 32-37 lb plastic pails by custom processors for export to Japan or domestic sales.

Most SOK is sold to two or three reprocessors who slice and pack the product for seasonal and year round distribution. The largest, Taniya, accounts for perhaps 75 per cent of BC production and reprocesses a portion of its imports in China. In the past, at



least one company in BC was undertaking this process here but it now prefers to buy already processed product from one of the main reprocessors for sale through its own distribution system—"it reduces the level of risk," according to the company's principal.

SOK is not differentiated in the Japanese market place by country of origin.

SOK: the Market

Virtually the sole market for SOK is Japan. It occupies a very small, highly specialized niche, with no immediate substitutes although a number of different analogues such as herring roe from various producing regions and other processed roe products. Over the last decade, supply has varied from about 500 tonnes to almost 900 tonnes, a considerable variation given the tiny size of the market (the total salted/dried/smoked fish market is about 750,000 tonnes, of which herring roe in various forms makes up about 13,000 tonnes). There are appears to be a fairly close co-relation between supply levels and price—the Canadian Embassy attributes the slightly higher prices in 2000 for SOK to the near-absence of US product in the market.

As a rare delicacy, SOK's traditional niche has been high end sushi shops and Japanese restaurants and the gift market where it was able to command high prices that in general provided good returns in most years to at least two of the three participants in the distribution chain (supplier, importer, reprocessor).

It is agreed by all that that traditional market has been in a state of radical flux since 1996 when landed and wholesale prices dropped first by 25 per cent, then by 50 per cent in response to changing market conditions in Japan. As one BC exporter put it "1997 was the year when the Japanese finally remembered that they are the only buyers for herring roe products...it's not likely that they will forget again."

There is less agreement over the overall direction of the market once it emerges from this state of change. Some suppliers and users are fairly confident that they can introduce new consumers to SOK, turning it from an occasional or seasonal product to an everyday one albeit at a lower price. Some believe that the everyday product and the expensive niche market can co-exist while others believe that "democratizing" SOK will inevitably lead to the demise of the high value niche. Some are keen to see an expansion in production, others think that restricting it is the only way to maintain high prices. It is, however, fair to say that everyone contacted by this researcher was in favour of a cautious approach to any expansion to reduce the likelihood of market disruption.

One other change in the market is worth noting: the number of buyers of SOK in Japan has dropped dramatically. In the 1980s, there were dozens of buyers for SOK, by the mid 90s more than 20, but now there are no more than three. This consolidation in part reflects the reduced Japanese tolerance for risk but also a determined effort on the part of some buyers to dominate the business. If this interpretation is correct, then high prices to suppliers may owe as much to speculation as to the inherent value of the product. It also raises the spectre of continued consolidation—this might result in higher prices to



producers in the short term but would leave them at the mercy of a single strong buyer later.

The Burst Bubble and the Japanese Seafood Market

One of the fundamental changes in the Japanese seafood market has been the fallout from the failure of the bubble economy in the early 1990s and the prolonged period of economic weakness since. The Nikkei average has dropped almost 2/3rds, auto production is down, land prices are down, business confidence continues to decline, unemployment is at record levels, the new megabanks are as unwilling as the old bands to deal with bad loans. The Japanese Chain Store Association and the Japanese Department Store Association continue to report declines in sales, there is little sign of deferred consumer demand and even less sign that what there is will express itself at the expensive restaurant, the department store or the supermarket. In 2000 expenditures on food declined by 1.9 per cent, the first real decline in a decade. The precariousness of many retailers is amply demonstrated by the filing for bankruptcy protection in September 2001 of Japanese grocery giant Mycal Corp. In short, despite occasional signs of life, recovery seems a long way on the horizon.

The impact on the seafood business has been considerable. Across the board, the wholesale price of high end products has dropped dramatically. Imports of "international" products (crab, shrimp, some salmon) have dropped as a result of competitive demand; wholesale prices of virtually all expensive items (lobster, shrimp, salmon, crab, herring roe, abalone, sea urchin roe) have dropped by at least 40 per cent and often as much as 75 per cent since 1997.

It's not just that prices are down. One big change is the restricted access to credit by Japanese seafood companies following consolidation in the banking sector and the demise of institutions such as the Hokkaido Takushoku Bank. Tolerance of risk has dropped sharply throughout the seafood business and where this is combined with higher or even stable supply of raw material has invariably led to pressure on suppliers to take on more of the risk, primarily by accepting lower prices.

At the same time, tastes are changing too. Older Japanese—whose taste shaped the development of the SOK market—are hoarding their money not spending it. Disposable income is in the hands of the young who prefer to spend it on faster food, cheaper food, more international food, on eating out as inexpensive entertainment. Consumption of meat is growing, consumption of fish is falling, concerns about health are becoming more common and many traditional products—especially the time-consuming, heavily salted ones—are falling out of favour.

While the overall food market picture is bleak, it would be wrong to suggest that there are no opportunities. In an economic downturn, food is one of the items that people still have to buy. Consumption patterns may change but that only opens up new prospects where other ones decline. Japanese consumers still expect quality, they just want it at a reasonable price. As one supermarket buyer put it to me "everyone talks about price



destruction but this doesn't mean that Japanese consumers will accept poor quality products just because they're cheap. It didn't work for Daiei and it won't work for any other supermarket chain. We want good quality at a reasonable price and if Canadian suppliers can give me this I am happy to buy from them."

SOK Market Niches

1) The Established Niche: Expensive Restaurants

This niche has shrunk considerably as a result of the burst of the bubble, affecting many different items once largely the province of this segment (sashimi tuna, abalone, sea urchin roe). Before the mid-1990s this segment was primarily maintained by the expense account/entertainment trade provided for in the GS & A of many Japanese firms.

In the current economic/political climate, there is no prospect of a recovery in the foreseeable future in this kind of generous expense account business. As an example, for at least the last three years, North American exporters have found that instead of the lavish entertainment they were accustomed to on visits to Japan, they are going Dutch in cheap sushi bars or watching television in their hotel room instead. As noted, the impact is not limited to SOK but includes other expensive food service items.

2) The Established Niche: Gifts

The gifting industry was another of the first victims of the bubble failure. Gift giving in Japan falls into two categories: corporate and personal, both concentrated at the end of the year and during the summer Obon/Golden Week period. SOK, like top quality salted herring roe, has been a staple of gift packages. This market has shrunk considerably dramatically since 1995.

Lavish corporate gift giving is largely a thing of the past both as a cost cutting measure and because of a change in mores. Corporate gift giving was closely associated with the construction industry—a sector noted for both corruption and the large number of deadbeat companies on the verge of bankruptcy—and the powerful bureaucracies of MITI and MOF (trade and finance). Public opinion has turned sharply against overt dealing in favours and the gift business has felt the effect.

Personal gift giving has changed in a different way. It is still a common, even a growing custom, particularly in the summer but overall expenditure has declined and the range of possible gifts has expanded—SOK is no longer an immediate or a necessary choice.

The decline of the gift market for SOK—and for top quality herring roe—also ties in with demographic trends. Both products (and they are to some degree substitutable) are associated with older Japanese whose tastes dominated the first flush of postwar affluence. The Japanese trade has been concerned for at least the last 15 years (although it hasn't done much about it) that the demographic skew meant that end users were dying off without adequate numbers of new users coming into the market. Stories abound of



even top grade roe gift packages from Ihara Suisan (the market leader) are simply dumped into the garbage because the younger generation does not know how to desalt the product or cannot be bothered to go through the time-consuming process. SOK is no exception to this trend as it is not perceived as a ready to eat product.

On the corporate side, as decisions about gift giving fall into the hands of younger managers, SOK and herring roe are no longer automatic choices. The same is true on the personal side—any growth in gifting is coming from younger people, those less likely to choose traditional SOK.

If as recently as five years ago, the gift market accounted for about 10% of SOK, that percentage has dropped according to some estimates by about a half.

The traditional gift market thus offers little prospect of a recovery in either volume or value.

3) New Niches

At current supply levels, SOK is going to remain a specialized niche. Even so, the question remains whether there are any prospects for expansion at the top end of the market (accepting that this will still mean lower prices throughout the distribution chain).

Most importers/distributors of SOK believe that the market for top-grade SOK has been oversupplied (mainly because of the market shrinkage) and that opportunities lie in lower grade (or at least thinner) product for everyday rather than special occasion uses. Again, this mirrors what has happened to salted herring roe where the high end gift market is now estimated at less than 2,000 tonnes while all the growth has been in packages for everyday consumption. Maintaining current markets at relatively high prices would probably require a cut in production from all sources.

Given the poor prospects for revitalizing current markets, the Japanese trade led by Taniya is already engaged in developing new niches and new products. Canadian suppliers will need to think carefully about how best to participate in this process and how much of the risk—and the cost—they are willing to share. A brief analysis of the key opportunities follows.

4) Regional Expansion

It's commonplace to say that the main market for SOK is the Kanto (Tokyo region), if only because of the concentrated population and the ease of distribution. Some in the trade take the view that the Kansai (Osaka/Kobe/Kyoto) is more important because seafood consumers there are more discriminating, willing to pay higher prices, and attuned to the tastes of older Japanese.

In fact, the tiny size of the SOK supply and market means that it is an unfamiliar product to most Japanese even in metropolitan Tokyo. Market expansion is therefore akin to the



introduction of a completely new product—at anything other than a commodity level this is going to take a market development strategy backed by considerable expenditure. Indeed Taniya, the largest user, already estimates its marketing expenses in the C\$1 million range—an amount that may sound a lot but is in fact not very much given the cost of marketing activity in Japan.

Regions outside the Kanto and the Kansei offer considerable opportunities for new market development for food manufacturers. Kyushu, for instance, has a tightly concentrated population of 15 million (5 million in the Fukuoka area alone), a handful of regional supermarket chains, and offers better opportunities for developing a non-competitive distribution chain than either the Kanto or the Kansei.

5) Ordinary Sushi Shops, Take-out and Kaiten Sushi Shops

Ordinary sushi shops are less expensive than the high end shops which have traditionally been the market for SOK. The curtailment of spending by consumers has hit this level hard too, and the consumption of high priced seafood products (SOK, sea urchin roe, sashimi tuna, abalone, etc) in such establishments is not expected to recover in the near future either.

The main segment of the market where sales have increased over the last five or six years is fast food and take-out. The advent of McDonalds nearly 20 years ago has had a profound influence on the development of this segment of the market—creating the impetus for new chains offering fast, quick foods from different origins, making eating easier, faster and cheaper. Often this involved taking elements of traditional Japanese cuisine and redeveloping them into fast food items using much cheaper, imported raw materials—the beef bowls at Yoshinoya are a prime example. Sushi restaurants have not been immune to this trend—*kaiten* sushi bars (where diners choose from revolving, made in advance sushi plates) and take-out sushi, both of which do away with the need for highly trained chefs and increase potential volume have grown significantly. A couple of pieces of SOK sushi in one of these establishments might cost a fifth or even a tenth of the price of an ordinary or high end shop.

For the last few years, this sector has been characterized by brutal price-cutting, led by McDonalds with its half-price strategy. JETRO's most recent study of the eating-out market indicates, however, that take-out/fast food prices have dropped as low as they can and that success in this segment depends now on service, quality, better systems, and product differentiation.

This growth in take-out/*kaiten* shops and the current degree of price stabilization suggest opportunities for SOK, particularly for "lower" quality, lower priced product. Lack of familiarity may be the biggest barrier to increased growth here. It should also be noted that the traditional Japanese distribution structure is very much still in evidence even in newer segments of the market—according to one expert on the Japanese food market, there could be as many as eight or ten middlemen between seafood importer and a take-out sushi manufacturer in Gunma (a 2 million people market to the northwest of Tokyo).



6) Bento Boxes

Bento boxes, compartmentalized lunch boxes of pre-pared rice, vegetables and small portions of meat or fish, are a fast food staple in Japan at restaurants, department stores, train stations, and take-out shops, with the market estimated at 6-8 million boxes a day.

Many of the same trends—particularly the decline in prices—affect this segment of the market as the takeout/*kaiten* market. Indeed, NRE World Bento in California created a political storm in Japan this summer when it announced that East Japan Railway Co. had agreed to buy 20,000 made-in-California bento boxes a day, shipped by frozen container. NRE claimed that access to stable supplies of less expensive California rice enabled them to offset shipping costs and provide the railroad with roughly a quarter of its daily requirements for bento boxes at a very competitive price compared to its local supplier.

This kind of competition, while keeping a lid on prices, is also spurring competition in new product development—the range of acceptable products for bento is growing—and in new technology—microwaveable bentos or shelf stable bentos. Related opportunities also exist in the B & B (ryokan) and school lunch markets.

In a report in preparation for the BC Salmon Marketing Council and Fisheries Renewal BC, Calgary-based Nakodo Consulting suggests bento box manufacturers as one key avenue for BC seafood producers seeking to take advantage of the growing Japanese market for value-added food products. Nakodo cautions, however, that the market is very competitive, requiring significant new product development and marketing, and needs high volumes of successful products. Its advice is to pick a region, select a niche market, pursue three or four appropriately sized customers, then select one for an 18-month to 3 year development period.

7) New Product Development

The traditional SOK market reflected the taste of older Japanese. It does not appear that their preference has been handed down to the younger generation who dominate discretionary spending.

There are parallels here with other seafood products. Virtually every Japanese seafood trader will tell you that Canadian sockeye salmon is the best quality product and their own personal preference, but that their wives and certainly their children are perfectly happy with—and even prefer—farmed Atlantics.

Sellers of SOK—as with herring roe—have had no choice but to diversify into flavoured, ready to eat products. Virtually all users (with perhaps one exception) see this as the only way to expand the market. If the product is made ready for eating, whether by seasoning (with soy sauce, mirin, spices, etc) or processing into products combined with other materials, then there will be more consumers, especially more younger consumers. Only in this direction can any increased production be absorbed.

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At this point, new product development for SOK is very much in its infancy, although some users such as Taniya are investing considerable funds in it. Taniya believes that by re-processing in China it may be possible to reduce costs sufficiently to revitalize traditional sushi sales. The company is also interested in specially trimmed, thick SOK (i.e. top quality) for high end, year end bento and osechi-box year end, in looking at ways to "internationalize" SOK, and in thin-cut SOK marinated with seaweed, wasabi, sake mirin, soy sauce, etc. Most users would agree that new product development for SOK is in its infancy and largely on a trial and error basis. It should also be pointed out that new product development is an expensive and on-going process—many new products targeted at the younger generation have a shelf life of only a couple of years before they are replaced by something else.

Other users are convinced that the future of SOK lies in home-use, that is development of retail markets, especially if production increases. Here again, one trend to take into account is the desire for fast, convenient products—Nakodo Consulting identifies the breakfast market as one of opportunity, citing the growth in ready to eat or pre-cooked items that only need to be dipped in boiling water. Another trend identified by Nakodo, however, is the willingness of some consumers to spend money on top quality products at retail as compensation for foregoing eating out at expensive restaurants.

While SOK has always been available at the retail level, it is only recently that it has been identified as a market opportunity. The previous lack of development is probably due to the unfamiliarity of the product and tight supply which precluded development of this segment of the market.

8) Opportunities Outside Japan

Some marketers of food products have found opportunities in ethnic markets closer to home—BC farmers for instance have started growing wasabi for the burgeoning Japanese restaurant business while Shuswap Tofu has found Japanese restaurants and retail outlets in the Lower Mainland willing to pay a premium for its organic tofu.

One of the trends in the North American food service business has been the explosive growth in Japanese restaurants at every level from high priced sushi to noodle and gyoza shops, a growth that far exceeds the growth in the population of Japanese-Canadians/Americans. This growth is generally attributed to two factors—the predilection for Japanese food by ethnic Chinese and its enthusiastic acceptance by affluent Caucasians. Unfortunately for SOK, neither group of customers is familiar with SOK or immediately drawn to it.

Conversation with Japanese chefs and wholesalers in Vancouver suggests that most SOK product is local (rather than reexported from Japan) but that opportunities for expansion are limited to non-existent. They did not believe that even lowering the price would result in an increase in previously pent-up demand.

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One other country has a particularly strong Japanese restaurant sector: Korea, especially Seoul. This sector is one embodiment of the love/hate relationship between Korea and Japan. During the bubble economy, it expanded dramatically, building on both the desire for conspicuous consumption and a thriving expense account trade with both Japanese and Korean business. Prices were generally reckoned by be at least one-third higher than at equivalent Korean restaurants.

Even so, it would not appear that SOK was a familiar product in these restaurants. There is little evidence to show that it was imported directly although anecdotal evidence suggests that small quantities were available through Japanese importers. The Embassy in Korea checked with a number of high end Japanese restaurants and found that the chefs were unfamiliar with SOK. The post also does not believe that it has penetrated the Korean restaurant segment.

Korea has a vibrant seafood trade for both foodservice and home consumption, but high end products have been especially hard hit, perhaps more so even than in Japan. During a visit to Seoul in June 2001, this researcher was asked by Korean importers about availability and pricing of a number of different BC seafood products (though not SOK). In every case, they were looking for prices at least 20% below current levels (even for sockeye salmon which this year hit new landed and wholesale lows). Developing a market for SOK would require low prices and considerable marketing power, fundamentally introducing a new product to a market that is unfamiliar with it. SOK suppliers in BC do not appear to be in a position to do this

One of the maxims of food marketing is that it is 10 times easier to convince someone who already eats your product to buy more of it than it is to bring in new consumers. Nothing in my research suggests that either the domestic market (interpreted as the I-5 corridor) or the Korean market offers opportunity for expansion.

9) Developing the Japanese Market

The SOK situation is not unique, though it may be an extreme case. A number of seafood producers in BC—and elsewhere—with single or limited markets are having to come to terms with the prospect that the high prices they received for their products in the 1980s and early to mid-1990s were unsustainable and often the result of non-product attributes (speculation, currency exchange, etc). In addition to price pressure resulting the sustained weakness in Asian economies, they have to face increased competition in a commodity market from other suppliers and from substitutable products.

Although consumer demand for cheaper food has caused massive "price destruction," in turn forcing changes in a labyrinthine distributions system and consolidation of buyer power in retail hands, it has proved very difficult for foreign seafood or food suppliers to bypass the traditional system. Importers and trading houses have had a hard time maintaining the role of a middleman more powerful than either the supplier or the end user. Liberalization of the economy after 1990 encouraged an aggressive new group of Japanese importers who brought competitively priced goods to the market, often



undercutting both price and service in the process. With a broader choice of goods and a growing choice of importers, Japanese retailers were increasingly able to bargain for lower prices and better quality. As the downturn in the economy began to affect profits, retailers began spreading their risk by demanding that suppliers carry the financial costs as long as possible. Importers responded by reducing their inventory. Exporters ended up paying the cost.

In Japan, this reluctance to take on risk has resulted in a reduction in the number of buyers. It has also required importers and trading houses to take on new roles, expediting access and distribution. So a group of seafood producers, with none of the corporate control that, say, Clearwater has over hokkigai (another product with limited production largely dependent on a single market) is unlikely to be able to set up a new distribution system to sell direct. This means that if SOK producers want to participate in new market development they need partners in Japan, either existing users or new ones, developing a process of vertical co-ordination where producer, processor and end-user co-operate to expand the market. Such a process does not mean a return to days of import prices of over 4,000 yen/kg, but it does reduce the risk that BC suppliers will be expected to take on all the risk in SOK transactions.

10) Understanding the Japanese Distribution System

One of the constant criticisms of Canadian seafood exporters by the Japanese trade is that they don't spend the time understanding the Japanese market and figuring out how to adapt to change. While some Canadians interpret this as a coded criticism for their reluctance to simply lower prices, it's hard to see how a better understanding of how the market works can be a disadvantage. As one Japanese importer put it, talking of Canadian seafood exporters in general, " if you want to go on selling to us, you have to reduce your costs, improve quality and "freshness," work with us to develop new products and figure out the stories that will sell consumers on those products." A tall order, but not an impossible one—it really boils down to the difference between marketing a product and just selling it.

SOK producers interested in the partnership/vertical co-operation model need to build individual and collective relationships over time with both existing and users and potential new ones. Vertical co-ordination or value-chain development really means that each person/company who touches the product sells more of it as a result of personal connections, product knowledge and buyer-seller familiarity.

The early stages of this process should involve exploring how other food exporters have dealt with similar challenges. This researcher believes that SOK producers have the opportunity to play a more effective role in the changing SOK market than they have before. When pre-made, frozen bento boxes from California (using foreign rice, no less) can sell competitively in Japan, then the market is wide-open to new ideas and new ways of doing business.
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The BC Salmon Marketing Council is proposing to bring Nakodo Consulting to Vancouver in November for a half-day session on opportunities in the Japanese valueadded food business. Attendance should be mandatory for SOK producers, processors and DFO.

Seabridge has worked closely with both Nakodo to make sure that participants get the opportunity to look both at the broad trends in this market and at specific examples of successful food exporters who have:

- Developed non-competitive sales distribution networks that complement their existing networks;
- Established and developed brands
- Established effective joint marketing and promotional programs with Japanese users to extend market reach, awareness and budgets
- Successfully expanded to regions outside the Kanto and the Kansei
- Successfully expanded into non-traditional markets, developing new sales and distribution routes.

SOK and other BC seafood producers interested in ways to develop new markets without necessarily alienating existing customers (a necessity if production expands) need to look at lessons to be learnt from others in the food business. The following scenarios all have some relevance to SOK and all have been successfully exploited by other food exporters

- Less than adequate market volume (exporter needs more volume, Japanese importers are restricting sales to keep margins up)
- Current distributor seems unable to bring new orders or increase volumes (exporter needs new sales routes)
- Product demand is rising, new competitors about to enter market (new exporters do not understand the market and have no strong relationships so drive the market price down)
- Product quantity is increasing but is sold generically with little or no quality control (new exporters are unfamiliar with market quality requirements and sell average or below average product driving down prices across the board)
- Product sales quantity is steady, new product enters the market (excess, unmanaged supply drives down prices)
- Product has little value-added component (exporters are selling a commodity, Japanese importers have to add value at exorbitant labour rates in Japan)
- Market consumption is low (exporters have more product to sell but importers seem unable to expand market)
- Buyers are all in one or two cities and are part of large seafood companies or trading house networks (exporters are not really exporting but just selling to the W. Coast offices of Japanese importers who do all import/export work for them)
- Product is sold only in one or two niches such as sushi shops (need to develop non-traditional food service campaigns)
- Product all comes ready for sale to the market at once (need to develop sophisticated market extension techniques)



A detailed consideration of how other food exporters have reacted to similar challenges would help BC SOK producers decide whether to explore partnerships and vertical coordination arrangements, with all the attendant risk and benefits, or simply passively await market developments.

11) Quality

Quality is a marketing issue that BC suppliers must face. In Japan it is not a simple concept.

Every seafood exporter knows that quality in Japan is an ambiguous concept. On the one hand, Japanese buyers are the most knowledgeable in the world, and it is their job to define quality and to guarantee it down the line to the end consumer. On the other hand, concerns about quality are often market codes, a reason to pay less for a particular product when market circumstances have changed.

With SOK, the concept is even more confused. For instance, "thick" kelp from closed ponds is generally considered to be top quality whereas thinner kelp often but not necessarily from open ponds is lesser quality. As markets change, however, quality in the traditional sense and demand do not necessarily coincide. In 2001, for example, the highest prices were paid for thin kelp.

If we accept that the opportunities for SOK lie in developing everyday uses and consumers at lower prices, then the perceived quality of BC SOK can be an advantage, displacing cheaper product from elsewhere. A somewhat similar parallel exists with herring roe where the better quality, "crunchier" Pacific roe has to some degree displaced cheaper Atlantic roe in the everyday *ajitsuke* (flavoured roe) market. At a different level, there appear to be genuine concerns about quality. One of the largest users has expressed concern that the quality of open-ponded SOK from BC has deteriorated. This company cites rotten kelp and lack of firmness in the kelp leading to poor recovery rates (up to 20% defective). Another key concern is oxidization (discolouration), which is estimated to affect 10-20% of BC SOK.

Commodity producers cannot hope to break out of the boom/bust cycle without some form of quality/grading standards. Such standards are the foundation of any effective marketing program, both generic and branded. These standards must be market rather than producer-driven and capable of independent verification.

The need for uniform, effective grade standards is one of the common themes in the Japanese SOK trade as most importers currently re-grade all their purchases. BC SOK producers have a chance to solidify their market position in comparison to their competitors by moving quickly to work with Japanese importers to implement grade standards. Those that go first get to set the rules.



12) Branding

SOK is an export commodity with no distinction made by country of origin or other identifying attribute. Within Japan, it has also been relatively undifferentiated although the market ascendancy of Taniya is changing that.

There are some opportunities for branding BC SOK—it's never been done before but BC does have some specific product attributes which combined with a grade standards program could lend themselves to branding. Together, a branding program for the trade would be relatively inexpensive and could help BC position itself well.

Beyond that, the extent of any branding program will depend on the degree of cooperation afforded by existing Japanese partners and/or on the ability to access new buyers and distribution channels. With the exception of sockeye salmon, Canadian seafood products are not generally identified by country of origin, whether they are low end (Atlantic herring roe and capelin) or high end (Gulf snow crab). Indeed, both Atlantic and Pacific herring roe are generally sold as product of Hokkaido. The main users may be unwilling to extend a BC origin brand beyond the trade, seeing it as jeopardizing both their own ability to source from different countries and their own brand identity. On the other hand, Canada has an excellent image as a producer of top quality, natural food products and other users may see an opportunity to capitalize on consumer recognition of this.

It is clear that many users see a role for the producers in the marketing and promotion of SOK. Willingness to contribute to such a process would result in a better dialogue about how to expand markets and set the stage for the development of more effective partnership/vertical coordination relationships.

Conclusions

- There is little or no prospect of recovery in the near or even mid-term future in either the high end (or even mid-range) sushi market or in the gift market. This does not mean that new products (such as high end seasonal bento-osechi boxes) cannot be developed or that these markets will not continue to be important for SOK. It simply means that they are in no position to absorb additional production—indeed some users would prefer to see a cut in production. The continued weakness of this sector, especially if combined with production increases from any source, will inevitably put downward pressure on all prices.
- 2) There are no obvious market development opportunities outside Japan. Even a market like Korea with some theoretical appeal would not be practical for BC SOK producers.
- 3) There is no magic product or market niche that will restore the good old days when SOK sold for over 4,000 yen/kg. Indeed, not only has the price dropped but the range of price has narrowed substantially.



- 4) Any market expansion for SOK in Japan will be in everyday consumption at everyday prices. The two opportunities are in Japanese fast food (takeout/kaiten/bento) and in home consumption. In neither case does there appear to be pent-up demand from consumers who have only held back because of high prices. Exploiting either of these in a way that will benefit BC producers will require new market development--building relationships with existing and possibly new users, the willingness and ability to develop vertical coordination arrangements, and expenditures on product development, marketing and promotion. Given the population of Japan, successful exploitation could require a significant, controlled expansion in production. It is unlikely that BC producers will benefit term unless expansion in production is accompanied by an expansion in the number of buyers.
- 5) The SOK market is fragile, changing rapidly and vulnerable to speculation as well as demand. While many if not all in the SOK trade would welcome an increase in production, they all caution that this must be done in a careful, controlled fashion that does not disrupt the market but instead is calculated to increase market opportunities through increasing the number of buyers. Virtually every buyer of Canadian seafood expresses confusion about the role of DFO and its apparent disregard of the marketplace. As one trader put it, "increased production is OK, no increase in production is OK, but we need to know in advance what's going happen." Stability of supply (which does not necessarily mean static supply) is a pre-requisite of any marketing program whether branded or generic. Good seafood marketing programs are built around knowing what you've got—both in terms of supply and quality.
- 6) The SOK universe is a small one, making the development of relationships all the more important. While the small numbers of producers and buyers has some advantages, the example of canned salmon shows that it does not protect producers from broad trends in the marketplace (a declining demographic niche, lack of new product development, competition from substitutable cheaper products, consolidation at the retail level). Disruption in a small market universe can be very disruptive indeed.
- 7) BC producers are not sophisticated players in the Japanese market, nor do they represent a single corporate entity. They need to understand more about the way the market and the distribution system works and look at how other producers have surmounted similar challenges. They could undertake a number of marketing activities (country of origin ID, participation in trade shows/solo shows, working with chefs, retail demos, publicity and promo material, PR activity) but they can only do this effectively if three things come to pass. The first requirement is an effective working relationship with DFO to manage supply in tune with market needs, the second is the development of much closer relationships between suppliers and users, including possible new users, and the third is improvements in quality and development of grade standards.



Spawn-on-kelp Market Study

Part Two

Potential for, and Impacts of, Expanding Spawn-on-Kelp Production in British Columbia

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Spawn-on-Kelp Market Study



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The area with the biggest potential to increase production, outside of BC, is Alaska. Most of the landings in the Alaskan herring roe fishery are frozen in the round and exported to Japan and China for processing into brined roe for Japan. The prices received by herring roe harvesters in Alaska are significantly below what could be obtained if they transferred their quota to spawn-on-kelp. Alaskan fishery regulators support such a shift but some herring permit holders have to date been reluctant to support a conversion initiative.

US production out of Alaska and San Francisco are dealt with in more detail in the next section.

Main Areas of Competition with BC

The major competition for BC spawn-on-kelp product derives from production from United States fisheries in San Francisco and Alaska. Other production, as periodically arises in limited quantities from countries including Norway, Finland, Sweden, China, or South Korea, is not deemed to comprise a substantial or definable threat to the BC industry.

Spawn-on-kelp production from Russia has penetrated Japanese markets to a limited extent. Russia's potential to expand spawn-onkelp production is significant, though impossible to systematically evaluate. Russian spawn-on-kelp production may be considered a "wild card" that could affect overall supply in the long term, but is not foreseen to have a short term impact.

Information in this section therefore focuses on US spawn-on-kelp fisheries in the key production areas of San Francisco and Southeast Alaska.

San Francisco

Both roe herring and spawn-on-kelp are harvested in annual herring fisheries in San Francisco bay. The San Francisco spawn-on-kelp fishery consists of 11 permit holders (maximum number fixed by regulation), though fewer may participate in a given year, if expected economics are poor. The number of permit holders is kept small to prevent undue congestion in San Francisco bay and in recognition of the limited number of suitable sites for securing rafts in the bay. All licencees utilise open pond operations. Giant kelp (macrocystis) is not found in San Francisco bay so it is brought in from other coastal locations. Quotas are based on prior season biomass; stocks are currently at modest, though healthy levels. Spawnon-kelp produced in San Francisco fits into the lower end of the quality spectrum (ie, lighter density, slight silt content). Variables affecting production levels include: herring biomass forecast (influences quota); herring abundance; availability of kelp (winter storms may limit supply); location of spawn (may be other than at sites where rafts are anchored); and number of permits engaged.

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Table 5: San Francisco Spawn-on-Kelp Production

Historical data on spawn-on-kelp production out of San Francisco are presented in Table 5. Currently, a low biomass level is leading to reasonably small quotas. Quotas will rise if and as biomass improves. Future landings may be expected to follow a similar, volatile, pattern as in the past.

Season	Quo ta (ton s)	Total Land- ings (tons)	Percent of Quota Landed	ber of Per- mits
1989—90	110. 0	107.1	97.4	8
1990—91	144. 0	47.0	32.6	10
1991—92	114. 0	84.2	73.8	10
1992-93	84.5	47.4	56.1	10
1993—94	35.1	35.0	99.7	10
1994-95	85.0	13.1	15.4	10
1995—96	106. 5	106.8	100+	10
1996—97	286. 0	185.7	64.9	11
1997—98	209. 0	36.4	17.4	11
1998—99	54.4	31.7	58.3	11
1999— 2000	99.2	31	31.3	11
2000-01	49.3	27.2	55.2	11*
Average	114. 8	62.7	58.5	10

Alaska

Alaskan spawn-on-kelp production historically derived from Norton Sound and Prince William Sound. The Prince

William Sound fishery has been closed since the Exxon Valdez oil spill in 1989. Since the closure of Prince William Sound, the spawn-on-kelp fishery has developed in Southeast Alaska, particularly Hoonah Sound.

Three fisheries currently comprise the Alaskan spawn-on-kelp fishery: Hoonah Sound, and Craig (in SE Alaska) and Norton Sound (in the Arctic region), with Hoonah Sound being the predominant, and most consistent, contributor.

Hoonah Sound

Table 6: Hoonah Sound Spawn-on-Kelp Production

Vear	Harvest	Kelp Blades	Ex Vessel
i çai	(tons)	Per Pond	Value (\$US)
1990	11.9	240	8.46
1991	13.25	280	7.31
1992	23.12	240	9.8
1993	14	160	19.36
1994	32.7	140	25.74
1995	27.4	100	21.45
1996	0	0	0
1997	65.2	430	7.05
1998	85.9	400	6.75
1999	71.6	400	7.02
2000	32.7	110	8.23

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The Hoonah Sound spawn-on-kelp fishery started in 1990. It is a limited entry fishery with a maximum of 107 participants. The bulk of its production comes from closed ponds. Hoonah Sound operators produce thick density, "jumbo" product, comparable to BC (though of a marginally lower quality). Fishery production is influenced by the pre-season estimate of herring returns. A kelp allocation per operation (number of fronds per pond) is determined based on expected herring abundance (ie, larger herring forecasts lead to more generous kelp allowances). Hoonah Sound herring stocks are rebounding from low recent levels—the fishery was closed in 1996 due to low biomass forecast. The expectation for 2002 is for more-generous biomass estimate and kelp allowance. Production could double in 2002 from 2001 level; if that occurred, it would be the largest harvest ever in Hoonah Sound.

2001

65.9

Craig

Table 7: Craig Spawn-on-Kelp Production

Vear	Production
Tear	(tons)
1990	0.1
1991	0.05
1992	25.7
1993	5.7
1994	16.5
1995	27.0
1996	37.3
1997	22.8
1998	22.5
1999	36.4

A fishery taking place in Craig, Alaska also contributes limited spawn-on-kelp production, though on a smaller scale than the Hoonah Sound fishery.

Production is identified in Table 7.

Sitka

An experimental open pond spawn-on-kelp test fishery was conducted in Sitka for a two year period (1998-1999). The fishery was exploratory, to examine whether commercially acceptable product could be produced using open pond techniques, with the potential objective of converting roe herring seine licences to spawn-on-kelp permits. The fishery produced 50 tons in two years, with quality and prices commensurate with a "learning curve" operation. While the trial was considered successful, the decision was made *not* to proceed with a full-blown spawn-on-kelp fishery in Sitka.

Political, not economic or resource, issues scuttled the establishment of a spawn-on-kelp fishery in Sitka. Participants felt that pro-

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duction could be substantial and that open pond product could be absorbed by the Japanese market, but that new volumes could negatively impact prices received by closed pond operations in SE Alaska.

A re-examination at this herring-use decision could substantially increase Alaskan spawn-on-kelp production in the future.

Norton Sound

Table 8: Norton Sound Spawn-on-Kelp Production

This sporadic fishery taking place in the Arctic region near Nome, Alaska contributes minor spawn-on-kelp production. Production for the last 4 years is summarised in Table 8. Recent volumes are small and have been shrinking.

Year	Production (tons)
1998	9.04
1999	3.74
2000	2.25
2001	2.20

Summary/Outlook

The main fisheries that contribute significant volumes that may materially impact North American supply of spawn-on-kelp are San Francisco and Hoonah Sound (SE Alaska).

Spawn-on-kelp production from these two fisheries for the last 10 years is shown in Figure 3.



Figure 3: Spawn-on-Kelp Production from San Francisco and Hoonah sound

The Hoonah Sound fishery is relatively new, and on a growth trend, with 2002 production likely to increase substantially above 2001 level. As a closed-pond fishery with reasonable proximity to BC, the Hoonah Sound fishery targets similar market segments as BC product, though at marginally lower prices.

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Spawn-on-Kelp Market Study



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San Francisco volume is inherently volatile. The recent downward trend may hold for a few years, but could very quickly turn around (see Table 5: 94/95 production = 13.1 tons; 95/96 production = 106.8 tons).

While US spawn-on-kelp production in the last three years has been quite low, over the long haul, it can be expected to be higher. Periodic spikes in production should be considered likely. Other fisheries (eg, Craig, Norton Sound) may kick-in sporadically.

There is one wildcard. If the Sitka decision *not* to allow conversion of scine permits to open-pond spawn-on-kelp is reversed, there could be a major increase in supply from southeast Alaska.

ELDERWOOD TRADING CO., LTD.



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TO WHOM IT MAY CONCERN

Subject: Sitka Sound Roe Herring Open Pound Fishery

I have been invited to provide testimony on the subject of SOK production in Sitka Sound. I would consider it a privilege. It is my sincere hope that the views expressed here may promote healthy discussion and perhaps, lead to the adaptation of policies which will benefit all in the industry.

I have been involved with SOK for the past 20 years. During those 20 years, my company has gained valuable knowledge and experience into the workings of the SOK market. In 1999, we purchased 260 tons of SOK from California, B.C., and southeast Alaska, including Sitka.

It is my understanding that if the full potential of roe herring is utilized, Sitka may one day become the leading SOK-producing region of the world. I have heard concerns expressed that such increase in supply would disturb the delicate balance of supply-and-demand and produce a negative impact on the already fragile market, and bring hardship to the existing permit holders of SOK. These are legitimate concerns and one must not take them lightly.

However, I am of the opinion that, reducing the supply to keep the price up can work only under certain market conditions - but not now. In the present market climate, it will only mean repeating the same mistake that already has led the SOK industry to its current predicament.

To explain further, first let us examine the reasons for the current downturn in the SOK market. In my opinion, the present difficulty is in large part due to reaction to excessively high prices of the past.



To elaborate on this point, I have attached two graphs following.

The dollar values used are the mean average prices for closed pound SOK from B.C. They show a dramatic price increase that peaked in 1995, only to be followed by an equally precipitous price drop, which continued unabated to 1999. The expression, "Where the mountain is high, the valley is deep", encapsulates the essential behavior of the SOK market.

Graph 1 shows the combined supply of SOK from all the North American production areas. Here the rising prices up to 1995 seem to correspond with decreasing supply. In the same token the declining price curve from 1996 coincides with increasing supply for that period. Here, a superficial examiner of this graph may jump to a hasty conclusion that this is the evidence of increased supply driving down the prices. However, he must be cautioned not to be so hasty.

Graph 2 shows same price curves. However, it is different from Graph 1 in that it shows only the closed pound production from B.C. and southeast Alaska Here the supply of thick product was fairly consistent through the same period of great price upheaval. Granted, there was a sizable supply increase in 1997. However, during the years that followed the declining price curve continued despite supply reached a plateau. It is reasonable to conclude, then, that it was not the over-supply that affected the price of SOK, but some other factors were at work.

The single most important factor that has been driving the price down, in my opinion, is the economic recession in Japan. During the bubble economy years that lasted until early 1990's, Japanese consumers displayed great appetite for luxury. Consumption of expensive foods, including SOK, rose to record levels, and as those commodities became objects of speculation, the prices soared. But as the bubble burst, realities of economic recession set in, and the consumers backed off.

Take for example the kazunoko (herring roe) market. Despite the fact that the 1999 supply of kazunoko was the lowest in twenty years at less than 10,000 tons, the year-end gift kazunoko market plummeted. Conversely, lower-priced kazunoko in the form of consumer pack fared relatively well. Total consumption appeared to have been at par with supply.



The same situation manifested itself with SOK. Movement of thick SOK (jumbo & No.1 from B.C. and Alaska) was extremely sluggish, and the prices were down to record low levels. Thinner product, on the other hand, sold well, because prices were low enough to appeal to consumers.

These examples show that the market is constantly evolving, and that how important it is to stay in tune with the consumers' needs.

There are four main ingredients to successful marketing. They are:

- Healthy demand
- Consistent supply
- Reasonable price
- High quality

Of these, a healthy demand has to be ranked as the highest importance. If the high prices of recent years have alienated the consumers away, what the SOK industry must accomplish now is to find way to recapture the lost customers and generate new demand. Aside from making the product more appealing in terms of both price and presentation, the key is to make SOK accessible to a greater number of consumers. The task of generating demand is not a difficult as it may seem. For SOK possesses inherently superior product appeal. For instance, nine of ten people who actually tasted SOK will show a decided preference for SOK over kazunoko. This is an evidence enough that there is a huge potential for an untapped consumer market for SOK.

However, the size of the market can only be as big or small as the volume of supply. In this sense, the very limited supply that gave SOK the exclusivity in niche market is a fundamental weakness that prevent it from acquiring wide popularity. This point is clearer when one compares the supply of SOK against herring roe. In 1999, the total supply of herring roe was 10,000 tons, while SOK was just over 500 tons, barely 1/20th of kazunoko. This means that only a very few consumers had ever tasted SOK. Indeed, the majority of Japanese are even aware of its existence. The solution, then, seems to be to increase supply, while maintaining reasonable price and quality.



To this end, proposed alternative harvesting in the form on SOK in Sitka can make a significant contribution, especially if the open pound method is used. In the market where thick product by closed pounds dominates, thinner product by open pound will provide just enough diversity. It is possible that, instead of competing, producers of open pound and closed pound SOK can complement each other. By having the ability to offer rich variety of product, the SOK industry collectively will enjoy a greater chance of success in the task of opening wider market, and cultivating the greater demand in the process.

In conclusion, I believe that, if managed properly, open pound SOK fishery in Sitka Sound offers a promising alternative for better utilization of available resources. Even though critics may have legitimate reasons to worry about the over supply, benefits far outweigh the detriments. Perhaps, in consideration to existing permit holders the initial quotas should be set at a moderate level, but with mechanism to increase gradually as more demand is generated.

Thank you for the opportunity to voice my opinion. It is my sincere hope that the new management plan for SOK in Sitka Sound will be formulated with the greatest care for the future benefit of all.

Respectfully yours,

11

Ed Furumori

Graph
,
TOTAL NOR
H
14
AMERICAN
5
UPPLY

EWT Astimala	602	50		20	75	0	367	06	2000
EWT estimate	517	22		35	ß	0	09 E	35	6661
F&G Dala	548	27	8	22	85	12	357	36	866L
F&G Data	655			23	8	34	347	186	1997
F&G Dala	438			37	0	0	294	107	1996
F&G Data	349			25	29	0	282	13	1995
F&G Data	374			17	33	0	289	35	1994
F&G Dala	638			σ	14	269	302	47	1993
F&G Dala	936			26	23	495	9 0 8	84	1992
F&G Data	681				13	310	311	47	1981
F&G Data	585				12	219	247	107	0661
F&G Data	282					0	235	47	1989
F&G Data	475					221	234	20	1988
F&G Data	413					200	213		1987
F&G Data	277					120	157		1986
F&G Data	279					71	208		1985
	TOTAL	Sitka	Norton	Craig	Hoonah	PWS	B.C.	S.F	
	S.Ton	Unit							



\$8.63	\$6.00	\$17.00	\$25.00	\$35.00	\$22.50	\$14.00	\$10.65					Low		PRIC
\$10.00	\$12.00	\$21.00	\$28.00	\$40.00	\$26.00	\$20.00	\$15.00							E RANG
\$12.50	\$13.50	\$22.00	\$28,50	\$41.00	\$28.50	\$21.00	\$16.00				~	Mid range	CS/LB	iE for B.
\$13.50	S15.00	S23.00	S29.00	\$42.00	\$32.00	\$23.00	\$17.00					Ð		C. PROI
\$14.00	\$18.00	\$26.50	\$30.25	\$46.00	\$36.25	\$32.80	\$22.15					High		DUCT



91/13/2000

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Graph 2 - CLOSED POUND PRODUCT

NORTH AMERICAN SPAWN ON KELP PRODUCTION

	LOSED PO	UND (THICK	PRODUCT) Unit	S.Ten		PRIC	CE RANGE to	AB.C.	PRODU	1
Year	8.C.	Hoonah	Craig	TOTAL		Low	Mid	ande		High
1985	208			200						
1986	157			157						
1987	213			213						
1988	234			234						
1989	235			235						
1990	247	12		259						
1991	311	13		324						
1992	308	23	26	357		\$10.65	\$15.00 \$	16,00	\$17.00	\$22.15
1993	302	14	6	322		\$14.00	\$20.00 \$	21.00	\$23.00	\$32.80
1994	692	33	17	339		\$22.50	\$26.00 \$	28.50	\$32.00	\$36.25
1995	282	29	25	336		\$35.00	\$40.00 \$	41.00	\$42.00	\$46.00
1996	294	0	37	331	·	\$25.00	\$28.00	28,50	S29.00	\$30.25
1997	347	65	23	435	1	\$17.00	\$21.00 \$	22.00	\$23.00	\$26.50
1998	357	86	22	465		\$6.00	\$12.00 \$	13,50	\$15.00	\$18.00
1999	096	65	35	460	EWT est	\$4.63	\$10.00 \$	12.50	\$13.50	\$14.00
2000	29E	75	20	462	EWT est			د.		

_	_			_				_	_		_	-	-		-	
462	460	465	435	331	336	339	322	357	324	259	235	234	213	157	206	TOTAL
EWT est	EWT est					•										
	\$4.63	\$6.00	\$17.00	\$25.00	\$35.00	\$22.50	\$14.00	\$10.65								Low
	\$10.00	\$12.00	\$21.00	\$28.00	\$40.00	\$26.00	\$20.00	\$15.00								Mic
	\$12.50	\$13.50	\$22,00	\$28,50	\$41.00	\$28.50	\$21.00	\$16,00								d range
	\$13.50	\$15.00	\$23.00	S29.00	\$42.00	\$32.00	\$23.00	\$17.00								
	\$1	\$1	\$20	\$30	\$40	\$3	\$3	ñ								Ŧ

OPEN POUND (THIN PRODUCT)

Year	SF	PWS	Norton	Sittor	TOTAL
1985		71			71
1986		120			128
1967		200			200
1988	20	221 .			241
1989	47	٥			47
0661	107	219			326
1991	47	310			357
1992	84	495			579
1993	47	269			316
1994	3	0			ઝ
1995	13	0			13
1996	107	0			107
1997	186	34			220
1998	3 6	12	8	27	8 3
1999	35	0		22	57
2000	90	0		50	140



104.1V	~				-			
	PRODUCT		\$6.63	\$6.00	\$17.00	\$25.00	\$35.00	\$22.50
			\$10.00	\$12.00	\$21.00	\$28.00	\$40.00	\$26.00
			\$12.50	\$13.50	\$22.00	\$28,50	\$41.00	\$28.50
			\$13.50	\$15.00	\$23.00	S29.00	\$42.00	S32.00
\$45.00 \$40.00 \$35.00			\$14.00	\$18.00	\$26.50	\$30.25	\$46.00	\$36.25
		2000	1999	8561	1997	1896	1995	1994
		96	35	36	18	10	- 13	35

70.9 JATOT

Elderwood Trading Co., Ltd

Submitted By Ryan kelly Submitted On 12/17/2021 5:06:42 PM Affiliation

Phone 9073050086 Email

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Address po box 442 Asotin, Washington 99402

I strongly oppose proposal 103



Submitted By Ryan kelly Submitted On 12/17/2021 5:03:23 PM Affiliation

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Address po box 442 Asotin, Washington 99402

I strongly support proposal 82



Submitted By Ryan kelly Submitted On 12/17/2021 5:01:54 PM Affiliation

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Address 410 1/2 Harding Street ASOTIN, Washington 99402

I strongly support proposal 144



Submitted By Ryan kelly Submitted On 12/17/2021 5:00:11 PM Affiliation

Phone 9073050068 Email

rylor@hotmail.com

Address 410 1/2 Harding Street ASOTIN, Washington 99402

I strongly oppose proposition 83!





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Marit Carlson Van Dort, Chairman Alaska Board of Fisheries 1255 W 8th St Juneau AK 99811

Regarding King Salmon proposal 82&83

My name is Sam Dalin I own and operate Dalin Charters and Guiding based out of Ketchikan and have been operating for 20 plus years. Sportfishing is one of my primary sources of income (I also am a commercial fisherman and hold a power troll permit and generate income with it also so I can see some from both sides) and not only help support my family but bring a large amount of income into the local economy through myself and guest that use my services in the way of supporting local businesses from tackle, grocery stores, local hotels, airlines, gift shops, gas stations, mechanics, and many others!

King Salmon are a essential part of my business especially early season and are one of the main species that drive these potential guest to come visit our state!

Having in season regulation changes or closures or annual limits that are to restricted will, has been, and will continue to be a major deterrent for these people wanting to come experience SE Alaska and contribute to the local and state economy.

I'm not in support of proposal 82. Im concerned about the ability for non resident to keep kings in low abundance years under 82, it also has the abilities to manage non res in season, never giving them the opportunity to know what regulations will be in effect prior to arrival thus detouring fishermen that would otherwise come support our economy like a stable set limit would at all abundance levels.

I support proposal 83 that keeps workable regulations in low abundance and avoids in season management. It would be beneficial for visiting guest to have similar regulations each season rather than liberalize limits in high abundance years and in season management or closure. It's hard to market and keep guest coming to our businesses and communities without stable regulations.

The proposed cuts to sport regulations in 82 seem harsh from what sport fishermen have been traditionally allowed. It seems important to keep residents open while also allowing enough opportunity for non residents to keep king salmon and wanting to continue traveling to SE Alaska. I believe proposal 83 does better for both these groups.

Thanks, Sam Dalin Dalin Charters & Guiding 7937 Williams RD Ketchikan AK 99901 907-225-8336



To the concerned Board Members

My name is Sam Dalin and as a Alaska power troller I'm writing in favor of proposal 115 moving the start date of the winter troll fishery forward to align with SW 41 Thanks Sam Dalin Ketchikan Alaska

Sent from Yahoo Mail for iPhone

Submitted By Sarah Rasmussen Submitted On 12/22/2021 2:29:33 PM Affiliation



I am writing today in support of proposals 156, 157, and 158 which would lead to safer management of the commercial herring fishery in Sitka Sound by better protecting population resilience while doing less harm to subsistence roe-on-branch harvest. We need to protect the herring for generations to come and respect the traditional knowledge and stewardship of the Tlingit people.

Submitted By Sarah B Stewart Submitted On 12/16/2021 1:52:44 PM Affiliation

Phone 6178766735 Email

sarahbstewart@yahoo.com

Address

85 Garfield Street Watertown, Massachusetts 02472

We are writing in support of herring proposals 156, 157, and 158, and oppose proposals 159, 160, 161, 163, 164, 165, and 166.

There used to be bountiful spawning herring populations throughout Southeast. But in the last 50 years, spawning grounds from Kah Shakes to Lynn Canal have collapsed under ADF&G management ... and not a single one has yet recovered. Herring are a keystone forage fish species and critical food for salmon, as well as other economically and culturally important species like humpback whales and harbor seals.

While the proposals being considered by BoF next month are not enough to undo the collapsed herring populations across Southeast, they are an important first step in protecting Sitka Sound's population — the last best herring spawning grounds in the region.

Therefore we are writing in support of herring proposals 156, 157, and 158, and oppose proposals 159, 160, 161, 163, 164, 165, and 166.







12/20/2021

W. Scott McKelvey P.O. Box 6440 Ketchikan, AK 99901

Alaska State Board of Fish Committee Members:

By way of introduction, my name is Scott McKelvey. I am the Director of Operations for the Waterfall Resort ("Waterfall") and Steamboat Bay Fishing Club ("SBFC"), both of which are located in Area 2C in Southeast Alaska. The purpose of this letter is to relay our support of proposal #83, or proposal #82 with amendments. Both Waterfall and SBFC have operated charter fishing operations for many years; Waterfall has been in business for 39 years and Steamboat Bay Fishing Club has been operating for 7 years. Throughout this time, we have had an opportunity to build an extensive clientele list which includes non-residents and Alaskans alike. Our resorts have hosted an estimated 20,000 guests over the past 39 years, guests that have brought revenues into both the State and local economies through fishing license purchases, hotel taxes, airport taxes, purchases in local merchant stores, etc..

Over the past few seasons, there has been a sudden closure of King Salmon licenses which has cost us tremendously with our guests, despite our best efforts to provide updated information to our guests on a weekly basis. These sudden closures have had an adverse effect on our guests and have led them to question whether or not they wish to return to Alaska for fishing. In terms of fiscal impact, these sudden closures will certainly lead to us shortening the fishing season which will result in fewer employment opportunities, and the loss of significant revenues for both us and our local economy, which has already been devastated by COVID-19.

(page 1 of 3)

P.O. Box 6440 • Ketchikan, AK 99901 800-544-5125 • 907-225-9461 • FAX 907-225-8530 e-mail: wfreservations@kpunet.net • www.waterfallresort.com

Sportfishing Adventures Since 1983





The passage of proposal #83 would allow better stability for our fishing enterprise by providing a constant "limit" plan put in place throughout the season for nonresident anglers, with an emphasis on protecting the resident anglers' limits as well. By providing a platform with constant limits over timeframes, it would help guarantee an opportunity for all anglers to retain at least one King Salmon. The tiered system shown in proposal #83 as 1/3 in June, 1/2 in July, and 1/1 in August for non-residents would help our Marketing and Sales efforts by providing a sense of security that many of our August clients seem to be losing. Speaking on behalf of properties, managers, employees and guests, we place the utmost importance on respecting Alaska's world-class resources, and the conservation efforts needed to protect it, and we are confident this proposal achieves this goal.

While Proposal #83 is a vastly superior proposal in our opinion, we would also support proposal #82 with amendments. We would like to see the same constant tiered limit structure of 1/3, 1/2, and 1/1 mentioned in proposal #83, with the sport allocation adjusted to a ceiling of 25% throughout all tiers (with any projected underages going to the troll fishery), and limiting in-season management only to non-residents if deemed necessary. Proposal #82 would also need to be amended to allow a shift in allocation for no closures in years of low abundance. Stability in limits is one of the most important factors to keeping businesses across the whole spectrum viable. These possible closures are what we are trying to avoid, as they are detrimental to all of our businesses, with repercussions impacting down the chain to service providers throughout the local economies.

(page 2 of 3)

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In summation, we ask you to support proposal #83, or #82 with amendments to help provide a stable limit structure for non-residents with respect to the King Salmon fishery in Southeast Alaska. This is extremely important, in order to allow not just all the charter operations to continue, but also to improve local employment, tax revenues, tourism, and small businesses.

Respectfully,

W. Scott McKelvey Director of Operations Waterfall Resort Steamboat Bay Fishing Club

(page 3 of 3)

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Sportfishing Adventures Since 1983

Submitted By Scott Pearce Submitted On 12/17/2021 10:54:22 AM Affiliation

Please listen to the Sitka Elders and to SEACC. Thank you, Scott





Marit Carlson Van Dort, Chairman Alaska Board of Fisheries 1255 W. 8th Street Juneau, AK 99811-5526

Re: King salmon management proposals 82 and 83

Chair Carlson-Van Dort and members of the Board,

I'm the owner of Alaskan Anglers Inn, LLC and Deep Blue Charters, Inc. We have operated in the community of Gustavus for seven years. We employ 12 people, and buy food, supplies, parts, and fuel from local businesses. Our business is one of the largest payers of taxes to the city of Gustavus. We have 25 to 30 guests every week who come to fish for king salmon, halibut, and silver salmon.

King salmon are critical to our operation, especially through mid July. The last half of the summer, our guests are able to catch silver salmon, which makes the catching of king salmon less critical.

I do not support Proposal 82. It would devastate my business. From June 16th through mid July, very few guests would be interested in fishing at our lodge. Our guests typically come and fish at our lodge for five days. If they were to catch a king salmon on their first day, they would be very disappointed to fish only for halibut the remaining four days. As it is, we are only open 15 weeks out of the year. If we shut down from June 16th through mid July, it makes me wonder if it makes sense for us to stay in business.

I support Proposal 83 that keeps workable regulations in low abundance and avoids in season management. It would be much better for customers to have similar regulations year after year than to liberalize limits in high abundance years and get strict limits or closures in low abundance, or to close the fishery unexpectedly. It's hard to market and keep people traveling to our businesses and communities with unstable regulations.

The proposed cuts to sport regulations in Proposal 82 seem harsh from what sport fisherman have been allowed in past years. It's important to have enough fish for residents to get fish for the freezer, and also to keep enough opportunity for non-residents to catch kings to keep them visiting Southeast Alaska every year. Proposal 83 does a better job for both resident and non-resident fishermen.

I hope the Board can find a fair tradeoff for all groups that fish for king salmon, to keep both resident and non-resident sport fishing open all season, with workable regulations during low runs. It will benefit Alaskans by helping put up food, and also keep people coming to Alaska at levels that are a big boost to the economy.

Sincerely

Scott Swenson Alaskan Anglers Inn, LLC Deep Blue Charters, Inc. 866-510-2800





December 22, 2021

Alaska Board of Fisheries

Re: King Salmon Management Proposal 82 & 83

Dear Alaska Board of Fisheries Members,

I am a 2nd generation remote lodge owner, born in Alaska, and I have been at an Alaskan fishing lodge every summer of my life (50 years). My parents started a remote fishing lodge in the Bristol Bay region in the late 1960's where I grew up year-round. Their fishing lodge provided 100% of our entire family income during my childhood. I am also a remote fishing lodge owner on Prince of Wales Island (area 2C) and have been so for the past 30 years. Like my parents, I am supporting my Alaskan family from the proceeds of this Alaskan business. The lodge/ charter fishing industry is just as much a way of Alaskan life to my family as other fishery sectors are to others. It how we make a living, it's what my family has done for two generations, and it is vital to our Alaskan way of life.

For the past 35 years we have re-invested every dime we could back into El Capitan Lodge. From its humble beginning when my father and I landed on the shore of Sarkar Cove on Prince of Wales Island, where we built a very rustic lodge designed for six guests per trip, up until today where we have the pleasure of hosting 20 anglers on three day fishing trips totaling 750 guests per season. One thing that is an absolute necessity for El Capitan to continue operating into the future is stable fisheries regulations. We cannot retain customers with in-season closers. Our guests travel thousands of miles to get to Alaska with most booking their trip at least 12 months in advance. Over the past 35 years, we have hosted thousands of mostly out of state anglers. The main deciding factor of guests traveling to Alaska is the opportunity to retain the most desired species up here, the Alaskan King Salmon. Southeast Alaskan King Salmon is a major factor why I am a 2nd generation lodge owner able to support my Alaskan family these many years. Our guests do not require excessive limits during times of high abundance. We market opportunity and without opportunity we have nothing to market. In season shutdowns of King Salmon will destroy our family's future and the Alaskan business we built with blood, sweat, and tears. Anything less than one King a day May through June is zero, zero King Salmon retention means zero opportunity, and zero opportunity means zero guests. Our guests do not require large limits of King Salmon per day and 9 King Salmon for the year. Our guest require stabilized opportunity, with out it they will not come to Alaska. It's time to implement King Salmon management that provides stability and opportunity to non-resident charter & lodge guests.

As an Alaskan resident I do feel the residents of Alaska should be of the highest priority when it comes to retention of King Salmon and residents should never be faced with non-retention, however in years of low abundance I feel the resident limit should be adjusted accordingly, but never closed completely.

For the many reasons stated I do not support Proposal 82 <u>unless</u> it implements the tier progression of bag limits as listed in SEAGO's Proposal 83. If Proposal 82 does not implement the progression bag limits as listed in Proposal 83 then Proposal 82 will be a death sentence for my business and the entire southeast charter & lodge industry. I fully support Proposal 83 and respectfully request that the Board implements it.

Respectfully,

Scott Van Vilin

Scott Van Valin





Dear Madam Chair Märit Carlson-Van Dort and members of the Alaska State Board of Fisheries (BOF):

Thank you for the opportunity to comment. Seafood Producers Cooperative (SPC) submits these comments on proposals submitted to the BOF on SEAK finfish management. Seafood Producers Cooperative was founded in 1944, as Halibut Producers Cooperative (HPC). HPC initially harvested halibut for food, and a byproduct, the liver oil, was utilized as a vitamin supplement for the war effort in World War II. SPC expanded to other seafood products in the 50s, in particular troll salmon and later longline sablefish and albacore tuna. In the 1970s HPC's title converted to SPC. In 1980, SPC built a plant in Sitka, where our processing facility continues to provide services to our fleet and community to this day. SPC has 389 producer members. SPC currently has 106 employees and is one of Sitka's largest private sector employers. SPC markets fish domestically, both direct to consumers through e commerce and to retailers and wholesalers, and internationally. SPC's production is derived primarily from the troll and longline fisheries. SPC will mostly comment on proposals that will impact the Southeast Alaska (SEAK) King Salmon Management Plan (KSMP). SPC will also comment on the Alaska Department of Fish and Game's (ADFG) Action Plan for management of the northern fisheries with respect to the Chinook Stocks of Concern (SOC). SPC's position on these proposals is based on the need to provide for stability in the troll and longline fleets and accountability of all commercial users.

King salmon is a very important component of SPC's production. It is one of the highest margin (often the highest) seafood products that SPC processes. King salmon has been a primary target species of the troll fishery since trolling was established as a fishery in the late 19th century. Since the Pacific



Salmon Treaty (PST) was established in 1985, SPC and the troll fleet have seen access to king salmon steadily reduced. This has been especially true in the 2008 and 2018 Treaty renegotiations. The harvest opportunity for trollers and all those that fish for king salmon in SEAK has been diminished. During the three and a half decades since the PST has been implemented, trollers have worked with these restrictions and ADFG and the Regional Hatchery Associations to find opportunity to harvest king salmon where it is possible. Trollers have funded hatchery production of king salmon with the 3% enhancement tax. All user groups, including the recreational users, resident and nonresident benefit from the troll funding of the regional hatcheries. Trollers have crafted boundary modifications for king salmon hatchery access in the spring openers by working with ADFG, the BOF and Regional Hatchery Associations. Since 2018 troll access to the hatchery produced kings has been substantially curtailed due to time and area closures that start in mid-March, to protect the Alaska SOC. Since these restrictions have been implemented and the harvest opportunity reduced, the troll fishery has not asked for other groups that derive their incomes from harvesting king salmon to give them more fish.

Before we speak to specific proposals, there are other issues that the BOF should consider. The renegotiation of the PST in 2018, that implemented large cuts at all tiers of abundance and capped the top tier at a substantially lower level than prior Treaty agreements, was arrived at by negotiations that included stake holder members from all user groups in Alaska through the Northern Panel. All user groups were aware of the potential impacts of the new PST regulations on their respective fisheries and industries. It is up to each user group to live with in those boundaries. This is especially true if the user group is an industry that is making money off the harvest of king salmon. It is also the Alaska Department of Fish and Game's (ADFG) responsibility to see that this is done.

Another important issue for the BOF to consider is that Alaska is currently participating in a lawsuit in the UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WASHINGTON AT SEATTLE, Washington Fish Conservancy v Barry Thom et al National Marine Fisheries Service (NMFS), the Alaska Trollers Association (ATA) and State of Alaska. This lawsuit pertains to the alleged interception of Chinook salmon that have been determined to be the primary food source of the Southern Resident Killer Whales (SRKW). The SRKW reside in the Puget Sound area and feed primarily on Chinook stocks that do not migrate north to Alaska in significant numbers. However, the Court has chosen not to acknowledge that fact and



further restrictions on the SEAK Chinook fisheries are under consideration. It is entirely likely that harvest opportunities for Chinook could be further curtailed. Therefore, it is not appropriate to make large changes to the SEAK King Salmon Management Plan at this point.

Proposal 80: SPC supports the idea of Proposal 80 submitted by ADFG providing with the caveat that SPC wants individual gear groups within the King Salmon Management Plan to be accountable for their own overages.

Proposal 81: SPC supports this proposal but would like to note that there is already a similar mop up regulation in effect. Also, given the growth in the guided and unguided recreational harvest by nonresidents, this situation is not likely to occur very often in the future unless something catastrophic occurs to the national economy or another pandemic or this pandemic flares up as happened in 2020.

Proposal 82: SPC supports the ADF&G proposal 82 with the two amendments suggested by the Sitka Advisory Committee that protect access for resident sport anglers. Specifically, to apply resident priority as a management objective at all levels of abundance:

5 AAC 47.055 (b)(6) [at Alaska winter troll fishery CPUEs less than 6.0 and equal to or greater than 2.6; and the department projects that the king salmon sport harvest allocation is going to be exceeded, the department shall, by emergency order, adjust the nonresident seasons and bag limits so to stay within the sport allocation; the department shall prohibit resident king salmon retention or close the resident sport king salmon fishery only if nonresident angler closures are insufficient to remain within the sport fishery allocation.

(7) at Alaska winter troll fishery CPUEs less than 2.6 and equal to or greater than 2.0; and] If the department projects that the king salmon sport harvest allocation is going to be exceeded, the department shall, by emergency order, adjust the nonresident seasons and bag limits so that there are no closures for residents.

And to delete the proposed July 1-July 31 resident closure that would apply to years when the CPUE is 2.6-3.8:

5 AAC 47.055 (g)(2) when wild stock management measures are unnecessary: (A) a resident bag limit of one king salmon except from July 1 through July 31 resident anglers may not retain king salmon;

Under this proposal, we support a plan where sport bag limits will be set by the Commissioner at the beginning of the season based on that year's sport



allocation adjusted for any prior underage/overage. So long as the in-season harvest projection doesn't vary too far from the target, no in-season management would be necessary. Similar to the original 1992 King Salmon Management Plan, any underage or overage needs to be accounted for by adjusting the following year's sport allocation. In-season management would only be necessary if in-season harvest rates project that the original bag limits are likely to result in a harvest that deviates too far from the target, say by more than 1.5% of the combined troll-sport allocation.

Proposal 83: SPC strongly opposes this proposal. The mechanics of this proposal are flawed. Without limited entry for the guided sport sector and nonguided sport sector the 80% troll/20% sport will never be achieved without flexible bag/annual limits. The number of vessels and lodges that are harvesting Chinook and other fish species is increasing. The king salmon quotas that will be available are significantly lower than they were in the early 1990s, when the referenced previous method of management in this proposal was in place. The tourist based recreational harvest season is about 2 months longer than it was in the 1990s. At the time of the former management regime, most of the guides and lodges were booking clients primarily from Memorial Day to Labor Day. Now the majority of the fleet is active from early May to mid-September. Also, there were very few unguided boat operations in the 1990s. Now there are many, and the number is growing. The idea that an 80/20 allocation average can be achieved under this suggested regime is not realistic. The authors of this proposal had members of their organization sitting on the Northern Panel as a stake holder representatives for the recreational sector. They are well aware that the latest PST agreement requires that all groups make do with fewer king salmon. The only way an allowance for sport overage on a given year could work is with a rigorously defined payback policy that is not dependent on the yearly AI. The assumption that there will be an equal amount of high abundance years versus low abundance years in the future fails to acknowledge changing ocean conditions and climate change.

Proposal 88: SPC opposes this proposal for similar reasons to Proposal 83. Both proposals would lead to unjustified reallocation of king salmon.

Proposals 101 and 103: SPC opposes these two proposals that request an extra management layer be added to the production of hatchery fish. Proposal 101 speaks specifically to the Northern Southeast Aquaculture Association (NSRAA) Crawfish Inlet fisheries. Both proposals ignore the current involvement ADF&G has in the permitting, location, and management



of the hatchery access fisheries in the Terminal and Special Harvest areas through the Regional Planning Team (RPT). ADF&G, along with hatchery management are all represented at these meetings. No evidence is presented of the straying issue that is mentioned. SPC fully supports the hatchery programs as an important part of all SEAK fisheries as they provide opportunity for SPC members in all gear groups to harvest salmon, especially if SE wild Chinook or other stocks are to be avoided in certain situations.

Proposal 144: SPC supports Proposal 144. This proposal if passed will provide for a timely and more complete set of data to cover the rapidly increasing use of rental boats for nonguided, nonresident anglers that are visiting lodges that don't provide guides on the boats they rent. This is particularly true of lodges that provide bareboat rentals in remote areas like Pelican, Excursion Inlet and Elfin Cove which are highly productive and growing in numbers but not sufficiently monitored. The creel census does not cover these remote areas, nor does it cover lodges with private docks. These operations are growing and so is their harvest. SPC would like to note that ADF&G has existing efficient electronic systems to collect data from both charter boats and commercial buyers. Either system could be applied to boat rental business. They are commercial operations and should be monitored accordingly. Both Proposals 84 and 87 mention the electronic reporting concept. SPC supports the electronic reporting concept mentioned in those two proposals but only those parts of those proposals.

Proposal 225: SPC opposes Proposal 225. Proposal 225 seeks to increase the annual bag limit on sablefish for nonresidents. Sablefish is a very important product for SPC. The commercial harvest of sablefish is limited by two different types of permit and quota systems, in both Federal and State waters. We would like to see the current nonresident annual limit maintained, as most of the clients are hiring guides to catch the sablefish and there is no limit on the vessel number or guide licenses for harvesting sablefish. As a result, the nonresident sport sablefish catch has been rising rapidly even with the current limits, forcing a reallocation of a fully allocated resource.

Finally, SPC offers these comments on the ADFG's RC 6, Northern Southeast Alaska King Salmon Stock Status and Action Plan, 2021. SPC supports option A, the status quo, for the troll fleet. The areas that would be restricted under the Increased Management Options would close most of the areas that remain available for trollers to access Alaska hatchery produced king salmon. The current policies for SOC were implemented in 2018. Part of the reason the handful of remaining openers have been allowed to continue is that by



board directive they are limited to areas where there is no significant harvest of the SOCs.

There has been very limited opportunity for trollers to fish between March 15 and July 1 since the SOC policies were implemented in 2018. The economic harm to the troll fleet and SPC would be substantial if the hatchery access openers were to be closed in the Sitka area. There would be no significant gain for the SOCs. SPC is one of a limited number of processors in the region that buys troll kings during the spring hatchery access openers in May and June. We buy from members and nonmembers during that time, providing an opportunity for trollers to sell the kings they catch at a very high price. We also provide our customers with Alaska king salmon during a time when there is not much available, and we leverage those king salmon to sell other products too. Last year, thanks to the high proportion of hatchery kings and the high prices of that time of year, trollers in the Sitka area made nearly \$1M during the spring openings. If these kings were not caught in the spring, nearly half of that value would have been lost.

Thank you all for reading and your consideration of our comments. Sincerely,

SPC President Norm Pillen Npillen@spcsales.com

SPC Chair Tad Fujioka Chairman@spcsales.com

SPC VC Carter Hughes Carterhughes@hotmail.com


Sealaska Corporation Comments in Opposition to Proposals 159-161

Submitted to the Alaska Board of Fisheries

Southeast and Yakutat Finfish and Shellfish Meeting Jan. 4-15, 2022

December 21, 2021

Board Meeting: Southeast and Yakutat Finfish and Shellfish Name: Jon Tillinghast on behalf of Sealaska Corporation Phone: (907) 321-3405 Email: jon@stsl.com Address: One Sealaska Plaza, Ste 300, Juneau, AK 99801 Consent to include contact information on printed copies of this document is granted.



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Sealaska Corporation Comments in Opposition to Proposals 159-161 Submitted to the Alaska Board of Fisheries Southeast and Yakutat Finfish and Shellfish Meeting Jan. 4-15, 2022

December 21, 2021

1. Sealaska's Interest

A. Sealaska's stake in the Sitka subsistence herring roe fishery

Sealaska Corporation is the regional corporation for Southeast Alaska under the Alaska Native Claims Settlement Act. Many of its some 23,000 shareholders participate in, and are dependent upon, the traditional sharing of the subsistence harvest of Sitka herring roe that is threatened by the proposals addressed here.

Sealaska remains at the forefront of the effort to protect traditional Native culture, including protecting our shareholders' subsistence fishing rights. This mission is perhaps best exemplified by the creation of Sealaska Heritage Institute, a Sealaska subsidiary that is nationally prominent as a guardian and advocate for Northwest Native art and culture. ¹/

Moreover, Sealaska plays a direct role in the traditional annual distribution of subsistence-harvested herring roe from Sitka Sound. As recounted in a recent comprehensive study on the role that the sharing of subsistence resources plays in sustaining Alaska Native culture:

> Between 2002 and 2018, herring eggs were shared with 41 other communities in Southeast Alaska and beyond. Recently, herring eggs have also been shared with institutions in Sitka and Juneau that provide food to Indigenous residents and others who might desire them. In Sitka,

¹ / See: https://www.sealaskaheritage.org/



individual harvesters and designated harvesters deliver fish eggs to the Sitka Senior Center, Sitka Salvation Army, SEARHC hospital, and the Sitka Pioneer Home...**Herring eggs are distributed to institutions in Juneau as well through Sealaska Corporation**. The Hoonah Indian Association provides financial assistance to a Hoonah harvester who travels to Sitka Sound every year to obtain herring eggs that are brought back to the community and shared without cost to up to 200 individuals. The distribution of subsistence herring eggs harvested from Sitka Sound is prodigious, with 87% of the overall harvest volume given away, on average, rather than personally consumed by harvesters and their households.

S. Langdon, The Significance of Sharing Resources in Sustaining Indigenous Alaskan

Communities and Cultures (2021) at 30 (emphasis added) ("Langdon Study").²/

B. The Reason for Southeast Alaska Natives' concern over the Sitka subsistence fishery

Over the past decades, the adversity between ADF&G and Alaska Natives over the Sitka subsistence herring roe fishery has been palpable. The reason for the tension has been this: the fact of the matter is that, due to commercial over-fishing, all of the oncesignificant subsistence herring fisheries in our region other than Sitka (and a far more limited herring-on-kelp fishery near Craig) have been essentially wiped out. The Sitka subsistence fishery is the last of its kind.

Extraordinarily productive subsistence fisheries once existed throughout the region. Today, ADF&G's herring management plan for these fisheries reads like a litany of the dead. According to the agency:

² / Available at:

https://www.sealaskaheritage.org/sites/default/files/Significance%20of%20Sharing%20final%20with%20 cover.pdf

<u>Revilla Channel</u>. Once a major fishery (*see below*), "[f]rom 2000 through 2020, the minimum threshold was not reached in state managed waters and a fishery was not permitted." 3/ "The last commercial fishery occurred in 1998." 4/

<u>West Behm Canal</u>. "From 2005 to 2010, the threshold was not met, and no fishery occurred...In 2012, ...due to inseason concern over lack of herring observed in the West Behm Canal area, the fishery did not open. From 2013 through 2020, the threshold was not met, and no fishery occurred." *2021 Herring Plan* at 5. "No herring samples were obtained" in 2021, ADF&G noting that "[t]he last commercial fishery occurred in 2011." *2021 Herring Summary* at 1.

<u>Seymour Canal</u>. "A spawn deposition survey was not conducted as the spawn observed in 2020 was limited in extent and duration. The Seymour Canal set gillnet herring fishery will not be opened in 2021." *2021 Herring Plan* at 5. The last commercial fishery here occurred in 2014. *2021 Herring Summary* at 2.

<u>*Hobart/Houghton.*</u> "Herring biomass estimates did not meet the minimum threshold to allow fisheries in 2001–2004, 2006, 2007, and 2011–2020." *2021 Herring Plan* at 6.

<u>Auke Bay/Lynn Canal.</u> As we shall see, Auke Bay once provided one of the most storied subsistence fisheries in the region. Not anymore. "Commercial fisheries last occurred in 1982, and the commercial sac roe herring fishery was repealed by the Board of Fisheries in 2018." 2021 Herring Summary at 2. And things are not getting any better.

³ / Dupuis et al., 2021 Southeast Alaska Herring Sac Roe Fishery Management Plan, Reg. Info. Rpt. 1J21-04 (Feb. 2021) at 5 (hereinafter "2021 Herring Plan").

⁴/ ADF&G, 2021 Southeast Herring Summary (May 28, 2021) at 1 (hereinafter "2021 Herring Summary").



2021 surveying produced "the smallest total cumulative spawn mileage...since regular observations began in 1972..." *Id.*

<u>Hoonah Sound</u>. "No spawn has been documented since 2015 ... A commercial fishery last took place in 2012." 2021 Herring Summary at 2.

A closer look at two of these former fisheries illuminates the cause:

Auke Bay/Lynn Canal

The subsistence herring fishery at Auke Bay, at the southern end of Lynn Canal, "was a keen feature of community life until its collapse in the 1980's due to overfishing by the commercial sac roe fishery." ⁵/ The Áak'w Kwáan Tlingit settled along Indian Cove on the lip of the bay during the Little Ice Age (cir. 1500) precisely because of its abundant food resources--especially herring. *Id.* Over the next 500 years, explorers, scientists and federal officials consistently highlighted the area's extraordinary herring population, ranking it the "third most important in Southeast Alaska." *Id.* at 155.

In fact, the Áak'w Kwáan Tlingit moved their village away from Indian Cove to avoid disturbing the herring spawn. *Id.* at 151. Juneau and Hoonah elders are rich in stories of the ease with which they caught herring:

- ✓ "Auke Bay at that time (the 1970's) was so full of herring that as soon as they showed up, there was plenty of salmon";
- ✓ "[Y]ou used to be able to go to Auke Bay and get buckets full of herring for eating"; and

⁵/ T. Thornton and M. Moss, *Herring and People of the North Pacific: Sustaining a Keystone Species,* "Univ. of Wash. Press (2021) (*"Thornton Study"*) at 151.

✓ "[W]hen I was a kid going to high school in Juneau back in the early [19]60's,

late 50's, go out to Auke Bay and catch herring off the beach with a dip net."

Id. at 153. Then, in the 1970's, ADF&G opened a purse seine and gillnet sack roe fishery in Lynn Canal. *Id.* at 155; *see also 2021 Herring Summary* at Table 3. In 1982, ADF&G's biologists, looking at low forecast herring returns, recommended that the fishery be closed for that year. *Thornton Study at 155.* However:

Just as with the reduction fishery of 1940, political pressure from the fishing industry overrode scientific advice, and the 1982 sac roe harvest of 551 tons marked the last significant spawning of herring in the area.

Id. In summary: "Scientific and historical accounts of Auke Bay agree that Auke Bay was overfished during the sac roe era, leading to its collapse as a spawning area in the early 1980's." *Id.*

Kah Shakes (Revilla Channel)

According to Tlingit elder Martin Perez, Sr., "[p]eople won't believe you when you tell them how much herring used to be around [at Kah Shakes]...[You could] go up in any harbor where you anchor and you...[could] jig herring with treble hooks and you'll get 'em for eating, just jigging them." ⁶/

Not today. In 1976, ADF&G opened a gill net fishery in the Kah Shakes management area. By the late 1980's, there was trouble. In 1989, the commercial roe

⁶ / Jamie Sue Hebert, *Event Ecology: An Analysis of Discourses Surrounding the Disappearance of the Kah Shakes Cove Herring* (2011) at 37-38 (hereinafter "*Hebert Report*"); available at https://pdxscholar.library.pdx.edu/open_access_etds/5/.



harvest was a mere 595 tons, and in 1990 there was no harvest at all. 2021 Herring Plan at Table 1

At the outset of the 1991 season, there was no appreciable spawning at Kah Shakes. *Id.* at 43. Undaunted, ADF&G found a large spawning group 12 miles away at Cat Island. Assuming that these were the errant Kah Shakes herring, ADF&G issued an emergency order expanding the Kah Shakes' management area boundaries to include Cat Island. *Id.* at 33-34. This although managers from the Metlakatla Indian Reservation on nearby Annette Island, a geography on the opposite side of Cat Island, insisted that these were the Reservation's herring. *Id.* at 46; *See also Thornton Study* at 170. The Board of Fisheries subsequently made the boundary change permanent anyway and changed the management area's name to "Revilla Channel."

ADF&G's actions in 1991 raised the obvious questions:

- Should the declining harvests in 1989-1990, and the near disappearance of spawn in 1991, have signaled to the agency that the fishery was in distress?;
 or
- Was it good management for ADF&G to latch onto a school of herring 12 miles away (herring that might or might not have been tied to the Kah Shakes herring) in order to conduct business as usual?

History teaches that inflating the Kah Shakes' numbers by capturing the Cat Island herring, thereby enabling the agency to ignore the warning signs, was a bad idea. By 1999, there was insufficient spawn at either Kah Shakes or Cat Island to support any fishery at all, and there has never been a fishery since. As Dr. Thornton concluded:



While the possibility that the herring 'moved' cannot be ruled out, the state's failure to investigate the causes of the event clearly reflects the political-economic pressure on managers to 'find fish' for a commercial fishery...

...From this example, it is easy to see how [local traditional knowledge] bearers might view herring as going the way of the cod via 'managed annihilation,' with remnant fish populations continuing to school at key spawning and massing sites, which are fished commercially for roe until, finally, even with the scales reframed, minimum quotas for harvest can no longer be met.

Id. at 170-71; emphasis added.

At this point, the universal reply to all of this is that the rules are stricter now, and we'll all do better. That's what folks invariably say after any man-made disaster. But given the seriatim collapse of virtually every subsistence herring fishery in Southeast Alaska other than Sitka (and on smaller scale, Craig), the Tlingit, Haida and Tsimshian of the Archipelago can be forgiven their fear that the past may be prologue.

2. <u>Proposals 159-160: Repealing the Board's Protections for the Subsistence</u> <u>Herring Roe Fishery and Shrinking the Core Subsistence Area</u>

The Southeast Herring Conservation Alliance (the "Alliance), a trade group of commercial herring sac roe purse seiners, proposes to:

- ✓ materially diminish one of the pillars of the Board's effort to meet its statutory duty of assuring a "reasonable opportunity for subsistence uses" of Sitka herring roe (AS 16.05.258(b)(1)(A)) (Proposal 160); and
- ✓ flat out repeal the other pillar (Proposal 159).

For each of these reasons, the Board should reject both proposals:



A. The Alliance's proposals would strip ADF&G, and the Board itself, of one of the principal defenses that ADF&G has relied upon in claiming that the Board is meeting its statutory duties towards subsistence fishing

Proposal 159 would repeal 5 AAC 27.195, which requires ADF&G to disperse the commercial sac roe fishery when necessary to protect subsistence, and to keep the quality and quantity of subsistence-caught herring in mind when managing the commercial fishery. For its part, Proposal 160 would repeal the Board's 2018 expansion of Sitka's core subsistence waters that are closed to commercial harvest, reducing that core area by roughly four square miles.

In so doing, the Board would be disabling (and one case removing altogether) the two principal Sitka-specific protections that the Board has adopted to protect the Sound's subsistence fishery. And, based on ADF&G's repeated representations to the court in the *Sitka herring litigation*, these are precisely the two provisions that enabled the Board, and ADF&G itself, to meet their statutory obligations under AS 16.05.258. ⁷/

Take, first, Proposal 160 (shrinking the core protected subsistence area). The area targeted by the Alliance was added to the core area in 2018. According to ADF&G's representations to the court in the *Sitka herring litigation*, that addition enabled the Board to find that it was resultantly providing a "reasonable opportunity" for subsistence use. As ADF&G told the court: "At the [2018 Board] meeting, a third Board member (Alan Cain) stated that, *with the increased commercial closure area provided by Board's adoption of*

⁷/ The "Sitka herring litigation" is: Sitka Tribe of Alaska v. State of Alaska et al., 1SI-18-212(CIV) (Alaska Super.Ct., 1st Jud. Dst.).



Proposal 106 [the four-square mile addition], he agreed that there is a reasonable opportunity for subsistence uses." ⁸/ ADF&G also quoted Board member Cain as saying:

I think we need to be equally diligent in ensuring that the subsistence harvesters have a reasonable opportunity and **I think this** [the 4-square mile addition] *does this*.

Id.; emphasis added.

ADF&G was even louder in its insistence that 5 AAC 27.195 (which the Alliance

proposes to repeal in Proposal 159) was a linchpin of the Board's compliance with §258.

ADF&G's foundational argument in the Sitka herring litigation was that there was a

"Board[] decision that management of the fisheries pursuant to 5 AAC 27.195 provides

a reasonable opportunity for subsistence harvest in Sitka Sound," adding that:

[T]he Board has made an assessment of reasonable opportunity and found that it is provided for within the regulatory regime that it has promulgated.

Reply in Support of State of Alaska's Motion for Summary Judgment: Count 1 (Jan. 20,

2020) at 10-11 (emphasis added). In another court memorandum, ADF&G insisted that:

In fact, for the Board to conclude that management pursuant to 5 AAC 27.195(a)(2) provides a reasonable opportunity for subsistence, as it did during the January 2018 BOF meeting, it necessarily factored in the requirement that the Department distribute the commercial fishery by time and area if the ADF&G manager determines that doing so is necessary to ensure that subsistence users have a reasonable opportunity to harvest the amount herring spawn necessary for subsistence uses.

⁸ / *Id., Memorandum in Support of State's Motion for Summary Judgment: Count 1* (Nov. 27, 2019) at 13 (emphasis added).



State of Alaska's Opposition to Sitka Tribe of Alaska's Motion for Summary Judgment (Dec. 20, 2019) at 18 (emphasis added).

ADF&G staff has taken a "Neutral" position on Proposal 159, claiming that, even if §195 is repealed, the agency would still follow the substance of the rule. ⁹/ An unenforceable promise, however, is no substitute for a binding regulation, and Sealaska has little doubt that courts would view skeptically any assertion that the degree of protection afforded the Sitka subsistence fishery was unchanged, even though the regulation touted by the agency as the source of that protection had been gutted.

In summary: as a cornerstone of its defense in the *Sitka herring litigation*, ADF&G persistently sought refuge in the Board's 2018 expansion of the subsistence core area and 5 AAC 27.195 in arguing that the State was providing a reasonable subsistence opportunity. Pull that rug out from under the Board, and both the Board and ADF&G may find themselves in trouble. ¹⁰/

B. Neither the history of the past two decades, nor ADF&G's forecasts, provides any cause to relax the Board's existing subsistence protections

For 2021, ADF&G forecasted an extraordinary return of 175,731 tons of mature, 5year-old herring to Sitka Sound. ¹¹/ While cohort spikes in herring returns are not

⁹/ ADF&G, Staff Comments on Regulatory Proposals; Committee of the Whole—Groups 1-8; For the Southeast and Yakutat Finfish and Shellfish Alaska Board of Fisheries Meeting, Regional Information Report No. 1J21-15 at 173 (hereinafter "ADF&G Staff Comments").

¹⁰ / Bear in mind that all of the ADF&G statements made in this subsection are of recent origin, and they post-date the earlier events that the Alliance claims in its proposal makes §195 "outdated."

¹¹ / Dressel, 2021 herring forecast for Sitka (2/21/21) at 13 (hereinafter "2021 Forecast").

uncommon, ¹²/ ADF&G scientists stress that year's spike "remains considerably greater than what could be considered 'normal,'" introducing "unusually large uncertainty." ¹³/

Looking both backward and forward, one year's sample does not offset the troubled nature of both the commercial and subsistence fisheries. For example:

- The Board has determined that 136,000 227,000 pounds represents the amount of Sitka Sound herring eggs reasonably necessary to meet subsistence needs. 5
 AAC 01.716(b). Subsistence harvests fell short (usually well short) of that benchmark in 12 of the 19 years between 2002-2020 ¹⁴/;
- The 2018 commercial fishery yielded only 2,926 tons—well short of the 11,128 ton guideline harvest level; ¹⁵/
- Due to the absence of mature, fecund herring, there was no commercial fishery at all in 2019 or 2020; and ¹⁶/
- Looking forward, ADF&G forecasts a near-complete collapse of mature, 5-year old herring recruitment in 2022, with a negligible 47 tons projected to return that

¹² / See Hebert, Southeast Alaska 2019 Herring Stock Assessment, Fishery Data Series 20-23 (Dec., 2020) at Figure 45(hereinafter "2019 Herring Assessment").

¹³ / Dressel, Dec. 16, 2020 email to Trevor Branch, *Attachment 1 hereto* at 2.

¹⁴ / ADF&G, Subsistence Harvest of Herring Eggs in Sitka Sound, 2021 Herring preseason meeting, March 12, 2021 at 8, available at:

 $https://www.adfg.alaska.gov/static/fishing/PDFs/commercial/southeast/meetings/herring/2019_2020_herring_harvest_results.pdf$

¹⁵/ 2021 Herring Plan at Table 3.

¹⁶ / ADF&G press release, *Sitka Sound Sac Roe Fishery Announcement*, May 17, 2019 at 1; ADF&G press release, *Sitka Sound Herring Fishery Announcement*, April 30, 2020. While the failure of the 2020 fishery was also plainly influenced by COVID-19, ADF&G concluded that the fishery failed because "[p]rocessors indicated that herring of [this] small size would be below market requirements..." *Id*.



year. 2021 Forecast at 13. 2023 appears nearly as bleak, with only 3876 tons of

what will then be 5-year-old fish predicted to return. 17/

Thus, when viewed through a wide-angle lens, Sitka Sound does not seem a good candidate for gutting the Board's existing efforts to meet it statutory obligation to provide a reasonable opportunity to meet subsistence needs.

C. There remains material uncertainty in any ADF&G forecast because of the agency's inability to implement admittedly-needed 2016 forecast model revisions

To forecast Sitka Sound herring returns, ADF&G uses an age-structured assessment

model. One of the acknowledged shortcomings of that ASA model is its inability to

account for the wide range of uncertainties that can seriously skew any forecast. As

ADF&G's forecaster explained to her University of Washington colleagues:

We aren't currently using the Bayesian age-stuctured mode yet for SE herring (it is so close to being ready, but we didn't finish before Jane took her new position with NOAA), so we don't have estimated uncertainty with our forecasts...

Attachment 1 at 2.

There is no dispute that the ADF&G's existing model needs revision. As ADF&G's

Dr. Sherri Dressel put it in her Sitka herring litigation deposition:

We were hoping to implement the new model structure, which will have error estimates as Greg—is it Ruggerone?—had asked for and something we have been working on for a long time.

¹⁷ / The 5-year-old cohort represents the first year of fully mature, fecund herring. ADF&G research has shown that only 19% of 3-year-old Sitka Sound herring are considered mature, while even 4-year-olds are only "partially mature." *2021 Forecast* at 6; *2019 Herring Assessment* at 75.

Deposition of Dr. Sherri Dressel, 10/29/2019 at 63. ¹⁸/ To that end, ADF&G contracted with Dr. Steve Martell—"the same stock assessment scientist that developed one for Canada." *Dressel deposition* at 62. Dr. Martell delivered his final report and recommendations to ADF&G on December 16, 2016. ¹⁹/

In the intervening five years, ADF&G has been unable to implement Dr. Martell's model changes. On November 30, 2020, Sealaska petitioned ADF&G to continue to adopt a conservative guideline harvest level for Sitka herring until the agency is able to implement the Martell model. *Attachment 3*. The request appended a report by Dr. Merrill Rudd that concluded:

It is my opinion that there are many additional uncertainties associated with the ASA model and forecast that would be improved when Dr. Martell's proposed changes are implemented. Therefore, ADF&G should continue to adopt a precautionary GHL at least until it is able to implement the proposed changes by Dr. Martell. The model structure proposed by Dr. Martell is currently being used by British Columbia to forecast its herring returns, and it would address many of the shortcomings that exist in ADF&G's existing model and forecast.

Attachment 4 at 1. According to an internal email, ADF&G "decided [that] no response is

needed to this request." Attachment 5.

Compounding the problem is the admittedly-outdated "threshold" for allowing any

commercial sac roe harvest in Sitka. Currently, that number is 25,000 tons-a figure

¹⁸/ As ADF&G staff advised the Board in October, 2019: "The department is in the process of upgrading the model used to forecast herring biomass and, in the future, intends to use the new model to re-evaluate the harvest strategy..in [the] Sound. However, the model and analysis are currently in development and review and the results are not yet available." *ADF&G Staff Comments on ACR 4*, quoted at *Sitka Herring litigation, Southeast Alaska Conservation Alliance Motion for Summary Judgment on Count II*, 10/1/2020 at 8.

¹⁹ / The executive summary of Dr. Martell report is appended as *Attachment 2*.



calculated as a percentage of the estimated "unfished" biomass of Sitka Sound herring. 5 AAC 27.160(g); *Sitka herring litigation, Affidavit of Kyle Hebert, 2/4/2019* at Ex. 2, p. 19. That estimate was made in a 1998 report using data from 1971-1993. ^{20/} This was an "unproductive period of herring abundance...compared with more productive periods during the 2000s and 1930s." ^{21/} As Dr. Dressel explained in her deposition, the higher the estimate of unfished biomass, the higher the threshold for allowing any harvest; and, "[i]f we estimate a higher biomass, we almost certainly would propose to the Board of Fish that we think that the threshold should go up." *Id.* at 75.

However, while it is ADF&G's "goal" to update the unfished biomass estimate, $^{22}/$ the agency has apparently decided to undertake the needed revisions only in conjunction with the still-awaited implementation of the Martell recommendations. *See Dressel deposition* at 63.

It is not the intent of this narrative to fault ADF&G. It would seem that funding and personnel challenges have prevented the agency from implementing Martell's 2016 recommendations. But as Dr. Dressel candidly put it to University of Washington scientists, until that happens, ADF&G will continue to be forced to make "subjective" judgments about the reliability of it forecasts. And that certainly does not engender the kind of certitude one would think necessary before stripping away existing subsistence protections.

²⁰ / Carlile, Estimation and Evaluation of a Harvest Threshold for Management of the Sitka Herring Sac Roe Fishery Based on a Percentage of Average Unfished Biomass, DF&G Regional Informational Rpt. 1J98-f18 (July, 1998) at 13.

²¹ / Sitka herring litigation, Affidavit of Gregory T. Ruggerone, 1/14/2019 at 7.

²² / Sitka herring litigation, Deposition of Kyle Hebert, 10/29/20219 at 75.



D. The closed area the Alliance seeks to access is important to providing a reasonable opportunity for the subsistence harvest

There is no small measure of hubris in the Alliance's proposal to retract the 2018 subsistence zone additions. That acreage, the Alliance argues, once "yielded substantial portions of the [commercial] harvest," and could presumably do so again if the commercial fleet could get at it. Conversely, repurposing the area to the commercial fishery would have "little or no effect" on the subsistence harvest. In other words: the same spawning herring are important to us, but not to you.

Truth is, if relative importance were a litmus test, the scales would tip heavily towards the subsistence user. The closed area (including the area at issue here) lies along the Sitka road system and is hence accessible to those Sitka subsistence harvesters who own only a skiff. Conversely, the purse seine vessels have the rougher waters of the entire Sound at their disposal. Put another way: the Alliance is arguing that purse seiners' convenience should trump subsistence harvesters' necessity. ²³/

²³ / To our knowledge, no one is contending that the two fisheries can co-exist within these confined geographies over the same time span. Whether by industrial disruption of spawning activity or, most directly, by harvesting the herring before they can spawn on any branches, the commercial fishery well-nigh obliterates any attempt at subsistence harvest in that same area. Indeed, ADF&G attempts to steer the commercial fishery away from even the edges of the closed areas in order to avoid the obvious impact that fishing on the closed area borders would have on the hemlock branch harvest. According to ADF&G's Eric Coonradt:

We try to have openings away from the commercial closed area whenever we possibly can So if we have - if we have opportunities close to the closed area or let's say we have an opportunity right on the border of the closed area and we also have an opportunity a mile away. We would, everything being equal, we would choose the opportunity further away.

Sitka herring litigation, Deposition of Eric Coonradt, July 30, 2019 at 51.

According to ADF&G: "[o]ut of the 102.3 nmi of mapped herring pawn in Sitka Sound, approximately 29.0 nmi of herring spawn was mapped with the regulatory close waters." *ADF&G Press Release, Sitka Sound Herring Fishery Announcement,* 4/30/2021 at 1. Moreover, substantial herring schooling and spawning was observed specifically within the 2018 addition area. $^{24}/$

For each of the reasons listed above, Sealaska respectfully requests the Board to reject Proposals 159 and 160.

3. Proposal 161: Imposition of a Permit or Registration Requirement

The Alliance also proposes to "[r]equire a subsistence fishing permit" for Sitka's traditional subsistence fishery. One of the Alliance's goals is to acquire better data on the size of the subsistence harvest, and Sealaska shares that goal. However, ADF&G staff, in its comments on Proposal 161, has concluded that "[r]easonably accurate harvest information can be obtained through the current harvest monitoring program," and "[a] permit and reporting of harvest requirement would not result in more accurate harvest data..." *ADF&G Staff Comments* at 180. Moreover, the Alliance's recommended tool is a meat ax—one chosen without the slightest apparent sensitivity to the harm to Alaska Native culture that may well flow from applying an ill-suited solution to an acknowledged challenge.

²⁴ / ADF&G noted a "large biomass of herring in the regulatory closed waters extending from Eliason Harbor to Starrigavan Bay," and as well in the closed-water vicinity of Old Sitka Rocks and along a line extending from Lisianski Point to Watson Point—a line that intersects the 2018 closed water addition. *ADF&G Press Releases, Sitka Sound Herring Fishery Announcements [Updates]*, March 28, 29, 31 and April 2, 2021.



In a nutshell, the default paradigm for an ADF&G permit is as an *individual* authorization coupled with the imposition of *individual* regulatory burdens (and the Alliance proposes no variation from that paradigm). The Sitka subsistence fishery, conversely, is a *communal* fishery, in which the individual harvesters act on behalf of Tlingit, Haida and Tsimshian Indians throughout the region, and, indeed, Alaska Natives throughout the state.

A. The communal nature of the Sitka herring roe subsistence fishery

As noted *ante*, Dr. Stephen Langdon found that, between 2002-2018, only 13% of the subsistence-caught Sitka herring roe was consumed by the harvesters themselves or their households. The other 87% was distributed throughout the state. *Langdon Study* at 30. As anthropologist Dr. Thomas Thornton found, this sharing occurs through "rich and resilient benefit flow networks" that "represent the triumph of communalism and conviviality." ²⁵/ As but one example of this "amazing distribution and sharing system," Thornton notes that:

A fishing boat from Hoonah routinely brings back from Sitka between five thousand and twenty thousand pounds of herring eggs on branches (and some on kelp)—sometimes with support for fuel costs from the tribe and community—which are distributed to every household that desires them.

Id. at 202. The sharing of Sitka herring roe reflects more than just a food distribution system. To the contrary, roe distribution is of singular importance to the Alaska Native community for "complex cultural, nutritional, culinary, and social reasons." *Langdon*

²⁵ / T. Thornton and M. Moss, *Herring and People of the North Pacific: Sustaining a Keystone Species,* "Univ. of Wash. Press (2021) ("*Thornton Study*") at 176.

Study at 30. "[T]he distribution, trade and exchange of herring eggs has an importance in its own right. Both with and between communities, this movement of herring eggs appears to provide an opportunity to fulfill social obligations and maintain cultural values" and is accordingly often used in "potlatches, payoff parties, mortuary feasts, and other cultural occasions." ²⁶/

This tradition of regional sharing is of extraordinary cultural importance for a number of reasons, including these:

- For Alaska Natives that have left the village for urban centers, sharing provides a continuing lifeline to their heritage. As one Juneau Tlingit told Dr. Langdon: "For the Tlingits who've moved away from home, it's our soul food, keeping us connected to one another and to place. If you receive herring eggs from someone, you know you are loved." *Id.* at 31.
- "Herring eggs are special...[T]hey are the first 'fruit' of the season, heralding a new year of fishing and gathering. People share them widely and eat them communally, as part of this celebration." *Thornton Study at 202.* As a Sitka elder recounted to Dr. Thornton:

It would just be amazing when we'd arrive at [my aunt's house each spring] because people came from a lot of different places...to have a feast. We'd arrive, and her table would be covered with layers of newspaper [upon which to lay out herring eggs]...Then all the stories would come out.

...[W]hen you believe that your food feeds your soul, all those people who touched your food, that imbued their love and respect into that food, it is one of the greatest gifts that we give to one another...

²⁶ / R. Schroder and M. Kookesh, *The Subsistence Harvest of Herring Eggs in Sitka Sound*, ADF&G Technical Paper 173 (1990) at 52-53.



Id.; and

 The herring itself sits at the apex of Southeast Natives' cultural pantheon. As Sitka elder Henry Kitka Sr. put, over the millenia:

> Herring come—whale come—sea lion—seal—king salmon everything eat herring, come—big time.

Thornton Study at 118. Or, as one fisherman succinctly stated, herring are "the key to the ocean...It's our buffalo." ²⁷/ Given that so much flows from the herring, it is unsurprising that herring (and herring egg) legends are so prominent in Tlingit, Haida and Tsimshian lore. Most conspicuous is the Kiks.ádi clan (Sitka Tribe) woman who immersed her hair in the waters below Sitka's Herring Rock. Herring began spawning on her hair, leading to today's practice to collecting roe on hemlock branches. *Thornton Study* at 119.

Parenthetically, Herring Rock remained hallowed ground for Sitka Tlingit, until real estate developers blew it up. *Id.*

B. Sharing of subsistence resources is central to Alaska Native culture

The sharing of subsistence-caught resources is sinew that binds Alaska Native culture together. "As a central value and practice characteristic of all Indigenous Alaskan societies, sharing of subsistence resources was and is a foundation of Indigenous life and livelihood. Sharing is both glue in binding extended families together and lubricant promoting expansion of social ties." *Langdon Study* at 1. Sharing guides Alaska Natives'

²⁷ / T. Thornton and J. Hebert, *Neoliberal and neo-communal herring fisheries in Southeast Alaska: Reframing sustainability in marine ecosystems*, Marine Pol. 2014 at 5.



ethical compass: it reflects a "deeply embedded cultural value" that "translates into moral and ethical obligations for producers and those with resources to give to others particularly if they are in need and without expecting a return." *Id.* at 8, 10.

Sharing is also "at the center of a spiritual belief system recognizing the joint nature of existence and necessary interdependence of humans, fish, birds and animals to continuity." *Id.* at 44.

Sharing is not simply inviting a friend to dinner. Rather, it is an unwritten constitutional code laid down by the village tribe, its elders and tradition:

Subsistence is more than a means of production, it is a system for distribution and exchange of subsistence products. The system is not random: it operates according to complex codes of participation, partnership, and obligation. Traditional rules of distribution ensure that subsistence products are available to every village household, even those without hunters.

Id. at 8.

C. Disrupting a traditional sharing system threatens the foundations of Alaska Native culture

It stands to reason that disruption of a practice so elemental to Alaska Native culture will threaten that culture itself. And the *Langdon Study* bears that out. As we have already seen, the ethical underpinning of sharing is the need to assure food security for the entire village. "Sharing is one of the primary institutions through which the harvests of the high producing 'superhouseholds' reach others, especially those in need." *Id.* The "superproducers" obligation becomes paramount when caring for village elders:

The sharing of traditional foods with Elders is especially important as they are a necessity for feeling healthy and staying active and are believed to contribute to longevity. It is believed by many Indigenous Alaskans that Elders ... have developed physiological and possibly psychological dependence on such foods.

Id. at 13. And, it seems that the most effective way to sabotage a community's traditional sharing system, and hence the community's underlying culture, is to undermine the community's ability to rely on "superproviders" to meet the community's needs. *Id.* at 41. In an analysis performed on three villages (Kaktovik, Wainwright and Venetie), the scientists' hypothetical removal of "key social relations, meaning critical 'superprovider' nodes" caused a projected 70%-80% decline in sharing between households--more severe than either a reduction in resource abundance or reduction in community households. *Id.*

D. A permit requirement imposed on the "superproviders" of Sitka herring roe risks irreparable damage to Tlingit, Haida and Tsimshian culture

At the outset, forcing those who harvest herring roe in Sitka's subsistence fishery on behalf of the entire region to obtain an individual permit fundamentally alters the nature and purpose of the harvest. The harvest becomes an individual, not a communal act, and the harvested roe becomes associated with the permittee, not the community. That is a bedrock cultural distinction that the Alliance proposal simply ignores. In a report on the village of Venetie quoted by Dr. Langdon, the authors observed that:

> ...sharing and cooperation were described as cultural markers that distinguish the indigenous user from other harvesters such as urban hunters seeking trophy animals... Sharing sustains ongoing bonds and creates new relationships thereby enhancing the emotional and physical well-being of those who give and receive....

Id. at 15 (*internal cites omitted*). It is critical, Langdon concludes, that regulators understand this very different paradigm and encourage a "regulatory environment that...does not constrain sharing." *Id.* at 48.



There are also more earthy (but no less significant) threats posed by a permit requirement. Some ADF&G herring and herring roe permit requirements include a harvest limit—one usually calculated on the basis of individual or household consumption. ²⁸/ And while harvest limits do not necessarily flow from a permit requirement, crossing the permit Rubicon is almost invariably just a first step in the imposition of harvest constraints that simply would not fit the communal nature of the fishery.

Moreover, while 87% of the harvested roe is shared regionwide (and beyond), the entire regulatory burden of a permit would fall unfairly on the individuals harvesting that roe on behalf of the region. *See* 5 AAC 01.015(b). And the permittee would be the sole target of any enforcement action, although the overwhelming majority of beneficiaries of the harvest stretch (at least) from Metlakatla to Yakutat.

E. ADF&G should be tasked to work collaboratively with the region's Alaska Natives to cure any shortcoming in the existing subsistence harvest monitoring program that has resulted in avoidable delays in publishing subsistence harvest data

As noted *ante*, ADF&G staff have concluded that a permit requirement would not result in the acquisition of more accurate or comprehensive harvest data. To the contrary, if a permit system resulted in discontinuance of the existing Tribal/ADF&G harvest monitoring program, the agency would lose access to "best available data important to this [subsistence] fishery that would be difficult to accurately capture from returned permits,"

²⁸/ *See, e.g.*, 5 AAC 01.730 (Southeast Alaska herring roe on kelp; Limit: 32 pounds individual, 158 pounds household); 5 AAC 01.530 (Kodiak: 500 pounds herring/year).

including data on "sharing of herring eggs and specific details about the harvest efforts." ADF&G Staff Comments at 180.

ADF&G does suggest that a permit program could result in quicker assimilation and publication of subsistence harvest data, noting a 19-month delay in publishing data on the 2020 subsistence fishery. *Id.* Staff, however, does not explain the reason for the current lag in publishing subsistence data, nor why a permit requirement would remove that roadblock. It is equally plausible that any publication delay is due to staffing issues or other practical concerns that can be addressed through means less drastic than a hamhanded permit requirement.

There are numerous subsistence herring fisheries in the state that do not require a permit. ²⁹/ The Sitka fishery is no outlier in that regard. Moreover, Alaska law allows this Board to regulate fisheries on a community basis. AS 16.05.330(c) authorizes the Board to "adopt regulations providing for the issuance and expiration of subsistence permits for areas, villages, communities, groups, or individuals as needed for authorizing, regulating, and monitoring the subsistence harvest of fish and game." To that end, for example, 5 AAC 01.620(h) authorize a community permit in the Glenallen area "to a village council…to operate fish wheels on behalf of members of its village…"

 $^{^{29}}$ / See, e.g., 5 AAC 01.130 (Arctic: no permit required for subsistence herring and roe fishery designated in 5 AAC 01.136(1)); 5 AAC 01.180 (Norton Sound: no permit required for subsistence herring and roe fishery designated in 5 AAC 01.186(a)(1)); 5 AAC 01.230 (Yukon: no permit required for subsistence herring and roe fishery designated in 5 AAC 01.236(a)(3); 5 AAC 01.280 (Kuskokwim: no permit required for the subsistence herring and roe fishery designated in 5 AAC 01.286(a)(4)); 5 AAC 01.330 (Bristol Bay: no permit required for subsistence herring spawn on kelp fishery designated in 5 AAC 01.336(a)(2)); 5 AAC 01.580 (Cook Inlet: no permit required for the herring fishery designed in 5 AAC 01.566(a)(4)).



Moreover, there is a history of collaboration between ADF&G and the Sitka Tribe on data gathering. In 2002, ADF&G and the Tribe entered into a memorandum of agreement (the "MOA") providing, in part, for coordinated data gathering on the subsistence fishery. ADF&G unilaterally terminated the MOA in 2009. That MOA, however, was replaced with a collaborative Tribal/ADF&G monitoring program that ADF&G staff believes produces both accurate and comprehensive harvest data.

There have indeed been bottlenecks in the ultimate publication of that data. But there would seem nothing to prevent Native stakeholders and ADF&G from addressing any impediment to timely publication of the data within the framework of the existing collaborative effort. In that vein, Sealaska respectfully urges this Board to direct ADF&G's Subsistence Section to work with the Sitka Tribe and other beneficiaries of this communal fishery to identify and resolve any such impediment.

It is emphatically not Sealaska's position that no subsistence fishery is suitable for an individual permit. There are many subsistence fisheries in which the primary beneficiaries are the harvester or his/her household. There is always, however, a need to balance the regulatory benefits of a permit against the affected cultural values. And, when the fishery is of such an intensely communal (and regional) nature, and when the benefits of a permit program are so doubtful, those scales should tip towards protecting the region's Alaska Native culture that is so tightly interwoven with that fishery.



Attachment 1



From: Dressel, Sherri C (DFG)
Sent: Wednesday, December 16, 2020 2:05 PM
To: Trevor A Branch <tbranch@uw.edu>
Cc: John Trochta (johnt23@uw.edu) <johnt23@uw.edu>; Miller, Sara E (DFG) <sara.miller@alaska.gov>
Subject: RE: variability with large year class

Hi Trevor,

Many thanks for your quick reply and your suggestion. I see in Muradian et al. (2017) the additional error for the egg deposition survey was 4.0 and (as you noted before) the additional error for acoustics was a median of 0.34. Were these values approximations based on expert judgement? I can certainly cite, but thought I'd ask if there was additional information behind them since they seem somewhat specific.

Thanks again, I really appreciate it – Sherri

From: Trevor A Branch <<u>tbranch@uw.edu</u>>
Sent: Wednesday, December 16, 2020 1:24 PM
To: Dressel, Sherri C (DFG) <<u>sherri.dressel@alaska.gov</u>>
Cc: John Trochta (<u>johnt23@uw.edu</u>) <<u>johnt23@uw.edu</u>>; Miller, Sara E (DFG) <<u>sara.miller@alaska.gov</u>>
Subject: Re: variability with large year class

Hi Sherri:

John is pretty swamped right now preparing for his PhD defense in early Feb 2021, with some work still needed on his last chapter and pulling it all together. So he won't have much time to look at this before the dissertation is over.

My general suggestion is to base your decisions on the data for SE Alaska only. One option would be to look at the uncertainty in the eggs spawned in the *survey* inflate that somewhat (as we do for additional variance in the PWS herring assessment), and then apply that uncertainty to the median estimates from the ASA model.

e.g. in PWS herring the acoustic survey CV was 0.29 (lognormal sigma) and the estimated additional variance was CV = 0.34 (Table 3.11 and 3.13 in Muradian et al. 2017). From Table 5.8 the total variance is therefore sigma² = $0.29^{2} + 0.34^{2}$, and the total CV (sigma) is sqrt($0.29^{2} + 0.34^{2}$) = 0.45.

So in this instance you would base catches on the estimated biomass with a CV of 0.45. Perhaps you could set catches at say the lower 70th percentile of a lognormal with that CV. In R, the code for this would be

biomass <- 10000 reportedsurveyCV <- 0.30 additionalCV <- 0.34 finalCV <- sqrt(reportedsurveyCV^2+ additionalCV^2)

rnorms <- rnorm(n=100000, mean=0, sd=finalCV) randoms <- biomass * exp(rnorms-0.5*finalCV^2) #the lognormal correction is -0.5*s^2

hist(randoms) mean(randoms) round(quantile(x=randoms, probs=seq(0.2,0.4,0.1)),0) #possible percentiles

#note: median of randoms is smaller than mean of randoms, which should be #equal to biomass = 10000

On Wed, Dec 16, 2020 at 1:56 PM Dressel, Sherri C (DFG) <<u>sherri.dressel@alaska.gov</u>> wrote:

John and Trevor,

Wondering if you can help me with something. For State management of southeast herring, we have a sliding scale harvest rate (max 20%) when the population is above a fixed threshold. In years where we expect there is considerably greater uncertainty with the forecast than normal, managers have decremented the harvest level (say a fixed tonnage decrement which is comparable to reducing the harvest rate). As you know with your own data, the 2019 age-3 recruit class was substantial across the GOA. In PWS it wasn't as obvious because the magnitude of the population is low, but notably I think the size of the population doubled. For Sitka and Craig, that were at medium population levels, the populations also doubled and the recruitment has appeared even more impressive relative to past recruitments. From the 2020 forecast model for Sitka (and Craig was way more dramatic than Sitka):



Year

We aren't currently using the Bayesian age-structured model yet for SE herring (it is so close to being ready, but we didn't finish before Jane took her new position with NOAA), so we don't have estimated uncertainty with our forecasts (credibility or posterior predictive intervals). Similar to what is done for federal stocks (North Pacific Fisheries Management Council), we only make decrements to the allowable harvest in relatively rare situations when there is considerable uncertainty likely not accounted for in the assessment or harvest rate strategy (so if there is unusually large uncertainty in the forecast due to a large incoming year-class or uncertainty in the maturity schedule that is not represented in the model, this qualifies). Although we don't have error estimates for our forecasts, due to the expected large uncertainty in the 2020 forecast with the magnitude of the exceptionally large 2019 year class, we did make a decrement to the harvest level last year. Since we don't have estimates of error I'm wondering whether the level of uncertainty that will propagate into the 2021 forecast now that we have seen the 2019 year class twice remains considerably greater than what could be considered "normal". This is a subjective determination and I fully realize that there is no normal, but I'm wondering if there is any information from the PWS BASA model that could help inform us. For instance, how did the posterior predictive intervals for the 2019 year class) compare with your posterior predictive intervals for your 2020 and 2021 forecasts (with the 2019 year class)?

Any qualitative reasoning that you have regarding expected uncertainty would be welcome too. One of my concerns is that we know that the maturity schedules for these populations aren't particularly well known and with a large incoming year class, the impact of the maturity schedule is greater when forecasting (for year classes that aren't fully mature, like the age-3 class in 2019 and age-4 class in 2020).

Thanks for any thoughts, Sherri

Trochta JT, Branch TA, Shelton AO, Hay DE (2020) The highs and lows of herring: A meta-analysis of patterns in herring collapse and recovery. Fish and Fisheries 21:639-662

Monnahan CC, Branch TA, Thorson JT, Stewart IJ, Szuwalski CS (2019) Overcoming long Bayesian run times in integrated fisheries stock assessments. ICES Journal of Marine Science 76:1477-1488

PC318 29 of 45

Richard C. and Lois M. Worthington Endowed Professor in Fisheries Management, School of Aquatic and Fisheries Sciences, University of Washington Twitter: @TrevorABranch @BlueWhaleNews; <u>http://fish.washington.edu/people/branch/</u>

Branch TA, Monnahan CC (2020) Sex ratios in blue whales from conception onward: effects of space, time, and body size. Marine Mammal Science doi: 10.1111/mms.12741



Attachment 2



Age-structured model for Alaska herring stocks

Steve Martell

December 16, 2016

Executive Summary

This document describes the proposed changes that have been made to the Agestructured assessment model for Alaska herring stocks.

The objective of this project was to review and modify the existing AD Model Builder Code for the Age-structured model for Alaska herring stocks (version 0.1 Jan 2015). The overarching objective of the modifications are: to improve numerical stability, ease of use, general flexibility for alternative structural assumptions, and estimation of observation and process error variance to better quantify uncertainty. The following list of bullets summarizes the proposed changes that have been implemented to date:

- Modifications to the Input Data File. Users can now specify estimates of observation error for each annual observation for: catch, egg surveys, mile milt days, and composition data.
- Modifications to the Control file. Changes to the control file now allow users to estimate or fix parameters, change the phase of estimation, set initial parameter values, apply informative priors of various statistical distributions, all without having to recompile the code. This permits rapid exploration (even automated) of alternative hypotheses and structural assumptions that are repeatable.
- Added controls for the addition of time varying natural mortality rates, blocks of time-varying maturity, a flexible system from implementing a wide variety of selectivity options including time-varying blocks, or continuous non-parametric functions (i.e., cubic splines). The control file is also structured so it can expand with new model features, or custom outputs, that develop in the future.
- Custom command line options were added to the code. Two options were added to permit rapid simulation testing (-sim option), and automate the procedures of conducting retrospective analysis without having to make any potentially dangerous modifications to input files (the -retro option).
- Many of the previous routines in the current version of the stock assessment model have been broken down into smaller functions. This both reduces the amount of redundant code that currently exists and makes the code easier to read and understand by humans.
- The model has 5 major components:



- 1. Inputs (includes data and controls that specifies model structure).
- 2. Population dynamics: a collection of sub-models that relate to the biology (e.g., natural mortality, maturity, stock-recruitment).
- 3. Observation dynamics: a collection of sub-models that relate how fishing mortality interacts with population model (e.g., fisheries selectivity, fishing mortality, predicted egg abundance index, predicted composition data).
- 4. Statistical criterion: the objective function that relates estimated model parameters to differences between observed and predicted variables.
- 5. Outputs: including and not limited to parameter estimates, convergence criterion, derived management quantities and residuals.
- There are a few structural differences being proposed in this model that relate to how selectivity is modeled, the observation error assumed in the composition data, and variance terms that relate to both process error and observation error.
 - To avoid breaking the derivative chain in calculating the objective function and its gradient, use of the max function to re-scale the selectivities should be avoided. Often you can get away with it in very simple models where selectivity is very well informed, but can soon become problematic when your jointly estimating additional parameters that are confounded with selectivity (e.g., time-varying natural mortality). To do so, the proposed change rescales the selectivity vector for ages such that it has a mean of 1.
 - The previous generation used a least-square estimator for the age-composition proportions. The proposed changes implemented in this model assume the age-proportion data are logistic-normal, and these data are weighted by the conditional maximum likelihood estimate of the variance (i.e., objectively weighted). Alternatives likelihood formulations are also easily implemented in future iterations.
 - Lastly, each catch and survey observation in the input data file also has an associated log standard error associated with it (approximately the coefficient of variation). In cases where it is possible to estimate a standard error in the data using bootstrap procedures, the inter-annual variation in observation error can now be specified. In addition, the process error term permits recruitment variation around a stock-recruitment relationship. Currently the Ricker model is implemented, with the option to implement the Beverton-Holt model annotated in the code.
- Additional elements were also introduced in the objective function calculation to improve the overall estimation robustness. These include penalties that are only implemented in the initial phases to set up initial gradients that will get key population parameters in the "ball park". These penalties can then be relaxed (or set = 0) in the terminal phases.
- Of significant difference is the use of informative prior distributions (or sometimes less informative) for population parameters including: natural mortality, initial recruitment, average recruitment, unfished recruitment, steepness of the stock recruitment relationship, and the variance in the recruitment deviations (process



error). The only option for including priors in the previous generation was to fix a parameter value (which implies the variance is 0, or very informative). For example, having the option to estimate natural mortality where the prior mean is set at the original fixed value and assume some arbitrary CV can often reduce model confounding in cases where there are one-way trips in the relative abundance data. Comparing the marginal posterior density and prior density will shed light on how informative the data are about the parameters.

• Model selection criterion can also be evaluated using Deviance Information Criterion (DIC). This criterion is calculated using the posterior sample values generated from one of AD Model Builders built-in sampling routines (e.g., The Metropolis Hastings Algorithm).

Lastly, a few R-scripts have been developed for the purposes of conducting simulationestimation experiments for self-testing to examine for potential bias in the estimators, and exploring options for correcting any such bias.

An example assessment using the data for the 2015 Sitka herring stock is provided in this document. This example is not meant to be used as a comparison with other assessments for this stock. The intent of the example is to be illustrative. Finally, the scope of this project focused on the aforementioned points above, and primarily focuses on data weighting and estimation of uncertainty. There are many other graphical methods that could be explored to further communicate levels of uncertainty to fisheries managers, and I would refer you to the work of Dr. Ian Stewart at the Intl. Pacific Halibut Commission on communicating uncertainty to decision makers.

1 Acknowledgments

I greatly appreciate the feedback from the State of Alaska scientists who participated in the training workshop in Juneau Alaska, July 27-29, 2016. A special thank you to Dr. Sherri Dressel for organizing this workshop and inviting me to bid on this contract.

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Attachment 3

LAW OFFICES OF SIMPSON, TILLINGHAST, SHEEHAN & ARAUJO, P.C.



ONE SEALASKA PLAZA, SUITE 300 · JUNEAU, ALASKA 99801 TELEPHONE: 907-586-1400 · FAX: 907-586-3065

Mr. Samual Rabung Director, Division of Commercial Fisheries Alaska Department of Fish and Game P.O. Box 115526 Juneau, Alaska 98111-5526 and Mr. Lowell Fair Southeast Regional Supervisor Alaska Department of Fish and Game P.O. Box 115526 Juneau, Alaska 98111-5526 and Mr. Troy Thynes Salmon/Herring Fisheries Management Coordinator Alaska Department of Fish and Game P.O. Box 667 Petersburg, Alaska 99833-0667

Re: 2021 Guideline Harvest Level for Sitka Sac Roe Fishery

Dear Mssrs. Rabung, Fair and Thynes:

This firm represents Sealaska Corporation. Sealaska, through itself and its subsidiary Sealaska Heritage Institute, has been and remains deeply concerned over the health of the herring roe-on-branch subsistence fishery in Sitka Sound. That fishery is of singular economic and cultural importance to our region, and it has been a fishery adversely affected by a competing commercial sac roe fishery.

This month, the Department will be publishing the guideline harvest level ("GHL") for the 2021 commercial fishery under 5 AAC 27.160(g). For the reasons set out in the enclosed report by Dr. Merrill Rudd, Sealaska urges the Department to establish a precautionary GHL for the 2021 fishery at a level substantially below that suggested by application of the Department's Age Structure Assessment (or "ASA") model.

Because of model uncertainties, the Department established just such a precautionary GHL for the Sitka sac roe fishery for 2013 (25% below ASA indications) and 2020 (39% below). Equally consequential uncertainties exist now. In 2016, the Department solicited and received recommendations from Dr. Stephen Martell to address the limitations of the ASA model. As Dr. Dressel explained in her deposition in the ongoing litigation over the Sitka sac roe fishery: "[W]e



are moving towards a new model structure, which has been—designed by the same stock assessment scientist that developed the one for Canada...[H]e has done that...I asked him to review the [ASA] model that we had and to make necessary improvements, and he has done that."

Dr. Rudd is a recognized expert in stock assessment modeling. As her report explains, the Department's inability to implement Dr. Martell's recommendations in the intervening 4 years significantly affects the reliability of ADF&G's forecasts, on which the GHL is based. Let me stress that Sealaska does not fault the Department's professionals for their inability to as yet implement the "necessary improvements" in the agency's predictive modeling. We appreciate that budgetary and personnel challenges have hamstrung staff's ability to do so. However, we do fervently ask that, until Department priorities allow staff to transition to the more reliable model structure, it recognize the limits and risks in the old ASA model and reduce the GHL accordingly.

Thank for the consideration that I know you will give Sealaska's concerns.

Sincerely, SIMPSON, TILLINGHAST, SHEEHAN and ARAUJO /s/ Jon K. Tillinghast Jon K. Tillinghast

cc: Dr. Sherri Dressel sherri.dressel@alaska.gov


Attachment 4



Considering stock assessment uncertainty for the 2021 Sitka herring fishery guideline harvest limit

Dr. Merrill Rudd Research scientist, Scaleability LLC merrillrudd@gmail.com 1-201-207-0958

27 November 2020

Introduction

Sealaska Corporation has asked for my opinion on whether the Alaska Department of Fish and Game (ADF&G) should employ a precautionary guideline harvest level (GHL) until it is able to adopt and implement stock assessment modeling changes for the Sitka Sound herring population recommended by Dr. Steven Martell to ADF&G in December 2016.

Because of uncertainties in the forecast using ADF&G's existing age-structured analysis (ASA) model, the Department established a precautionary GHL for the Sitka sac roe fishery for 2013 (25% below ASA indications) and 2020 (39% below). It is my opinion that there are many additional uncertainties associated with the ASA model and forecast that would be improved when Dr. Martell's proposed changes are implemented. Therefore, ADF&G should continue to adopt a precautionary GHL at least until it is able to implement the proposed changes by Dr. Martell. The model structure proposed by Dr. Martell is currently being used by British Columbia to forecast its herring returns, and it would address many of the shortcomings that exist in ADF&G's existing model and forecast.

I came to this conclusion after reviewing documents related to the ASA model, forecast approach, setting the GHL, the technical report of Dr. Martell's proposed model changes, expert testimony, and a select number of scientific studies relating to herring roe fisheries. I am an independent scientist with a doctoral degree from the School of Aquatic and Fishery Sciences at the University of Washington with an extensive background in stock assessment modeling. My curriculum vitae is attached.

Areas of uncertainty that Dr. Martell's updates would address

Based on the 2020 forecast, ADF&G reduced the GHL by 39% compared with the level suggested based on the ASA model-predicted mature herring biomass, citing large uncertainty in the 2020 forecast related to the estimated number of age-3 fish and their probability of becoming mature age-4 herring the next year (ADF&G 2019). I think this decision and rationale are reasonable based on their discussion of survey estimates and exploration of model structural uncertainty (i.e. comparing different models to make sure their forecast of mature biomass is robust). However, it is a shortcoming of the forecast that estimates or quantification of uncertainty (e.g. confidence intervals or standard errors) are absent from the reported survey



observations (data inputs) and projected mature biomass.

My recommendation of a precautionary GHL until the model updates from Dr. Martell can be implemented is largely due to the fact that the ASA forecast model does not directly account for parameter or observation uncertainty. Dr. Martell recommended several important changes to the model that would address these shortcomings. These updates may improve the accuracy of predicting the coming year's herring returns, but more importantly, will better characterise uncertainty in the coming year's herring returns. Currently, the ASA model forecast reports a single value for the mature herring biomass. Due to the uncertain nature of ecological processes and population dynamics, this single value is most certainly wrong, so it is important to communicate uncertainty to understand how wrong that single value may be. With Dr. Martell's proposed changes, the forecast estimate of mature herring biomass is more reliable than those from the ASA model because it will come with transparent and thorough accounting of uncertainty (e.g. including probabilities of falling below threshold levels or meeting targets) so managers can better understand how wrong the average forecast estimate may be when choosing a harvest level.

The improvements that would be made by Dr. Martell's recommendations include:

1. Update to a statistical catch-at-age (SCA) model

A key update proposed by Dr. Martell is the change in model structure to a statistical catch-at-age (SCA) model from the more outdated virtual population analysis (VPA). In a VPA, population abundance and biomass are back-calculated from recent observations of catch, egg estimates, and other data inputs. Data inputs are generally assumed to be known without error. A drawback of a VPA when forecasting forward in time is that the stock assessment model must run twice. The first ASA model run estimates parameters through the final year of data. The second step is to re-fit the ASA model over many iterations (e.g. 1,000) where the parameter values are fixed at current estimates (or ideally, re-sampled from a distribution representing parameter uncertainty) and the model is re-fit to re-sampled data. The underlying SCA model included in Dr. Martell's proposed changes (and adopted for Pacific herring stocks in British Columbia, and generally more commonly used in stock assessments worldwide) uses a more straightforward and transparent approach to forecast population dynamics. SCA models estimate initial conditions of the population in the first year of the model and forward-calculate population abundance and biomass in order to fit to recent estimates of catch and other data. In this case, some observation error may be included in the data. Estimates of population parameters in the final model year can then be used to project forward one (or more) extra years without re-fitting the model to bootstrapped data. This approach better propagates estimation and recruitment uncertainty into the forecast. A comparison of the two approaches is discussed in more detail in Stewart and Martell (2015).

The update to an SCA model improves the characterisation of parameter uncertainty, observation (i.e. measurement) error, and random variation (i.e. process error), which have direct effects on the forecast.

2. Parameter uncertainty



From the documents I reviewed, it seems that the current ASA model does not include parameter uncertainty in the forecast. For example, the ASA model estimated the 2019 survival to be 0.67. The current methods would then assume survival is 0.67 for the forecast year. The forecast estimate of mature biomass is then predicated on a survival rate of 0.67, when in reality the true survival rate could be closer to 0.60 (as a hypothetical example). If uncertainty in the estimated value of 0.67 was included in the forecast, there would be a higher probability that the true mature biomass is represented by the forecast. This issue also applies to other key population parameters, such as average unfished recruitment (governing the size of the population), parameters of the maturity schedule (governing the proportion of the population mature in each age class), and gear selectivity (governing the proportion able to be harvested from the gear in each age class). While the estimated values used in the forecast do have the highest likelihood based on fits to the data, there are many confounding aspects of the model due to structural uncertainty, observation error, and process error that make it possible, even likely, that parameter estimates are not accurate. Using these single values in the forecast then propagates bias to the forecast estimate of mature biomass.

This issue is improved by including parameter uncertainty in the forecast, and updates from the proposed changes by Dr. Martell would make it much easier to do so. It is possible that bootstrapping methods are used in the ASA model forecast approach, where the ASA model would be re-fit over many iterations (e.g. 1,000) where the parameter values are re-sampled from a distribution and the model is re-fit to re-sampled data. However, this approach is not mentioned in the most recent ASA forecast report (ADF&G 2019), so I assume it is not used to account for parameter uncertainty in the forecast.

The use of informative prior distributions are a key update proposed by Dr. Martell that would improve the characterisation of parameter uncertainty in the forecast. Informative prior distributions for population parameters could be used to admit some uncertainty in previously fixed values in the stock assessment or provide additional information for estimation of the key population parameters. Allowing previously fixed (i.e. assumed) values to have some uncertainty often reduces confounding between model parameters (Martell 2016), allowing for more accurate estimates of key population parameters which will lead to more accurate forecasts. In a maximum likelihood context, using prior distributions (a key update in Dr. Martell's recommendations) are effectively a penalty on key population parameter estimates to help constrain estimated parameters to reasonable values, often aiding in model convergence. In the context of Bayesian inference, comparing the posterior and prior densities demonstrate how informative the data are about parameters.

The posterior distribution would also be used to directly account for parameter uncertainty in the model forecast, made much easier and more transparent by the SCA model proposed by Dr. Martell. This forecast approach would project the current parameter estimates one year forward, but instead of forecasting only the maximum likelihood estimate, would forecast each value from the posterior distribution one year forward. This would result in a distribution of forecast mature biomass rather than a single value. Managers could then consider the probability of the mature biomass dropping below the harvest threshold and better understand the uncertainty surrounding the median mature biomass estimate. With this proposed change by Dr. Martell, there would be less of a need for ADF&G to set a precautionary GHL because the uncertainty of the forecast



would be communicated to the managers directly.

3. Observation and process error

Dr. Martell's proposed changes include the ability to specify observation (i.e. measurement) error in data inputs. Observation error is difficult to include in a VPA model, such as the ASA. Discussion of observation uncertainty is missing or rare in the stock assessment survey documentation (Hebert 2019) and forecast (ADF&G 2019). It is mentioned that a bootstrapping approach is used to consider uncertainty in eggs spawned (ADF&G 2019), however it is unclear whether that uncertainty is propagated through to the forecast. The use of a single estimate of eggs spawned propagates bias in a similar way to parameter uncertainty; the average estimated number of eggs spawned is likely to be wrong due to uncertainty in ecological processes and measurement error in cumulative spawning mileage, spawn area, and egg density. Where it is possible to use bootstrap procedures to estimate standard error in the data, inter-annual variation in observation error can be specified using Dr. Martell's model changes. This observation uncertainty would then be propagated forward in the forecast so that a distribution of possible number of eggs would be considered, increasing the probability that the true number of eggs is included in the forecast. Changes relating to observation error on datasets have been adopted for British Columbia stocks and improved their estimation of the variance structure (DFO 2018).

Furthermore, it is unclear whether the ASA model forecast is including process error. Process error is essentially random variation in the environment or other types of variation not accounted for by uncertainty in population parameters or data inputs. Process error is included in Dr. Martell's proposed changes to the model through recruitment variability. Where parameter and observation uncertainty are propagated forward in the projection model using the proposed updates described above, uncertainty in next year's recruitment could also be propagated forward. The number of projected recruits would be randomly drawn from a distribution where the mean is equal to the average number of recruits predicted by the stock-recruit function and standard deviation either estimated or assumed to be a specific, reasonable value.

Conclusions

My recommendation is that ADF&G should take a precautionary approach to setting the GHL until Dr. Martell's proposed model changes can be adopted. The current ASA forecast does not adequately characterise uncertainty, meaning that the forecast estimates are communicated as being known essentially without error associated with uncertainties in estimated parameters, observations, and random variability. While some types of parameter uncertainty are discussed in ADF&G forecast reports, these values are not well quantified in the reports via confidence intervals or standard errors in the forecast mature herring biomass and many types of uncertainties are missing from their considerations. This means that it falls to ADF&G to interpret how uncertain they think the estimates of mature herring biomass may be, requiring a precautionary approach to setting the GHL. While some of the updates proposed by Dr. Martell could lead to better accuracy in forecast predictions, the most important update is the ability to characterise uncertainty and communicate that uncertainty to managers. For example, the updated herring forecast using proposed model changes would output a posterior distribution of mature herring biomass, which can be used to directly interpret the probability of mature herring



biomass falling below the harvest threshold. When uncertainty is better characterised and transparently communicated through Dr. Martell's proposed model changes, the forecast may be taken at face-value and interpreted by managers without the need for ADF&G to take precautionary measures when setting the GHL.

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Attachment 5



From: Dressel, Sherri C (DFG)
Sent: Monday, December 14, 2020 10:56 AM
To: Bowers, Forrest R (DFG) <forrest.bowers@alaska.gov>
Subject: RE: Sealaska Corporation Request to Adopt Precautionary GHL for Sitka Sac Roe Fishery

Thanks Forrest – Sherri

From: Bowers, Forrest R (DFG) <<u>forrest.bowers@alaska.gov</u>>
Sent: Monday, December 14, 2020 10:55 AM
To: Dressel, Sherri C (DFG) <<u>sherri.dressel@alaska.gov</u>>; Dupuis, Aaron W (DFG)
<<u>aaron.dupuis@alaska.gov</u>>
Cc: Thynes, Troy S (DFG) <<u>troy.thynes@alaska.gov</u>>; Hebert, Kyle P (DFG) <<u>kyle.hebert@alaska.gov</u>>;
Miller, Sara E (DFG) <<u>sara.miller@alaska.gov</u>>
Subject: RE: Sealaska Corporation Request to Adopt Precautionary GHL for Sitka Sac Roe Fishery

Sam and I chatted about this and decided no response is needed to this request.

Thanks.

Forrest

From: Dressel, Sherri C (DFG) <<u>sherri.dressel@alaska.gov</u>>
Sent: Monday, December 14, 2020 10:53 AM
To: Bowers, Forrest R (DFG) <<u>forrest.bowers@alaska.gov</u>>; Dupuis, Aaron W (DFG)
<aaron.dupuis@alaska.gov>
Cc: Thynes, Troy S (DFG) <<u>troy.thynes@alaska.gov</u>>; Hebert, Kyle P (DFG) <<u>kyle.hebert@alaska.gov</u>>; Miller, Sara E (DFG) <<u>sara.miller@alaska.gov</u>>
Subject: FW: Sealaska Corporation Request to Adopt Precautionary GHL for Sitka Sac Roe Fishery

Ugh, sorry Bo and Aaron. I thought I had forwarded this to you as well. This is the communication I was referring to.

From: Dressel, Sherri C (DFG)

Sent: Monday, November 30, 2020 3:37 PM

To: Hebert, Kyle P (DFG) <<u>kyle.hebert@alaska.gov</u>>; Miller, Sara E (DFG) <<u>sara.miller@alaska.gov</u>> **Subject:** FW: Sealaska Corporation Request to Adopt Precautionary GHL for Sitka Sac Roe Fishery



From: Jon K. Tillinghast <jon@stsl.com>

Sent: Monday, November 30, 2020 1:42 PM

To: Rabung, Samuel H (DFG) <<u>samuel.rabung@alaska.gov</u>>; Fair, Lowell F (DFG)

<<u>lowell.fair@alaska.gov</u>>; Thynes, Troy S (DFG) <<u>troy.thynes@alaska.gov</u>>

Cc: Dressel, Sherri C (DFG) <<u>sherri.dressel@alaska.gov</u>>

Subject: Sealaska Corporation Request to Adopt Precautionary GHL for Sitka Sac Roe Fishery

Dear Mssrs. Rabung, Fair and Thynes: Please find enclosed:

- Sealaska Corporation's request that ADF&G establish a precautionary guideline harvest level for the Sitka Sound herring sac roe fishery until it is able to implement the new stock assessment model recommended to the Department by Dr. Steven Martell in December, 2016;
- (ii) The report of Dr. Merrill Rudd describing the forecasting uncertainties perpetuated by the Department's inability to implement Dr. Martell's recommendations; and
- (iii) Dr. Rudd's *curriculum vitae*.

Thank you for the consideration that I know you will give to Sealaska's request.

Jon K. Tillinghast Simpson, Tillinghast, Sheehan & Araujo, P.C. One Sealaska Plaza, Suite 300 Juneau, Alaska 99801 (907) 321-3405 (cell) (907) 586-3065 (fax) Email: jon@stsl.com

fyi

Submitted By Serena Submitted On 11/16/2021 6:33:45 PM Affiliation



I am a student researcher that travels to Alaska to look at food insecurity. Herrings are essential for the Tlingit culture as well as the economy. I support proposals 156, 157, & 158. I oppose proposals 159,160,161,163,164,165. Thank you.

Submitted By Seth Bone Submitted On 12/22/2021 3:38:32 PM Affiliation

Phone 9077476136 Email

<u>sethbone@yahoo.com</u>

Address PO Box 1781 Sitka, Alaska 99835

Re: King salmon management proposal 83

Chair Carlson-Van Dort and members of the Board,

I'm a lifelong Alaska resident, and have operated a fishing charter lodge in Sitka for the past twenty six years. Our company provides a full season of bookings to sixteen local charter boat owner/operators, and employs several dozen people seasonally, along with a handful of year around employees. King salmon are one of just a few species that really attract anglers to Alaska, and are critically important to our ability to market trips and keep our local operators busy each season.

I support proposal 83, because it's a fair proposal that prioritizes resident angler access, provides conservative but stable opportunity for guided operations, and aims to maintain the historical allocation split between troll and sport averaged over time.

Proposal 83 aims to return sport king salmon management to the way it was managed from the late 1990's through 2018, before the latest Pacific Salmon Treaty annex. For decades, the sport fishery was managed to target 20% of Alaska's share of wild chinook harvest ON AVERAGE over time, because this was the most effective and workable way to manage a sport fishery. Indeed, objective 1 of the current management plan still states "manage the sport fishery to attain an average harvest of 20 percent...". However, since the latest treaty annex, the department has started managing the sport fishery to an EXACT NUMBER of chinook each year.

Managing a sport fishery to an exact number of fish leads to in-season closures some years, then sudden and unexpected liberalizing of bag limits in others. For those of us marketing fishing trips to prospective clients months in advance of the season, such unpredictability is very damaging. It's also unnecessary.

Prop 83 proposes a structured management plan, similar to the one used prior to 2019, which protects resident access at all levels of abundance. It also specifies lower and very conservative limits for non-resident anglers at all abundance tiers, even when abundance is high. In lower abundance years, sport harvest may surpass 20% by a modest amount, and in high abundance years, the sport harvest would undershoot the 20% target. The troll fleet, which is better equipped to target a specific number of fish with precision, would realize an average harvest of 80% over time, with small variations year to year.

The goal and probable result of adopting this plan, based on historical data provided by ADF&G, is to keep the sport fishery's harvest near its historical share over time, while protecting resident access and maximizing the value of Alaska's king salmon resource. I encourage the board to adopt a management approach similar to the one envisioned by proposal 83.

Thank you,

Seth Bone



Submitted By Shawaan Jackson-Gamble Submitted On 12/22/2021 9:30:22 PM Affiliation Lingit

Phone



9075180869 Email <u>sjacksongamble@gmail.com</u> Address 529 Gunnuck Ave Kake , Alaska 99830

Gunalcheesh Alaska Board of Fish for accepting my public comment and I hope to give my public comment in person next month. I am writing this comment so that my future kids, grandchildren and next generations can have sustainable access to harvest herring eggs. I grew up harvesting herring eggs with my father Tom Gamble and in my 24 years of being on this earth I have seen a tremendous decline in not only the herring abundance in Sitka sound but the quality and amount of herring eggs we are blessed with each year. Nearly all of Southeast gets a taste of Sitka Herring eggs each year and is something that has been traded among our villages for time immemorial, Southeast Communities historically had herring spawns each year until it was over harvested from commercial herring fishing. Recently the State of Alaska lost the first round of litigation against Sitka Tribe of Alaska making sure that subsistence needs are met and in my eyes the State of Alaska prioritizes making money over subsistence, but you can't eat money. Once the herring are over fished you will see a direct correlation with the entire ecosystem because herring are a forage fish and a keystone species for everything including salmon, seal, sea lions, sea otters, humans, most birds, whales and the list goes on. My father's people the Kiks.adi have been in Sitka for over 10,000 years and have stories and songs that validate our ties to Sheetka Kwaan (Sitka).

I am writing today in support of proposals 156, 157, and 158.

I am opposed to proposals 159, 160, 161, 163, 164, 165, 166.

Proposal 156 should be supported because fishing pressure on herring has never been higher than it is right now and the high Guideline Harvest Levels of recent years leave this fishery vulnerable. The Harvest Control Rule in Sitka Sound currently allows for more aggressive herring harvest at low abundance than was administered prior to herring population collapses at Auke Bay, Kah Shakes, and Prince William Sound, among other locales. This harvest control rule would make herring population collapse less likely by lowering the Sitka Sound Guideline Harvest Level at times of low abundance.

Proposal 157 and 158 should be supported because of the growing consensus of the vast importance of older fish for population resilience. The Sitka Sound Sac Roe herring fishery is designed to select for older herring and the population age structure is precarious and vulnerable as a result. These proposals would avoid over-harvesting big fish in years where smaller fish are particularly dominant in the population.

Proposals 156, 157, and 158 would lead to safer management of the commercial herring fishery in Sitka Sound by better protecting population resilience.

Proposal 159, 160, and 161 are offensive, baseless, bad faith proposals brought by an industry gear group (called "Southeast Herring Conservation Alliance") against indigenous people. These proposals should be withdrawn by the SHCA or otherwise swiftly rejected. ADFG data demonstrates that access conditions for roe-on-branch harvesters have deteriorated considerably in the last 20 years. Each of these proposals would further harm subsistence users.

If I am required to get a permit to harvest herring eggs like proposal 161 proposes than I propose that everyone that goes to church gets a permit to go to church. The State of Alaska might as well make me fill out a permit to traditional dance and sing our songs. Proposal 161 is a direct attack on subsistence users brought forward by the commercial fishing industry and Alaska should not create more barriers to a sustainable cultural and subsistence practice. It is also going against the American Indian Religious Freedoms Act of 1978 which protects

the rights of Native Americans to exercise their traditional regions by ensuring access to sites, use and possession the freedom to worship through ceremonialsand traditional rites. It also goes against ANILCA Title VII which mandat of Alaska be given a priority for subsistence uses of fish and wildlife.



I am opposed to Proposal 163 and 164, which would institute a quota system, liberalizing the sac roe seine fishery and expanding the entitlements of permit holders in addition to the obligations of ADFG to the fishery. Under these proposals, more high grading is sure to occur across a wider region, leaving more dead, injured, and stressed out fish in the water while severely disrupting the herring spawning event throughout the entire Sitka Sound area. These two proposals are out of scale with the safety problem they purport to address.

I am opposed to both Proposal 165 and Proposal 166, which should not even be considered, given that they represent permit creep of a sort that has no precedent and has been discouraged by the CFEC in recent years. I am opposed to both of these measures to expand the scope of the G01A (Herring Roe, Purse Seine, Southeast) permits.

Proposals 159, 160, 161, 163, 164, and 165, and 166 lack good scientific justification, disrespect subsistence users and modern and traditional Tlingit knowledge, and run the risk of further damaging and reducing herring populations.

Still, I believe that none of these proposals goes far enough to advance respectful stewardship and protect wild abundance for generations to come. Please listen to what the original stewards of these lands and waters have to say, we have been advocating for protection of herring for how many decades now. Think about how this will affect the next generations and the entire ecosystem.

Submitted By Sherri Blankenship Submitted On 12/22/2021 8:55:43 PM Affiliation Self Phone 9078307677



Dear Madam chair and Board of Fisheries members,

I am in opposition of proposals 156,157 and 158.

As a Sitka resident, I see no biological reason to change the management plan for the Sitka Sound herring stock. These proposals look to change the management of the herring stock until it becomes no longer viable for commercial harvest. Commercial harvest of herring stock supports my household and the households of the crewmen and women that work in the industry. My children are STA members and the economic health of their future depends on commercial fishing. Commercial harvest benefits several boats within our extended family.

Respectfully,

Sherri Blankenship



Submitted By Shireen Nickel Submitted On 12/16/2021 12:56:15 PM Affiliation

Phone 408-888-8821

Email

shireenann@icloud.com

Address 342 E Lake St. Weed , California 96094



To whom it may concern, I'm writing to urge you to support herring Proposals 156, 157 and 158! Please oppose Proposals 159, 160,161,163,164,165,& 166. The health and sustainability of Sitka Sound is pivotal on so many levels! Your decision must address the well-being of The indigenous peoples that have been caretakers of the Sitka Sound long before your participation. Under their stewardship this area has thrived! I would encourage you to try to achieve something close to that and you're on the right track. Thanks for reading my comments! Most Sincerely, Mrs. Shireen Nickel

Submitted By Sidney Submitted On 12/22/2021 4:30:45 PM Affiliation Permit Holder/Tribal Citizen



Chairman and members of Board of Fish,

My name is Sidney Kinney, I am an Alaska Native and third generation commercial fisherman as well as a Sitka Tribe citizen. I reside in Sitka, born and raised; own a small business and am a permit hold in the Sitka Sound Sac Roe fishery, Chatham Sablefish, and Northern Southeast Roe on Kelp.

My Dad participated in the first Roe on Kelp harvest in the 60's and my stepdad has been fishing Sitka Sac Roe for over 42 years. I started out corking when I was 14 and from there crewing at 16 and have been hands on ever since. Acquiring my permit at 24, I now fish Sitka Sac Roe with my husband abroad our fishing vessel. Commercial fishing is in my blood, it's a way of life and that of my families. It's not just a way to make ends meet, it's engrained in us. We have three daughters of our own now and very much plan on putting them on the back deck when the time comes. Teaching them about sustainability, about our way of life both on and off the boat. Teaching them the importance of being good stewards of the ocean and land. About our native heritage and way of life and that everything is linked and we must show respect for everyones feelings.

I do not support proposals 156,157,158

I do support proposals - 159, 160, 162, 163, 164

I believe in science based and data driven fisheries. The Sitka Sound herring stock is at an all-time high well exceeding 100 nautical miles of spawn in 2021.

Over the past 40 years Alaska Department of Fish & Game has observed, recorded, and analyzed this fishery more than any other stock in the state of Alaska and I'm thankful that my community and family have been able to benefit from this over the decades. We need to continue supporting their efforts and work in managing this resource for not only subsistence, but commercial harvesters as well.

Thank you for your time,

Sidney Kinney



PC325 1 of 2

Phone: 907.209.3037 abby.fredrick@silverbayseatoods.com

December 22, 2021

Alaska Board of Fisheries Boards Support Section PO Box 115526 Juneau, AK 99811 Submitted via email: <u>dfg.bof.comments@alaska.gov</u>

RE: Comments on Southeast BOF Proposals

Dear Alaska Board of Fisheries Members:

Silver Bay Seafoods is a fisherman-owned, Alaska seafood processing company founded by local fishermen in Sitka in 2007. We operate six processing facilities in coastal Alaska communities which provide a competitive market to our fishermen owners, critical economic benefits to our community partners, and hundreds of Alaska seafood processing jobs. Our Southeast facilities in Sitka and Craig support independent harvesters participating in Southeast salmon and herring purse seine fisheries. We offer the following comments on proposals under consideration by the Alaska Board of Fisheries at your January 2022 regulatory meeting.

Silver Bay Seafoods Opposes Proposals 101, 103, 156, 157, and 158

Proposals 101 - 5 AAC 33.375. District 13: Silver Bay (Medvejie Creek Hatchery) Salmon Management Plan. Proposal 103 - 5 AAC 33.363. Management guidelines for allocating Southeast Alaska pink, chum and sockeye salmon between commercial net fisheries.

The Alaska Salmon Hatchery Program has set an extremely high bar for conservative and sustainable management of salmon enhancement in Alaska. Protection of wild salmon stocks has been at the forefront of the program since inception. Wild and hatchery stocks are producing salmon returns that offer critical food and economic opportunities for remote Alaska communities that need it most. The Alaska Hatchery Program is an effective and celebrated success. There is no scientific evidence of harm to wild Alaska stocks. To be certain, ADF&G and industry leaders have funded a comprehensive, multi-year research project to collect additional, targeted information about the relationship between hatchery and wild salmon stocks in Alaska. This project is ongoing, but in the meantime and since inception, Alaska has adhered to strong, conservative policies for sustainable management of our wild and enhanced salmon stocks.

Enacting overly burdensome policies or regulations (such as those outlined in proposals 101 and 103) without supporting scientific data would be extremely harmful to Alaskans.





Phone: 907.209.3037 abby.fredrick@silverbayseatoods.com

Very similar proposals were considered and unanimously rejected by the Board at a recent regulatory meeting in Cordova. We appreciate the board's comments during deliberations at this meeting and ask that you to continue to reject the unsubstantiated rhetoric and attacks on Alaska's hatchery program.

PROPOSALS 156 - 158 – 5 AAC 27.160. Quotas and guideline harvest levels for Southeastern Alaska Area. As indicated by ADF&G in their staff comments on these proposals, the current harvest rate strategy is based on the best scientific information available and contains conservation provisions that are beneficial to herring populations and the ecosystem. This current strategy has been time-tested and is a great example of Alaska's commitment to sustainable fisheries management.

Thank you for the opportunity to comment.

Respectfully,

fleffredrich

Abby Fredrick Director of Communications

Submitted By Simon Jacobi Submitted On 12/22/2021 8:56:44 AM Affiliation



My name is Simon Jacobi, I have been guiding for the last 24 seasons in Sitka ,Ak. Much had changed in that time. I'm in support of proposal 83 because we as guides need a more stable management plan which allows for less in season king salmon closures. Charter being lumped into the same category as sport and now the unguided charter sectors growth doesn't seem to be working and causing in season closures for all. In recent years patterns and ocean conditions have "seemed" to have changed pushing runs later into the season in which we are closed. I know this proposal has nothing to do with limited entry but it seems like the charter fleet is getting punished for being lumped into the rapid progression in access for locals and the unguided growth! King salmon management is very important for all fisheries. Thank you for your time.

Submitted By Andrew Thoms, Executive Director Submitted On 12/22/2021 2:44:45 PM Affiliation

Sitka Conservation Society

Phone 907-747-7509 Email <u>andrew@sitkawild.org</u> Address

201 Lincoln Street Room #4 Sitka, Alaska 99835

Support: 80, 85, 86, 156, 157, 158 **Oppose:** 159, 160, 161, 164, 165



The Sitka Conservation Society is the oldest conservation organization in Alaska and was founded in 1967. Our grassroots work is based in Sitka, Alaska on the west coast of Baranof Island, where we are completely surrounded by the Tongass National Forest. Our mission is to protect the natural environment of the Tongass National Forest while developing ecologically, socially, and economically sustainable communities within Southeast Alaska. We work collaboratively with local community members, tribal governments, municipalities, Alaska Native corporations, the private sector, and non-profit organizations from rural communities throughout the region to create on-the-ground solutions for rural development that utilize our natural setting and resource-rich surroundings in a resilient and sustainable manner.

Sitka Conservation Society recognizes the social, ecological and economic importance of the species up for discussion at the 2022 Southeast and Yakutat Finfish and Shellfish meeting and knows that the Board's work in January will have lasting impacts for communities on the Tongass. Given our organizational scope, we offer the following comments on salmon, herring, climate change and ADFG resources for your consideration.

SALMON

Salmon are the lifeblood of the Tongass National Forest. The Tongass boasts over 15,000 miles of salmon rivers and streams and over 123,000 acres of lakes and ponds that support salmon. Salmon are a treasured food source in Southeast Alaska. Across rural Southeast Alaska, residents use an average of 75 pounds of salmon per person each year. Nearly 90% of rural households here use salmon. For Southeast Alaskans, salmon represent more than food: they represent a way of life that is tied to the land. This is true for none more than the Indigenous peoples of the region, the Lingít, the Haida, and the Tsimshian, who have stewarded salmon runs since time immemorial. Salmon are a traditional food that supports cultural renewal. Salmon are invaluable here, and they deserve utmost protection.

The community of Sitka is very concerned about the impacts of climate change on our community and our state. Specifically, we have concerns for our sport, commercial, and subsistence fisheries because of how ocean acidification and warming water temperatures will affect the ocean ecosystems. At the 2018 Board of Fisheries meeting in Sitka, the Alaska Department of Fish and Game repeatedly stated that the dire situation that they were seeing in king salmon returns was because of ocean productivity and ocean conditions.

Given the importance of the salmon, the growing consequences of climate change, and the concerning trends that we have seen in Southeast in recent years, we urge the Board of Fisheries to continue supporting conservative management of salmon species and to support equitable and sustainable access to salmon for cultural, subsistence, commercial and recreational use within the region.

In particular, we support Proposal #80, which allows for discussion of how to most appropriately assign harvest ceiling overages in consideration of the fishery or fisheries that exceeded annual allocation, Proposal #85, which would amend the Southeast Alaska King Salmon Management Plan to expand the Department's ability to manage for a resident priority in the instance that the king salmon sport allocation is going to be exceeded, and Proposal #86, which would amend the Southeast Alaska King Salmon Management Plan to expand the Department's ability to manage for a resident priority in the instance that the king salmon sport allocation is going to be exceeded, and Proposal #86, which would amend the Southeast Alaska King Salmon Management Plan to manage for a resident priority by providing avenues to adjust nonresident seasons and bag limits to avoid closures for residents. These proposals were all supported by the Sitka ADFG Advisory Committee, and each attempts to provide more tools to achieve balanced and thoughtful management of salmon. Proposals 85 and 86 offer tools to protect resident sport fishing access, the sport fishery being very important for Southeast households to meet their subsistence needs.

HERRING

The herring are a keystone species; a critical part of the ecosystem, sustaining the diverse forms of life, from salmon to whales to birds, that make the Tongass and its surrounding waters globally remarkable and that support our regional economy. Sustainably harvested herring eggs have been a staple food for the Lingít people since time immemorial, feeding people all up and down the coast and into the interior. The herring are invaluable and irreplaceable to the Lingít culture.

Sitka is home to the only remaining commercial sac-roe herring fishery in Southeast Alaska, following the collapse or closure of several other fisheries in the region in recent decades. There is still uncertainty on the cause of some of these collapses, and none of those fisheries have recovered; a devastating outcome, especially given the broader context of a global decline in herring. When a species

population shrinks, it is reasonable to expect that it may become more vulnerable, due to possible losses in protecti diversity, geographic diversity, age structures, etc. and increased harvest pressure on the remaining fish.



The economic sustainability of the current sac-roe fishery concerns us, given the high percentage of biomass by wei the targeted product, the roe, and that is used for non-human consumption. Similar to how the remaining old growth trees on the Tongass generally have the most value when left standing to support the broader ecosystem and connected social and economic activities, we believe that the remaining herring are most impactful for our communities when they are left in the water versus being processed into fish meal.

Climate change, as previously spoken to, is a growing concern that increases uncertainty in all fisheries management, including herring management.

In short, the Sitka Sound herring population, as a last stronghold for herring eggs in the region, is under enormous pressure to continue meeting social, ecological and economic needs for Sitka and communities across Alaska. The stakes for management decisions for this species are very high, and there is not a clear path for recovery if missteps are made.

It is for these reasons that the Sitka Conservation Society supports conservation of the herring. We ask the Board of Fisheries to do everything in their power to ensure the health and abundance of the herring population for future generations.

Given the specific proposals available to comment on this meeting cycle, Sitka Conservation Society supports proposals 156, 157 and 158 submitted by the Sitka Tribe of Alaska, which intend to make stock management more conservative and to provide new protections for older fish. If the Board of Fisheries has alternative or additional conservative measures they would be interested in applying, we would be happy to hear this discussion.

We oppose proposals 159, 160 and 161 which are unnecessary and would hurt access or create more barriers to the subsistence harvest of eggs on branches, a sustainable practice that has been practiced for thousands of years. We also oppose proposals 164 and 165, which based on our reading, risk increasing the commercial pressure on the herring.

CLIMATE CHANGE

We ask the Board of Fisheries to take proactive steps to account for climate change in all fisheries management decisions made by the Alaska Department of Fish and Game.

ADFG RESOURCES

Lastly, we would request that the BOF make specific recommendations and requests to the State of Alaska legislature and governor's office to ensure that the department has the necessary resources to manage and invest in our fish and game resources in the State. A number of Advisory Committees across the state have made specific requests for resources--- including the Sitka AC, which is sending a letter to the governor and Sitka's representatives requesting funding for Southeast region herring management to do a major survey to acquire a current population estimate of unfished biomass of herring (not updated since 1998) and a revaluation of the whole overall "Herring harvest strategy" among other needs, and another requesting support for improved Brown Bear management on Baranof Island. In each of these Sitka cases, resource managers are using outdated data, are making decisions with a clear lack of data, and are lacking the capacity to do the work that is needed to effectively manage these important resources.

Thank you for your public service and for your consideration of these comments.

Submitted By Gerry Hope Submitted On 12/22/2021 8:03:38 PM Affiliation Sitka T&H Community Council



Email

9077383377

ghopeone@gmail.com

Address

Phone

Comment on Herring Proposals Sitka, Alaska 99835

Sitka Tlingit & Haida Community Council

(mailing address here)

Sitka, Alaska 99835

December 22, 2021

Alaska Board of Fisheries

Board Support

P.O. Box 115526

Juneau, Alaska 99811-5526

RE: Comment for Board of Fisheries meeting scheduled in Ketchikan, AK on January 4 - 15, 2022

Dear Members of the Board,

The Sitka Tlingit & Haida Community Council (T&H Community Council) strongly supports Proposal 156.

In support of Proposal 156, this proposal is an effort to ensure a reasonable opportunity for subsistence harvesters, while also works to ensure sustainability for the vital resource for the future.

However, Sitka T&H Community Council strongly opposes Proposals 159, 160, 161 and 165.

In opposition to Proposals 159 and 160, 159 would repeal 5 AAC 27.195. 5 AAC 27.195 was adopted in order to distribute the commercial fishery by time and area in the Sitka Sound , and to consider the quantity and quality of herring spawn on branches when making management decisions that impact both the commercial fishery and subsistence harvesters. 5 AAC 27.195 is critically important and must not be repealed. Proposal 160 would repeal part of the closed areas to commercial fisheries, which would eliminate 6.1 square miles of protected area which would take away a very important area that provides a reasonable opportunity for subsistence harvesters for traditional use of herring eggs. In opposition to Proposal 161, which would require subsistence harvesters to get permits – this is offensive and simply not necessary. In opposition to Proposal 165, which would allow the unharvested sac roe quota to be harvested to a food and bait fishery, furthering the negative impact to both and herring subsistence harvesters to have a reasonable opportunity, and to the herring as a sustainable resource.

The Sitka T&H Community Council implores you to Support Proposal 156, and Oppose Proposals 159, 160, 161 and 165.

If you have any questions please feel free to contact me via email; pata6088@gmail.com

We wish you a safe and Happy Holidays, thank you for taking public comment.



Gerry Hope, Vice President

Sitka T&H Community Council



December 22, 2021

Alaska Board of Fisheries Board Support P.O. Box 115526 Juneau, AK 99811-5526

Members of the Board of Fisheries:

The Sitka Tribe of Alaska (STA) is a federally recognized tribal government for over 4,000 tribal citizens located in Sitka, Alaska. STA is responsible for preserving the health, welfare, safety, and culture of its citizens. STA submits the following comments on proposals for the Board's 2022 Southeast/Yakutat Finfish and Shellfish meeting.

EXECUTIVE SUMMARY

- STA strongly SUPPORTS Proposal 156
- STA strongly OPPOSES Proposals 159, 160, 161, and 165

STA strongly supports Proposal 156, which would make the Sitka Sound herring harvest control rule more conservative to address unmet subsistence needs and scientific uncertainties in the Alaska Department of Fish & Game's (ADF&G) biological modeling. Proposal 156 would reduce the commercial sac roe fishery harvest rate in years when the forecasted spawning biomass is less than 120,000 tons. Under the current harvest control rule, the commercial fishery is allowed to harvest up to 20% of the forecasted biomass when the returning biomass exceeds 45,000 tons, or 1.8 times the harvest threshold—a uniquely aggressive management approach in Southeast Alaska. Proposal 156 would implement a modest change, resulting in a slight reduction in the commercial harvest rate when the biomass is less than 120,000 tons, which occurs in most

^{• 204} Siginaka Way, Suite A • Sitka, Alaska 99835 • Phone: (907) 747- 3207 • Fax: (907) 747- 4915 •



years. But there would be no change to the harvest rate in years when the biomass exceeds 120,000 tons, such as in 2020 and 2021.

Proposal 156 is necessary to ensure a reasonable opportunity for subsistence harvesters. The Board considers the harvest control rule to be an important way of meeting its legal obligation to ensure a reasonable opportunity for subsistence. The existing regulations do not meet that standard. The low range of the amount necessary for subsistence ("ANS") has been met only once in the last 10 years and only 7 times in the last 20 years (2002, 2003, 2004, 2009, 2010, and 2014). Particularly in years when the biomass is less than 120,000 tons, subsistence harvesters have been unable to meet their needs due to the disruption to spawning and aggressive harvest by the commercial fishery. A more conservative harvest control rule is necessary to ensure that subsistence harvesters have a reasonable opportunity to meet their needs.

STA also strongly opposes Proposals 159 and 160. Proposal 159 would repeal 5 AAC 27.195—a regulation adopted by the Board in 2002 based on a compromise among STA, ADF&G, and the commercial fishing industry. There is no conceivable justification for repealing this important regulation. The Board adopted 5 AAC 27.195 to ensure a reasonable opportunity for subsistence by requiring ADF&G to distribute the commercial fishery by time and area throughout Sitka Sound, and to consider the quality and quantity of herring spawn on branches when making management decisions regarding the commercial and subsistence fisheries. STA defended that regulation in court, and the superior court agreed with STA that ADF&G had unlawfully interpreted and implemented 5 AAC 27.195 prior to the 2021 season.

Similarly, Proposal 160 would unjustifiably repeal part of the "closed areas" in Sitka Sound that the Board created to ensure a reasonable opportunity for subsistence. Proposal 160 would eliminate the additional 6.1 square miles of closed areas that the Board adopted in 2018 to provide additional protections for subsistence harvests in critical locations near Sitka. The area in question is home to some of the most important and productive subsistence harvest sites, according to data from ADF&G. There is no conceivable justification for repealing this important protection for subsistence harvesters.



STA strongly opposes Proposal 161, which would require permits for the subsistence harvest of herring spawn on branches. Permits are an unnecessary and culturally inappropriate barrier to subsistence harvests. Currently, ADF&G conducts annual subsistence harvest surveys in conjunction with STA. ADF&G has stated that the ongoing surveys provide accurate, reliable information regarding the harvest, including important qualitative information about the quality of the harvest. If the Board adopted the permit requirement in Proposal 161, ADF&G would receive less data and information than it does currently. The permit requirement would also likely to lead to decreased participation from traditional harvesters who are take pride in the self-regulated customs and traditions of the herring spawn fishery.

Finally, STA strongly opposes Proposal 165, which would allow unharvested sac roe quota to be harvested in a food and bait fishery. There is no need to start another consumptive herring fishery when subsistence harvesters are unable to meet their needs.

INTRODUCTION

Herring (*yaaw*) are a culturally and ecologically important fish in Southeast Alaska. Herring have been an integral part of Alaska Native culture in Southeast Alaska for thousands of years (Thornton et al. 2010; Moss et al. 2016; Thornton and Moss 2021). Herring eggs are a celebrated traditional food; they are often shared as gifts across Alaska and eaten at gatherings such as potlatches (Schroeder and Kookesh 1990; Thornton 2019).

Sitka Sound is the last herring population in Alaska that consistently provides a subsistence herring egg harvest and is the primary source of all subsistence herring eggs eaten in Alaska. Other Southeast Alaskan herring populations have been mismanaged and/or overfished to the point where they are severely depressed or extirpated and are unable to provide a reliable subsistence harvest (Thornton et al. 2010). Thus, Sitka Sound is the primary location in Alaska where subsistence users can gather herring roe. The subsistence harvest of Sitka herring eggs must be protected to prevent the loss of a vital part of Alaska Native culture.



Herring are also the lynchpin of Southeast Alaska's marine ecosystem, transferring energy to other culturally, ecologically, and economically important species. Herring constitute 60% of the biomass of a king salmon's diet (Fresh et al. 1981). Herring are also important prey for Coho salmon and halibut, accounting 58% and 53% of their diets, respectively (Environment Canada 1998). STA's positions on Board proposals are rooted in preserving Native culture and marine ecosystems, which are critical to both subsistence users and commercial fishermen.

The Board must address the fact that subsistence harvesters' needs are not being met. According to ADF&G's data, the low range of ANS has only been met once in the last 10 years (Sill and Lemon 2020). Traditional ecological knowledge describes a large contraction in herring spawn, including the acreage and duration of herring spawn, over the last several decades (Gmelch and Gmelch 1985; Thornton et al. 2010). Spawning events are shorter, less predictable, and rarely last the three consecutive days of spawn in suitable habitat elders say is necessary for good quality spawn (Thornton et al. 2010).

STA urges the Board to listen to traditional knowledge holders and protect Sitka Sound herring. As a general rule, the Board should apply the Precautionary Principle to all of its decisions. The Precautionary Principle directs that when there are doubts or uncertainties about management approaches, the Board should err on the side of conservation and caution. Restrictions on the commercial fishery can be loosened in the future as more information resolves current uncertainties. But the harms caused by overfishing and mismanagement may take generations to undo.

STA COMMENTS ON HERRING PROPOSALS

Proposal 156: Modify the harvest control rule for pre-season forecasts less than 120,000 tons.

STA strongly supports Proposal 156, which would modify Sitka herring management to slightly lower the commercial harvest rate in seasons when the forecasted biomass is less than 120,000 tons. Proposal 156 would improve subsistence harvesters' opportunity to harvest the amount of herring spawn necessary for subsistence uses each year. Proposal 156 would be a more



conservative approach than the current harvest control rule ("HCR"), which is important because ADF&G has acknowledged that there are significant scientific uncertainties in the current biological models that it uses to forecast the returning spawning biomass and the threshold amount, which is the minimum returning biomass required to open the commercial fishery.

Proposal 156 would amend the current harvest control rule provided in 5 AAC 27.160(g). The current harvest control rule authorizes a commercial fishery when the forecasted herring biomass exceeds the threshold of 25,000 tons. The commercial harvest rate is adjusted according to sliding scale between 12 and 20% based on the forecasted biomass. Under the current formula, when the forecasted biomass exceeds 45,000 tons, the commercial fishery is allowed to harvest at the maximum rate of 20%. 5 AAC 27.160(g) provides:

$Percent \, Harvest \, Rate = 2 + 8 * \left[\frac{Forecast \, Spawning \, Population \, Size}{20,000}\right]$

Proposal 156 would decrease the commercial harvest rate to require the forecasted biomass to exceed 120,000 tons before the maximum rate of 20% is reached. The low end of the sliding scale harvest rate would be decreased from 12% to 10.5%, but the threshold would remain the same (25,000 tons). The new formula under Proposal 156 would provide:

$Percent \ Harvest \ Rate = 8 + 2 * [\frac{Forecast \ Spawning \ Population \ Size}{20,000}]$

Proposal 156 is a compromise between the current, aggressive Sitka Sound harvest rule and the more conservative harvest control rule that applies to the rest of southeast Alaska (the "SEAK HCR"). (Dupuis, 2021 at 4). For comparison, if the SEAK HCR were applied in Sitka, the maximum rate of 20% would not be reached until the forecasted biomass exceeds 150,000 tons. Figure 1, *below*, demonstrates the allowable harvest rates based on forecasted biomasses under Proposal 156 compared to the existing Sitka HCR and the SEAK HCR.



Figure 1. Guideline harvest rates under Proposal 156, the existing Sitka HCR, and SEAK HCR.

• Proposal 156 Is Necessary to Ensure a Reasonable Opportunity for Subsistence Users and Address Subsistence Harvesters' Unmet Needs.

The Board has always considered the harvest control rule to be an important way of ensuring a reasonable opportunity for subsistence. In 1998, the Board adopted the first version of the Sitka harvest control rule, which established the sliding scale harvest rate with a threshold of 20,000 tons—the amount biologically required to sustain the population. The Board specifically increased the threshold to 20,000 tons—above ADF&G's recommended amount of 16,800 tons—to ensure a reasonable opportunity for subsistence harvesters. According to ADF&G, "[s]etting the threshold in regulation at levels beyond those recommended by the department was done by the Board of Fisheries for allocative reasons in order to provide a greater assurance that subsistence needs would always be met." Exhibit 1 (February 27, 1997 Letter from ADF&G to STA).

In 2009, the Board again modified the harvest control rule primarily to ensure a reasonable opportunity for subsistence. The Board increased the allowable commercial harvest rate range from 10-20% to 12-20% and increased the

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threshold from 20,000 to 25,000 tons, specifically to ensure a sufficient amount of herring would be available for subsistence. The Board raised the threshold despite ADF&G's assurances that the 20,000-ton threshold was already "conservative and appropriate for long-term productivity." Exhibit 2 (2009 ADF&G Staff Comments on Proposal 203). According to ADF&G, the "Board has established a more conservative threshold than recommended by biological analysis to provide reasonable opportunity for subsistence on Sitka Sound herring." Exhibit 3 (2012 ADF&G Staff Comments on Proposal 232).

Thus, the Board has a history of modifying the commercial harvest control rule solely to protect subsistence harvests. Proposal 156 is consistent with the Board's approach to ensuring a reasonable opportunity for subsistence by adopting incrementally more conservative commercial harvest strategies.

Currently, Sitka herring subsistence harvesters' needs are going unmet, and the Board's existing regulations do not provide a reasonable opportunity for subsistence uses. A "reasonable opportunity" means "an opportunity, as determined by the appropriate board, that allows a subsistence user to participate in a subsistence hunt or fishery that provides a normally diligent participant with a reasonable expectation of success of taking fish or game." AS 16.05.258(f).

The Board should consider all the available evidence when deciding whether the current regulations provide a reasonable opportunity for subsistence uses. Importantly, the ANS provides a key indicator of reasonable opportunity. The Department of Law ("DOL") has advised the Board that "consistent failure to harvest within the range identified as the amount necessary for subsistence may indicate a need to revisit" the current regulations to provide additional opportunity for subsistence. Exhibit 4 (February 17, 2009 DOL Memo).

In 2009, the Board set the ANS range at 136,000 to 227,000 pounds, revising the Board's 1989 ANS range of 105,000 to 158,000 pounds. "This finding was based on the best available harvest data, including results from a 1996 household harvest survey and a 1989 harvest estimate range (Schroeder and Kookesh 1990)." (Sill & Cunningham 2021). There is no evidence that the Board's ANS findings should be revisited or that there has been a decrease in the amount necessary for subsistence. Reliance on Sitka herring from throughout the region has only increased because other southeast Alaska herring stocks have collapsed since the Board determined



the Sitka ANS. The ANS remains the best indicator of whether subsistence harvesters are meeting their needs for herring spawn. (Sill & Cunningham 2021).

Subsistence harvests have consistently failed to meet the range identified as the ANS for Sitka Sound herring for the past 10 years. ADF&G acknowledges that the low range of ANS "has been achieved only once since 2010." (Sill & Cunningham 2021). The low range of the ANS has been met only seven times in the last 20 years.

Although ADF&G's staff comments point out that there are other factors that contribute to subsistence harvest success, the consistent failure to meet even the low range of the ANS over the last 20 years—despite varying environmental and biological conditions—suggests that subsistence harvesters' unmet needs must be addressed through amended regulations.

It is simply not true that subsistence harvesters' consistent failure to meet the ANS is due to lack of effort. Data collected by ADF&G's Subsistence Division and STA through annual subsistence harvest surveys indicate that subsistence catch-per-unit-effort ("CPUE") has been declining. Exhibit 5 (Affidavit of Dr. Greg Ruggerone). CPUE is a widely recognized metric for determining the effort required to successfully harvest (efficiency). Because the CPUE for subsistence harvesters is declining, there is expected to be a corresponding decline in participation, which is indicative of a lack of accessible, high-quality herring spawn, and not a lack of effort. Efficiency plays a strong role in patterns of subsistence harvest (Wolfe 2004) and participants drop from the herring egg fishery as efficiency declines. Thus, especially in years when the quality of herring eggs is poor, smaller, less efficient harvesters will simply not attempt to harvest.

In the past, Board members have relied on the subsistence harvest "success rates" to determine reasonable opportunity. But the reported success rates are misleading because they do not account for the quality and quantity of herring spawn actually harvested. For example, ADF&G's data would indicate that a subsistence harvester who collected 1 pound of poor-quality herring eggs achieved a "successful" harvest. That metric simply does not account for the quantity and quality of the harvest, which this Board has consistently recognized as an important consideration in providing a reasonable opportunity for subsistence uses.



The evidence is overwhelming that current regulations do not provide a reasonable opportunity for subsistence: the ANS has consistently not been met; CPUE is declining, leading to a corresponding decline in participation; and subsistence harvesters have consistently reported declines in the quality of herring eggs collected.

Thus, to meet its statutory obligation to ensure that the *priority* use of Sitka herring is for subsistence, the Board should amend the harvest control rule as described in Proposal 156. The Board should reduce the commercial harvest rates on herring when the forecasted biomass is less than 120,000 tons to provide increased opportunity for subsistence harvesters.

The scientific literature supports adopting Proposal 156 as a measure to provide additional subsistence opportunity. The National Marine Fisheries Service (NMFS) has determined that commercial sac roe fisheries adversely affect herring population dynamics and subsistence herring egg harvests. (Shelton et al. 2014). And a different study found that reducing the harvest rate on herring to 10% led to reduced risk, increased subsistence harvest, increased herring biomass, improved age structure, greater commercial harvest stability, and more frequent commercial openings. (Okamoto et al. 2020).

Although a large herring biomass alone is not sufficient to ensure a reasonable opportunity for subsistence uses and large biomasses are not correlated with subsistence success, (Sill and Lemons 2020) decreasing commercial harvest rates especially in years with low biomass forecasts will likely ensure that more herring are able to spawn and provide eggs for subsistence harvesters. The reduced harvest rate will reduce stress and mortality on spawning herring, leading to more abundant and higher quality spawn and a greater likelihood of ensuring a reasonable opportunity for subsistence uses.

• Proposal 156 Is Necessary to Address Scientific Uncertainties in ADF&G's Biological Modeling and Forecasts.

ADF&G represents that it provides the Board with the "best scientific information." However, there are important scientific considerations that ADF&G does not discuss in its staff comments or reports to the Board. There are



uncertainties in ADF&G's biological modeling and annual biomass forecasts that affect the amount of herring available for subsistence uses.

First, ADF&G's annual herring biomass forecasts have high degrees of uncertainty that have not been previously disclosed to the Board. The annual biomass forecast is a critical calculation because it determines the guideline harvest level ("GHL")—the amount of herring the commercial fishery is authorized to harvest. Unreported uncertainties in ADF&G's annual forecasts are cause for alarm, indicating that the current harvest control rule as provided in regulation is not conservative enough.

For example, in 2021, ADF&G deviated from the regulatory formula that the Board established for calculating the GHL. Under the regulatory formula, the GHL would have been 42,091 tons. Exhibit 6 (2021 Herring Forecast for Sitka). But ADF&G applied an arbitrary 21% reduction to the GHL, reducing the final 2021 GHL to 33,304 tons. Exhibit 7 (January 11, 2021 Sitka Sound Herring Fishery Announcement).

According to ADF&G, the deviation from the statutory formula was necessary because there was too much uncertainty in the forecast model. "The uncertainty in the estimated abundance, survival, and increased maturity of the 2020 age-4 cohort is justification for taking conservative management action, if chosen by management." Exhibit 6 at 6. In other words, ADF&G's forecast model does not achieve the level of confidence that ADF&G's own scientists believe is necessary for management. ADF&G is forced to reduce the GHL to account for that uncertainty. But ADF&G's determinations to reduce the GHL and decisionmaking takes place behind closed doors. The public is not given the opportunity to comment or participate in the process until a final decision has already been made.

ADF&G took similar measures to arbitrarily reduce the GHL in 2020. Under the regulatory formula, the 2020 GHL would have been 42,466 tons. But ADF&G reduced the formula's results by 39% resulting in a final 2020 GHL of 25,824 tons (still a record high). According to ADF&G, the uncertainty in the forecast model was necessary due to the high number of age-4 fish. ADF&G concluded: "until additional data can be collected in future years to improve estimation of the 2016



year class, the survival and overall magnitude of this year class remains highly uncertain." Exhibit 8 at p. 2 (2020 Herring Forecast for Sitka).

ADF&G's forecast model is clearly not working and ADF&G has not acknowledged publicly that it already has the information necessary to improve the forecast model. In 2016, ADF&G received a final report from an independent consultant, Dr. Steve Martell. Exhibit 9. The Martell Report provided recommendations for updating ADF&G's forecasting model, including equations and computer codes specifically designed to address and improve the certainty in the annual herring forecasts. Although ADF&G has had the ability to implement the Martell Report's recommendations and improve the forecasting model for over five years now, it has not done so.¹

If ADF&G believes that it is necessary to deviate from the established regulation in order to achieve conservative herring management, then the Board must revisit the current regulation to address the underlying issue and provide a more conservative harvest control rule.

Second, there is an urgent need to adopt a more conservative commercial harvest control rule because ADF&G has failed to update the calculation of average unfished biomass ("AUB") for Sitka herring. The AUB is a measure of the "pristine" biomass, which ADF&G relies on to manage the fishery for sustained yield. ADF&G's estimate of the AUB is 67,036 tons; however, ADF&G has not updated that estimate with new data since 1997. (Carlile, 1998). Data collected by ADF&G over the last 20 years and traditional ecological knowledge suggest that the AUB should be significantly higher than the current amount, which would have important implications for the commercial and subsistence fisheries.

¹ On November 27, 2020, Sealaska submitted to ADF&G a report authored by Dr. Merrill Rudd entitled "Considering stock assessment uncertainty for the 2021 Sitka herring fishery guideline harvest limit." Exhibit 10. Dr. Rudd pointed out that if ADF&G adopted the recommendations in the Martell Report, "the forecast may be taken at facevalue and interpreted by managers without the need for ADF&G to take precautionary measures when setting the GHL." Dr. Rudd further explained that "there are many additional uncertainties associated with the ASA model and forecast that would be improved when Dr. Martell's proposed changes are implemented."



Traditional ecological knowledge of Sitka herring clearly describes a relatively recent and large decline in the abundance and spatiotemporal distribution of herring spawn in Sitka Sound. (Gmelch and Gmelch 1985; Schroeder and Kookesh 1990; Thornton et al. 2020). Spawn that once filled every beach and bay for weeks at a time and piled eggs "two feet high" (Schroeder and Kookesh 1990) no longer occurs in Sitka Sound. Herring no longer spawn in predictable, traditional locations, and spawning patterns have changed dramatically.

Although undoubtedly the recent herring returns have been high, there is still a need to adopt a more conservative management approach because ADF&G has acknowledged that the high spawning biomasses in 2020 and 2021 were unexpected under ADF&G's current scientific paradigm. In 2019, ADF&G's chief herring scientist, Dr. Sherri Dressel, testified that a returning herring biomass that is double the AUB was "unlikely to ever happen." It has happened in both of the last two seasons (2020 and 2021).

There is a significant risk that allowing ADF&G to continue managing the Sitka herring fishery under its current, faulty assumptions will perpetuate artificially low returning herring biomasses. Shifting baseline syndrome occurs when populations are managed at levels below their natural (pristine) abundance. (Pauly 1995). If ADF&G continues to manage the Sitka herring population for a pristine abundance at 67,036 tons, despite evidence that the actual pristine abundance is much higher, then it is likely that overharvests during years with low biomasses will prove catastrophic for the entire population and ecosystem.

Although the current high biomass may suggest that additional conservation measures are unnecessary, it is important to understand the context for what is considered a "high" biomass. ADF&G has shifted the goalposts before. In the 1980s, ADF&G claimed that Sitka herring biomasses of approximately 30,000 tons were healthy and on the high end. Similar erroneous claims were made regarding other Southeast Alaska herring populations, which are notably no longer productive for commercial or subsistence harvesters. Thus, importantly, there is no certainty that Sitka herring abundance will continue at its current levels into the future.



The Board should adopt Proposal 156 as an additional conservation measure until ADF&G updates the AUB. The original analysis conducted by Carlile (1998) acknowledged the AUB calculation was not robust and would need to be updated as new data became available. ADF&G has inexplicably refused to update the AUB with new information that it already collects.

<u>Proposal 157:</u> Limit the commercial harvest rate of old herring to 20%.

STA supports Proposal 157, which would limit the harvest rate of older herring to 20%. The Sitka commercial sac roe fishery consistently targets the oldest, largest, most fecund fish in the population. Harvest and spawning biomass data provided by ADF&G to STA demonstrate that the average harvest rate on older herring (age 5+) is twice the average harvest rate on young herring (age 3 and age 4) in recent years. Regulations currently allow the harvest rate on specific age components of Sitka Sound herring to exceed 20% (i.e., high-grading) as long as the overall harvest rate is 20% or less. Theoretically, under current regulations, the entire guideline harvest level (GHL), or even 100% of the older population, could be taken with the largest most fecund herring leaving few large fish to spawn, if the fishery was more efficient when selectively harvesting large herring.

Proposals 157 and 158 aim to protect the oldest fish in the population, which are the most important fish in the population. Traditional Ecological Knowledge (TEK) and theoretical models indicate that older fish lead younger, relatively inexperienced fish to appropriate spawning grounds (MacCall et al. 2018). Currently, all sites within the Sitka Sound sac roe management area are assumed to be equally productive; this is unlikely to be true. Modeling studies found that in the absence of localized spatially-explicit recruitment and productivity data, managers should assume behavior follows the Go With Older Fish model and reduce harvest rates to reduce the risk of losing spawning habitat (Voss et al. 2018).

Repeatedly harvesting more than 20% of the oldest, most fecund fish will have compounding effects on the age structure and productivity of the population. Old, large fish have a higher fecundity and larger, more well-provisioned eggs that are more likely to survive; older fish contribute disproportionately to future generations (Hixon et al. 2014; Barneche et al. 2018). A population of older, larger fish will have much greater reproductive success than an equivalent biomass of younger, smaller fish (Venturelli et al. 2009). Size-selective fishing, such as in Sitka


Sound, can lead to reduced size and a truncated age structure (Barnett et al. 2017). Truncated age and size structure increases variability in recruitment and reduces resiliency in the face of other stressors, including climate change (NFMS 2014). Climate change and ocean acidification have been documented to have negative impacts on Atlantic herring (Frommel et al. 2014). NMFS (2014) summed up the importance of older herring in their status review of Southeast Alaska herring:

"In many fish species as well as Pacific herring, older spawning females tend to produce larger eggs and subsequently larger larvae than do younger, smaller adults (Hay 1985; Chambers and Leggett 1996). In British Columbia, fecundity was found to be almost directly proportional to body weight with a larger female producing up to 180% more than a recruit spawner and the maximum reproductive value occurring between the ages of 9 and 10 (Ware 1985). These older fish may play a pivotal role in replenishing stocks, with larvae from older fish surviving starvation longer and growing faster on the same diet which is then reflected in subsequent recruitment (Berkeley et al. 2004). The percentage of dead and abnormal spawners in the progeny of probable first time spawners (4 -5 year old parent fish) has been found to be higher than the offspring of 6 - 9 year old fish (Ojaveer 2006). *Populations composed of small and younger individuals will therefore have* reduced reproductive potential (Scott et al. 1999) and potentially increased variance in offspring survival (Hutchings and Myers 1993). Furthermore, a stock with a higher proportion of older and larger fish should produce more eggs providing a higher probability of recruitment success (Schweigert et al. 2007). A clupeoid collapse can be due to heavy fishing mortality which reduces the mean age of the population and forces the very young fish to sustain the reproductive load with a decreased age at first reproduction (Ware 1985). [references provided in NMFS 2014].

Consistently harvesting the oldest, largest, and most fecund fish from a population is a strategy that maximizes short-term economic interests and sacrifices the long-term biological health of the population and ecological wellbeing of the marine system. There was no sac roe fishery in 2019 or 2020 because there were not enough of the largest, oldest fish in the population to meet market demands.



Proposal 157 seeks to address the current selectivity and high-grading of older fish in the Sitka Sound sac roe fishery. Proposal 157's goal is to limit the harvest rate on older herring (age 5+) to 20% or less to help maintain future production. This goal is consistent with the current regulatory strategy to limit the overall harvest rate on herring to 20% or less. However, the current goal does not consider the selectivity of the fishery on older herring, in which the current harvest rate is twice that on younger herring according to ADF&G data. In order to limit the harvest rate on older herring to 20% or less, the overall guideline harvest level must be reduced to account for selectivity for older herring in the commercial fishery. This proposal does not seek to create two separate GHLs to be managed by ADF&G, but to introduce a correction factor for selectivity in order to limit the potential for overexploitation of the oldest, most important fish in the population.

STA recognizes that ADF&G managers would be required to sample the herring fishery immediately prior to the first opening and determine whether the age composition (and biomass) differs from the preseason forecast. Importantly, the recommended formulae are more conservative (protective) of the herring population than the status quo harvest control rule. In-season refinement of age composition could be used to make the fishery more protective if the percentage of old fish were to decrease from the preseason forecast. In-season adjustments could also be used to increase harvests up to the maximum 20% harvest rate if the percentage of old fish were to increase from the preseason forecast.

<u>Proposal 158:</u> Close the commercial sac roe fishery when the proportion of old fish is very low.

STA supports Proposal 158, which would protect older fish by closing the fishery when there are relatively few older fish in the population. Closing the fishery when there are insufficient older fish will prevent the population from suffering from undue harvest pressure and allow older fish to fulfill their important ecological role. Older fish help ensure more herring spawn in optimal locations and that more larval herring survive and are recruited to the spawning population.

Currently, ADF&G does not adequately consider spatiotemporal distribution of spawn when managing the commercial fishery. ADF&G considers the total number of older fish and not the proportion of older fish. However,



traditional knowledge holds that both the abundance and proportion of older fish are important. In some recent years, few herring have spawned in the "Core Area" and the herring population included relatively few older herring, with 2019 being a prime example. The biomass was high by contemporary standards (130,000 tons) with a relatively large biomass of older fish. However, young fish made up 89% of the population in 2019 and there was effectively no spawn in the Core Area, resulting in one of the worst subsistence harvests of Sitka Sound herring ever, despite a large biomass (Sill and Lemons 2021). The results of 2019 and other years support the Go With Older Fish theory, rooted in traditional knowledge and independently verified by the most up-to-date fisheries science (MacCall et al. 2018).

<u>Proposal 159:</u> Repeal 5 AAC 27.195.



STA strongly opposes Proposal 159, which would repeal 5 AAC 27.195. If the Board repeals 5 AAC 27.195, the remaining regulations would not meet the



Board's statutory obligation to ensure a reasonable opportunity for subsistence uses of herring spawn in Sitka Sound.

5 AAC 27.195 resulted from a compromise among ADF&G, STA, and the commercial fishing industry. In 2001, STA requested the Board adopt new regulations requiring ADF&G to disperse the commercial fishery throughout Sitka Sound to minimize the impacts to subsistence harvesters. Exhibit 11 (Memo from Jude Pate to Board). ADF&G and the commercial industry initially opposed the dispersal plan, but the Board negotiated a compromise. The resulting regulation, 5 AAC 27.195, delegates authority to ADF&G's in-season manager to ensure a reasonable opportunity for subsistence by distributing the commercial fishery by "time and area" throughout Sitka Sound. The Board specifically required ADF&G to consider the "quality and quantity" of herring spawn available to subsistence harvesters when making management decisions regarding the commercial fishery.

This important regulation was the subject of STA's recent lawsuit against ADF&G. After the catastrophic 2018 season, which was among the worst subsistence harvests ever, STA requested that ADF&G consider using its management authority to delay the commercial fishery until after the first spawn and moving the commercial fishery further away from important subsistence areas. ADF&G not only refused to consider STA's suggestions, but it also disclaimed any authority to take the management actions STA requested. ADF&G erroneously explained that it did not have the authority to delay the commercial fishery solely to provide a reasonable opportunity for subsistence. And ADF&G falsely believed that it could not distribute the commercial fishery away from important subsistence harvest areas because the Board's closed area regulations "mostly" addressed subsistence harvesters' concerns. ADF&G made it clear that it was not implementing 5 AAC 27.195 as the Board intended.

STA's lawsuit sought to enforce the Board's regulation and dispel ADF&G's erroneous interpretation and implementation of 5 AAC 27.195. Ultimately, STA prevailed on two summary judgment decisions issued by Superior Court Judge Daniel Schally. ADF&G decided not to appeal the decisions.

On March 31, 2020, the court issued its decision on the first part of the regulation, 5 AAC 27.195(a)(2), agreeing with STA. Exhibit 12. The court explicitly rejected ADF&G's interpretation of the regulation, calling it a "hodgepodge" and



ADF&G's arguments for not implementing the regulation "arbitrary and capricious." The court made it clear that ADF&G has authority and the duty to ensure a reasonable opportunity for subsistence.

"ADF&G is required to (1) determine whether subsistence users have a reasonable opportunity to harvest the amount of herring spawn necessary for subsistence uses in Sitka Sound as a whole, which is 136,000-227,000 pounds; and (2) if ADF&G determines that a reasonable opportunity does not exist, distribute the commercial harvest by fishing time and area to the extent and in a way necessary to ensure a reasonable opportunity does exist in Sitka Sound as a whole. ADFG must make these determinations before permitting a commercial harvest in the Sitka Sound."

Importantly, the court recognized that the authority vested in ADF&G to ensure a reasonable opportunity for subsistence is critical. "5 AAC 27.195(a) determinations are important; they have the potential of directly altering the allocation of the fishery between the subsistence and commercial harvests." (emphasis added).

Then on November 27, 2020, the court issued its second decision, agreeing with STA's interpretation of 5 AAC 27.195(b). Exhibit 13. The court agreed with STA that section 195(b) requires ADF&G to consider the "quality and quantity" of herring spawn on branches, kelp, and seaweed. The court rejected ADF&G's and the Southeast Herring Conservation Alliance's arguments that section 195(b) was unenforceable. The court concluded that there was doubt that ADF&G had failed to consider the quality of herring spawn when making management decisions. "There is therefore no genuine dispute of material fact as to whether ADF&G is unlawfully implementing 5 AAC 27.195(b) by failing to consider quality of herring spawn 'on branches, kelp, and seaweed, and herring sac roe' before making required management decisions under 5 AAC 27.195(a)(2)."

Going forward, the court instructed ADF&G to consider the "quality and quantity" of herring spawn available for subsistence uses when making management decisions regarding the commercial fishery. "In other words,



ADF&G must demonstrate in the record that it, and how it, in some meaningful way, considered the quality of herring spawn in making management determinations under 5 AAC 27.195(a)(2)."

After the court decisions and prior to the 2021 season, STA provided ADF&G with a report entitled "Subsistence Management Recommendations and Guidance for Implementing 5 AAC 27.195." Exhibit 14. STA offered recommendations for how ADF&G can make the required determinations as to whether subsistence harvesters have a reasonable opportunity, and guidance for considering the quality and quantity of herring spawn during the season.

ADF&G assured STA that the in-season manager would implement 5 AAC 27.195 during the 2021 season and would better document ADF&G's decision-making. ADF&G also accepted STA's offer to improve communication between ADF&G and STA during the season. Exhibit 15 (Letter from Commissioner Vincent-Lang to STA). Thus, there is no question that ADF&G can implement 5 AAC 27.195 and must continue to do so consistent with the court's orders.

Proposal 159, which would repeal 5 AAC 27.195, lacks any conceivable justification. As the court in *STA v. ADF&*G recognized, ADF&G's in-season determinations are "important" to ensuring a reasonable opportunity for subsistence uses. If the Board repealed 5 AAC 27.195, the Board would be in violation of its statutory obligation to provide a subsistence priority. *See* AS 16.05.258. ADF&G's Division of Subsistence has reported that biomass alone is not strongly correlated with subsistence success (Sill and Lemons 2020, p. 22).

ADF&G's staff comments on Proposal 159 indicate that if the Board repealed 5 AAC 27.195, ADF&G would continue to distribute the commercial fishery by time and area, and continue to consider the quality and quantity of herring spawn on branches, kelp, and seaweed. However, ADF&G fails to cite any other legal authority for taking such management actions. ADF&G's hollow assurances are insufficient. Without the legal obligation imposed by 5 AAC 27.195, subsistence harvesters would have no legal protections ensuring a reasonable opportunity for subsistence.

Thus, STA strongly encourages the Board to reject Proposal 159.



<u>Proposal 160:</u> Repeal 6.1 mi.² of the "Closed Areas" in Sitka Sound.

STA strongly opposes Proposal 160, which would reduce the regulatory closed waters in Sitka Sound by 6.1 square miles. The closed areas were adopted by the Board to protect the core subsistence harvest areas. In 2018, the Board expanded the regulatory closed areas by 6.1 square miles. Proposal 160 would reverse that decision after only one Board regulatory cycle. There is no rationale justification for reducing the regulatory closed areas, which were designed to provide a reasonable opportunity for subsistence uses.

ADF&G herring egg harvester surveys began collecting data on harvest locations in 2006 and have consistently indicated the areas around Middle, Crow, and Kasiana Islands as the most important and productive for subsistence harvesters, especially those without large vessels able to access more distant spawn (Holen et al. 2011; Sill and Lemons 2020). The reliability and sustainability of these areas for quantity and quality of herring spawn is also well documented prior to the advent of the sac roe fishery (Thornton and Kitka 2015).

The closed area represents an infinitesimal fraction of the Sitka Sound Sac Roe Herring Fishery management area and helps to distribute the commercial fishery in space rather than concentrating it in core spawning areas. The closed waters have a negligible impact on the commercial sac roe fishery and a potentially large benefit for subsistence users and for successful herring reproduction. A 58foot seiner can fish anywhere between Point Kakul and Aspid Cape; a 14-foot skiff with a 20HP motor cannot reach many places beyond the current Closed Area. Closing this tiny area reduces the chances for disruption from commercial fishing activities, making it more likely fish will successfully spawn in optimal habitat for both future herring abundance and subsistence users. The closed area was just expanded in 2018, but anomalous spatiotemporal spawning patterns in 2018 and 2019 and the lack of a competitive commercial fishery since 2017 means that the impacts of this area have not even been properly vetted yet. Given that Sitka Sound is the last consistently viable subsistence herring stock in the North Pacific, it is imperative to protect the Core Area.





Figure 2. Map of indigenous herring system, Tlingit herring toponyms, precontact harvest areas, contemporary harvest areas reported in Schroeder and Kookesh (1990), and current closed area (purple hatching). Map from Thornton and Kitka (2015).



<u>Proposal 161:</u> Require subsistence herring egg on branches harvest permits.

STA strongly opposes Proposal 161, which would require individual subsistence harvest permits. Individual subsistence permits are culturally inappropriate for the Sitka herring spawn on branches fishery because it is a traditionally communal fishery. Nearly 90% of the harvest is shared with other households (Langdon 2021). The harvest is shared throughout the entire state of Alaska and beyond (Thornton 2019). The subsistence herring egg fishery is self-regulated by custom and tradition and would be undermined by the imposition of a permit system. The Amount Necessary for Subsistence has been met once in the past ten years (Sill and Cunningham 2021); there is no need for additional barriers that will only prevent people from enjoying a treasured traditional food. Herring eggs are the second-most widely consumed traditional food by Tribal Citizens in Sitka, trailing only salmon (McDowell Group 2017).

Subsistence harvest permits are unwarranted and redundant. Data collected by ADFG's Division of Subsistence and STA are already much more detailed and informative than standard subsistence fishery permit data. The interview format allows for discussion of traditional knowledge and has often shed light on areas for further study, such as data about harvest location or catch-per-unit-effort. Subsistence permit reports are designed to collect data on a small number of parameters associated with the harvest of a resource, while the subsistence survey collects a much larger and wider variety of qualitative and quantitative data at a more refined level. Staff conducting surveys can clarify the meaning or intent of a question for harvesters, eliminating confusion and increasing accuracy. Permit reports will give managers a 10,000-foot view of the fishery, while the depth and detail garnered from the current subsistence survey puts managers "in the boat" with harvesters and provides greater insight into the variables that affect the fishery.



The Board will almost certainly hear testimony that subsistence harvest issues are a result of too few participants in the fishery and "people not trying hard enough". Data collected through the ADF&G and STA surveys allow for development of catch-per-unit effort (CPUE) analyses. This analysis was completed in early 2020, prior to published survey results from 2019 and beyond. Note that COVID-19 certainly depressed participation in 2020 and 2021. The CPUE for all harvester groups has been steadily declining over recent years. Efficiency plays a strong role in patterns of subsistence harvest (Wolfe 2004) and participants drop from the herring egg fishery as efficiency declines.



Figure 3. Catch-per-unit-effort for subsistence harvesters and total subsistence harvest. The Small, High, and Community labels refer to different strata of harvesters based on ADF&G methods to describe typical harvest volume of a given harvester.



Declines in participation are indicative of a lack of accessible high-quality spawn, a failure to manage for reasonable opportunity, and not a lack of effort. The CPUE of the largest harvesters is correlated to participation, lending credence to the idea of subsistence herring eggs as a communal fishery. The largest harvesters, the "super-households", drive the overall harvest (Wolfe et al. 2010). These harvesters spend the most time on the water and survey the greatest area. They report back on conditions to the community at large. When harvest is poor, the smallest, least efficient harvesters will drop out of the fishery.

The main rationale for subsistence permits appears to be that permit data will result in the ADF&G Division of Subsistence producing annual reports more quickly. But the bottleneck in reporting appears to be staff time, and not data collection and reporting. The data collected through the survey is turned over to the Division of Subsistence by the end of June every year. The limited amount of data collected through a permit reporting system would be available to ADF&G in roughly the same timeframe. Although the survey collects a larger volume of data, either method requires staff time to conduct statistical analyses of the data and write the final report that accurately reflect the dynamics of the subsistence fishery. Simply instituting a permit requirement does not address the root of the problem. However, the annual reports would become much less information and much less useful to all parties.

<u>Proposal 162</u>: Increase permit limit for subsistence herring spawn-on-kelp.

STA supports Proposal 162, which would increase the possession limit for subsistence spawn-on-kelp harvest. STA supports any proposal that allows subsistence harvesters to increase their harvest of herring eggs so long as resources are properly managed and protected. There is currently no conservation concern with kelp beds.

<u>Proposal 163:</u> Equal quota shares for the commercial sac roe fishery.

STA does not support Proposal 163 as written. Although STA is generally supportive of "controlled fisheries," STA has significant concerns regarding the effects of an equal quota shares commercial sac roe fishery on subsistence harvesters and the environment. If amendments are offered to address the following concerns (at a minimum) STA could consider supporting the proposal:



- Provide additional details on how the commercial fishery would be prosecuted and managed;
- Adopt regulatory provisions to minimize the commercial fishery's effects on herring, including avoiding disturbance to herring spawning patterns (noise, dispersal, etc.);²
- Adopt regulatory provisions limiting the number of commercial fishing boats that may participate in each opening;
- Adopt regulatory provisions limiting the number and duration of test sets; and
- Adopt regulatory provisions *prohibiting* the release of sets held for longer than 10 minutes.

² Studies have found mortalities greater than 50% in herring held in a net for as little as 10 minutes in crowded conditions. (Tenningen et al. 2012). It should be noted that herring suffered little mortality in non-crowded conditions. Thus, test sets must be set on the smallest number of herring possible and held as loosely as possible. The same study also concluded that stress indicators (e.g., cortisol) increased significantly and glucose levels dropped significantly, indicating herring are near exhaustion and likely vulnerable to predators after being release from a set. The Tennigen (2012) study was conducted on Norwegian herring, which are generally much larger than Sitka herring, suggesting an even higher mortality rate in Sitka due to high-grading and test sets. In 2008, STA hired divers to examine the seafloor following a commercial opener where they found thousands of dead herring.





Figure 4. Photo of dead herring and scales on seafloor after unknown sac roe opener, 2008.

<u>Proposal 164</u>: Equal quota shares for sac roe fishery with 10% overage clause.

STA strongly opposes Proposal 164, which is similar to Proposal 163, but would allow the commercial fishery to harvest based on a 10% overage clause.

<u>Proposal 165:</u> Allow unharvested sac roe quota to be used in food and bait fishery.

STA strongly opposes Proposal 165, which would allow unharvested quota from the commercial sac roe fishery to be used for a food and bait fishery. Subsistence herring harvests are struggling; there is no reason to add a new fishery to remove more adults from the population and make subsistence harvests even more challenging.

As the sac roe market declines, it appears that permit holders are searching for another market. STA worries that Proposal 165 is simply a fishmeal fishery in



disguise. STA is strongly opposed to a fishmeal fishery that will "rob Peter to pay Paul" by turning herring that feed valuable Alaskan fisheries like king salmon and halibut into fishmeal that will subsidize farmed salmon that will directly compete with Alaskan fisheries.

Additionally, there concerns about how well a bait fishery can be managed. Bait quality is best in the fall and winter months (Hebert 2021). However, the spatiotemporal distribution of herring outside of spawning season is not well understood. There is evidence that herring from different Southeast Alaska populations mix in the summer; however, there are no population-level data on winter distribution of herring in Southeast Alaska outside of one small study in Lynn Canal (Carls et al. 2008). STA does not want a return to the days of the reduction fishery with indiscriminate harvest of herring from unknown populations. Population-level Southeast Alaska herring distribution and migration are currently insufficient to know what populations are being harvested.

<u>Proposal 166:</u> Add open pound spawn-on-kelp fishery to G01A sac roe permits

STA opposes Proposal 166, which would allow a commercial pound spawnon-kelp fishery in Sitka Sound. An open pound spawn-on-kelp fishery is preferable to a sac roe fishery, as adult herring are not killed by the fishery. However, STA opposes both a sac roe fishery and a spawn-on-kelp fishery in Sitka Sound. Having both a sac roe fishery and a spawn-on-kelp fishery will only marginally reduce the impacts of the sac roe fishery on subsistence users and the herring while adding competition for space between subsistence users and the open pound spawn-on-kelp fishery.

<u>Proposals 168 / 169:</u> Close Revilla Channel and West Behm Canal sac roe fisheries.

STA supports Proposals 168 and 169 to remove the Revilla Channel (Kah Shakes) and West Behm Canal herring fisheries from the regulations. Neither of these populations has been able to provide subsistence or commercial harvest in recent years. Kah Shakes was formerly one of the crown jewels of herring



abundance in Southeast Alaska (Hebert 2011). Subsistence users and forage fish advocates are saddened to see a once vibrant population reduced to its current state. STA notes that the management strategy used for these populations is less aggressive than the current Sitka Sound management strategy.

STA COMMENTS ON OTHER PROPOSALS

Chinook Proposals

Chinook salmon do not have a saltwater Customary and Traditional (C&T) Use designation under either State or Federal subsistence regulations. Unfortunately, that means that the subsistence harvest of Chinook salmon in saltwater is regulated under sport fishing regulations. STA supports Chinook proposals that that prioritize resident sport harvest over the non-resident sector and believes the resident sport harvest should never be closed due to allocation restrictions.

Proposal 80 and 82 (Oppose as Written)

Although these proposals have merit, STA is opposed to them as written. Wording in these proposals could close resident sport fishery. Removal of the wording "the department shall prohibit resident king salmon retention or close the resident sport king salmon fishery only if nonresident angler closures are insufficient to remain within the sport fishery allocation" under proposal 82 would prevent the closure or the resident sport fishery.

Proposal 81 (Oppose)

This proposal would reallocate unused sport Chinook allocation to the commercial troll fleet and eliminate the resident sport fishery.

Proposal 83 (Oppose)

This proposal prioritizes the non-resident resident sport fishery at the expense of other users.

Proposals 84, 85, 86, 93, 94, and 95 (Support)



STA supports the resident priority expressed in these proposals and their intent of never closing the resident sport fishery for Chinook.

Sport Proposals

Proposals 144 and 277 (Support)

Subsistence halibut are harvested in the Sitka area under federal subsistence regulations. Access to this resource can be impeded by large harvests from other user groups. The number of non-resident (unguided) sport halibut harvesters renting boats instead of using charter services has increased over the years. This has allowed these harvesters to increase their take of halibut, which has had a direct effect on the ability of subsistence harvesters to meet their needs. These proposals would bring non-resident sport halibut fishers in line with guide sport fishing regulations.

Proposal 145 (Support)

Non-resident annual possession limits for the harvest of salmon in freshwater can exceed annual subsistence harvest limits for the same systems. This proposal would reinforce subsistence priority over non-resident harvesters.

Subsistence Proposals

Proposal 131 (Support)

This proposal was submitted by STA to amend the Redoubt Bay and Lake Sockeye Salmon Fisheries Management Plan. The current harvest boundary is almost a mile away from Redout Lake Falls where sockeye salmon school up before making their way into the lake. This amendment would allow STA to fish its Community Harvest Permit further up the bay and have greater access to an underutilized resource.

Proposal 132 (Support)



STA has heard from numerous tribal citizens who dipnet subsistence sockeye at Redoubt Lake falls about their frustration with spear fishermen spooking salmon and disrupting their normal movement to directly interfering with their attempts to dipnet salmon. Multiple users have also reported close calls with boats nearly hitting unmarked spear fishermen. This conflict will continue to escalate unless the issue is addressed.

Proposal 133 (Support)

The Redoubt Lake sockeye salmon system has been producing exceptional returns that have been going underutilized due to limited access by subsistence harvesters. This has traditionally been a dipnet fishery with limited access for harvesters due to the limited number of locations that are conducive to dip netting. This proposal would allow for additional types of harvest gear to be used, increase access to the resource, and spread the subsistence harvest out over a larger area.

Shrimp and Miscellaneous Shellfish Proposals

Proposal 185 (Support)

Due to climate change Southeast Alaska waters are seeing a higher prevalence of market squid showing up in significant numbers during the fall and winter seasons. A number of local harvesters have taken advantage of these occurrences to harvest squid for food and bait with rod and real. The use of artificial light would aid in the harvest of this underutilized resource.



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EXHIBIT LIST

Exhibit 1	February 27, 1997 Letter from ADF&G to STA
Exhibit 2	2009 ADF&G Staff Comments on Proposal 203
Exhibit 3	2012 ADF&G Staff Comments on Proposal 232
Exhibit 4	February 17, 2009 Memorandum from Department of Law to Board of Fisheries
Exhibit 5	Affidavit of Dr. Greg Ruggerone (Feb. 11, 2019)
Exhibit 6	ADF&G, 2021 Herring Forecast for Sitka
Exhibit 7	ADF&G, Sitka Sound Herring Fishery Announcement (Jan. 11, 2021)
Exhibit 8	ADF&G, 2020 Herring Forecast for Sitka
Exhibit 9	Dr. Steve Martell, Age-structured Model for Alaska Herring Stocks (Dec. 16, 2016)
Exhibit 10	Dr. Merrill Rudd, Considering Stock Assessment Uncertainty for the 2021 Sitka Herring Fishery Guideline Harvest Limit (Nov. 27, 2020)
Exhibit 11	January 7, 2002 Memorandum from Jude Pate (STA legal counsel) to Board of Fisheries
Exhibit 12	Order Re: Cross Motions for Partial Summary Judgment on Count One, <i>Sitka Tribe of Alaska v. State, Department of Fish &</i> <i>Game,</i> 1SI-18-00212CI (Alaska Super. Ct., Mar. 31, 2020)
Exhibit 13	Order Granting Renewed Motion for Partial Summary Judgment, <i>Sitka Tribe of Alaska v. State, Department of Fish &</i> <i>Game,</i> 1SI-18-00212CI (Alaska Super. Ct., Nov. 27, 2020)



- Exhibit 14STA, Subsistence Management Recommendations and
Guidance for Implementing 5 AAC 27.195 (Mar. 18, 2021)
- Exhibit 15 February 18, 2021 Letter from ADF&G Commissioner Doug Vincent-Lang to STA





December 22, 2021

Alaska Board of Fisheries P.O. Box 115526 Juneau, AK 99811-5526

Via Email: dfg.bof.comments@alaska.gov

Re: Sitka Tribe of Alaska's Exhibits to On-time Public Comments

Dear Alaska Board of Fisheries,

I represent the Sitka Tribe of Alaska, which submitted on-time public comments regarding proposals for the Board's 2022 Southeast/Yakutat Finfish and Shellfish meeting. On December 22, 2021, the Board Support staff notified me by email that STA's comment letter and exhibits would not be accepted because the Board's commenting guidelines limit public comments to 100 pages. STA's comment letter was 38 pages and its exhibits totaled 168 pages.

The Board is required to follow the Alaska Administrative Procedure Act ("APA"), AS 44.62, when adopting regulations. *See* AS 16.05.251. The APA provides that agencies "**shall consider all factual, substantive, and other relevant matter presented to it before adopting, amending, or repealing a regulation**." AS 44.62.210(a) (emphasis added). By rejecting STA's exhibits, which contain information that is relevant to the Board's consideration of the proposals, the Board may be violating the APA and STA's right to due process. It is also important to note that the Alaska Department of Fish & Game has already submitted comments and reports that far exceed the 100-page limit.

STA requests that the Board reverse the Board Support staff's decision to reject STA's exhibits. The Board should accept and consider the 168 pages of relevant information that STA has compiled as exhibits to its comment letter.

Very truly yours,

LANDYE BENNETT BLUMSTEIN LLP

/s/ Andy Erickson

Andy Erickson



Southeast Alaska Conservation Council



December 21, 2021

Alaska Board of Fisheries P.O. Box 115526 Juneau, AK 99811-5526

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

Subject: Proposals 156, 157, 158, 159, 160, 161, 163, 164, 165, and 166, for the 2021/2022 Board of Fisheries meeting cycle

Based in Juneau, Alaska (Tlingit/Aak'w <u>K</u>wáan lands), Southeast Alaska Conservation Council (SEACC) is a regional grassroots organization with more than 6,000 supporters. For over 50 years, SEACC has been bringing together diverse Alaskans from our region's communities to protect the natural resources of Southeast Alaska, ensure sound stewardship of the lands and waters of the region, and protect subsistence resources and traditional ways of life side-by-side with commercial fishing, tourism, and recreation.

SEACC believes that conservation of herring across our region, and specifically in Sitka Sound, is of urgent importance. Herring are a keystone forage fish species and critical food for salmon, especially king salmon, as well as for other economically and culturally important species such as humpback whales, harbor seals, and sea lions. In light of shrinking king salmon sizes and runs, SEACC believes the Board of Fish should take a conservative approach to manage critical forage fish such as herring.

Unfortunately, in the same time frame that king salmon are decreasing in size and number, 11 out of 13 Southeast Alaska herring populations have collapsed under the Alaska Department of Fish and Game's (ADF&G) management and have not rebounded to former levels even after decades without commercial fishing pressure. The history of management of Southeast Alaska's herring is one of stock after stock being overfished and unable to rebound.

Herring are important to Tlingit, Haida, and Tsimshian ways of life. Herring eggs, sustainably harvested from hemlock branches at sites across Southeast Alaska, were, until recently,



consistently available across the region. Now only Sitka Sound produces an occasionally reliable subsistence harvest adequate to meet the need for herring eggs across the region, and even in Sitka Sound, the defined amount reasonably necessary for subsistence (ANS) is infrequently met.¹ Given the subsistence, cultural, and spiritual importance of herring and herring eggs to Indigenous peoples across the state, SEACC urges the Board of Fish to take every measure to ensure the conservation of the critical Sitka Sound herring population, as well as the restoration of herring populations across their historic range.

Board of Fisheries Proposals

SEACC supports the three proposals submitted by the Sitka Tribe of Alaska. These proposals would result in more herring being left in the water to fulfill their crucial ecosystem and cultural roles in Sitka Sound, especially older, more fecund females which are important to herring spawning behavior.

SEACC supports Proposal 156, which seeks to improve the herring management formula by making it more conservative in years of low biomass. While this proposal would have no impact on sac roe seine harvest in years of high abundance, it would conserve herring for subsistence and ecosystem uses in lean years of low abundance when herring conservation is most essential. This proposal decreases the risk to this critical herring stock and promotes long-term abundance across the multiple uses of herring.

SEACC supports Proposal 157 and Proposal 158, which are closely related. These proposals recognize the behaviorally significant difference between herring age 3 to 4 and herring age 5 and above. Females aged 5 and above play a significant role in guiding schools to appropriate spawning grounds and provide spatial and temporal stability to spawning behavior across years. Females aged 3 to 4 are younger and have less established spawning behaviors that are vulnerable to disruption. Because of their higher fecundity, the older females are over-selected by the sac roe seine fishery.

SEACC supports Proposal 157 because it seeks to limit the harvest of older herring age 5 and older to no more than 20% of their age-class biomass and prevent overharvest of the larger, more biologically productive component of the herring population. SEACC also supports Proposal 158, which approaches the same problem from the other direction, by seeking to prevent sac roe seine exploitation if more than 80% of the herring population is age 3 to 4, i.e., not behaviorally mature.

¹ Alaska Department of Fish and Game Technical Paper No. 480, p. 32, http://www.adfg.alaska.gov/techpap/TP480.pdf



Together Proposals 156, 157, and 158 would ensure that the most fecund females are protected from overexploitation and that large age classes reach full sexual and behavioral maturity. Together they contribute to future sustained abundance for multiple users.

SEACC opposes Proposal 159, which seeks to remove ADF&G's responsibility to ensure subsistence users have reasonable opportunities to harvest herring eggs. ADF&G has not always been able to consistently ensure reasonable opportunity for subsistence harvest and removing reference to this responsibility sends the wrong message. ADF&G should do more to ensure reasonable opportunity for subsistence harvest, not less.

SEACC opposes Proposal 160, which seeks to shrink a protected area encompassing the prime subsistence harvest areas in protected waters closest to Sitka's road system. Reversing course on the protected area is unnecessary and may result in the depression of already poor subsistence harvests, as well as diminishing opportunity for subsistence harvest by lowerincome, near-road system harvesters.

SEACC opposes Proposal 161, which seeks to require a subsistence permit to harvest eggs on branches. SEACC opposes the addition of bureaucratic barriers to subsistence harvest and opposes efforts by the sac roe seine permit holders that would increase burdens on subsistence herring egg harvesters.

SEACC opposes Proposal 163, which seeks to allow multiple sac roe permits to be used by a single vessel under an equal quota catch share system for commercial permit holders. This proposal would allow a few permit holders to consolidate control over the fishery.

SEACC opposes Proposal 164, which seeks to allow under or overutilization of quota to be carried over to future years. This proposal implies that overutilization would be permitted, an unacceptable scenario that could have serious negative impacts on the ecosystem, subsistence harvesters, and the herring population itself. Likewise, sac roe seiners could accrue significant carry-over quota from years of low sac roe seine utilization, such as in 2019 and 2020, which could ultimately result in dangerous overexploitation in years of relatively high abundance such as 2021.

SEACC opposes Proposal 165, which seeks to expand the seine harvest of herring across both space and time in ways that are not adequately defined. SEACC opposes the expansion of this fishery, especially if expansion includes uses that are not clearly defined. Expanding the geographic range of the herring seine fishery likewise reduces the likelihood the Sitka Sound



herring may eventually repopulate areas that have already lost their herring populations due to overfishing.

SEACC opposes Proposal 166, which seeks to expand the rights of sac roe seine permit holders to harvest spawn-on-kelp as an alternative to sac roe seining. While SEACC has no comment on spawn-on-kelp fisheries at this time, we oppose expanding the scope of the Sitka sac roe seine permits.

Thank you for your consideration of our comments.

Sincerely,

Meredith Trainor

Meredith Trainor, Executive Director Southeast Alaska Conservation Council meredith@seacc.org



Southeast Alaska Fishermen's



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December 22, 2021 Alaska Board of Fisheries Board Support Section P.O. Box 115526 Juneau, AK 99811-5526

Re: Southeast Board of Fish Cycle

Dear Chair Carlson-Van Dort and Board of Fisheries members,

Southeast Alaska Fishermen's Alliance (SEAFA) is a multi-gear, multi-species commercial fishing organization representing our approx. 330+ members mainly involved in the salmon, crab, shrimp and longline fisheries of Southeast Alaska. We have members involved in salmon gillnetting, trolling and seining, all of the SE crab fisheries, pot shrimp and halibut and sablefish fisheries throughout the State as well as SE region specific longline fisheries as well as many other fisheries such as herring and dive fisheries and some Prince William Sound gillnet. In addition, our members mostly hold sport fish licenses and are involved in sport, personal use and where eligible subsistence fisheries.

The gillnet fleet and the seine fleet (in separate meetings) meet annually in a task force meeting with the Dept in the fall, reviewing the past season and outlooks for the next season. These documents from our meeting this December could be very informative to Board of Fish members and an additional resource with preliminary 2021 data to the reports provided by ADF&G. These are posted online <u>HERE</u>¹.

STOCKS OF CONCERN: First, we would like to comment on the stocks of concern/action plans submitted by the Dept. We will be submitting additional comments later. SEAFA is very concerned about the status of many our stocks, particularly Chinook salmon.

¹ <u>http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareasoutheast.salmon_meetings</u>



The Pacific Salmon Treaty chinook stocks (Taku & Stikine) under consideration of being listed as stocks of concern originate in Canada where we have no control over the habitat for spawning or as they emerge, no control over the harvest that occurs after crossing the border. The Pacific Salmon Treaty is very complex, but it also has more conservation and cooperative management imbedded in it then a non-participant is aware of. The catch and escapement of the Taku and Stikine are reviewed annually between Canada and AK with annual management plans on how each Country is to manage their fisheries based on the forecast and in-season assessments, basically an action plan built into the treaty reviewed yearly.

When the Taku and Stikine return meets the management target, there will be a Total Allowed Catch (TAC) that can be calculated and will result in an Allowable Catch (AC) for each country. If the Board of Fish adopts an action plan with specific identified actions, it will keep US fishermen from direct and indirect increases in harvest while Canada will be allowed to harvest within the current PSC negotiated agreement. If the Taku action plan is adopted with specific actions prescribed in regulation, conservation concerns and actions for Chinook will likely continue during a directed Sockeye fishery with a stock that has been exceeding its upper bound of the escapement goal and unable to harvest our allocated share of the sockeye return. While Canada will be able to remove or reduce conservation actions taken for Chinook conservation harvesting both Chinook and sockeye. This will likely result in Canada harvesting some portion of the US AC for Taku Sockeye.

SEAFA's recommendation would be to adopt the objective under Commercial Fisheries "Continue to manage per the Pacific Salmon Treaty and take management actions that reduces commercial harvest of Stikine River/Andrew Creek king salmon" without listing specific actions and the same action for the Taku.

The Chilkat River Chinook met the requirement to be considered for delisting based on the 2018 Action Plan. According to the presentation at the 2021 Gillnet and Seine task force meetings², the Chilkat River met its escapement in 2019, 2020, and 2021, three consecutive years. While ADF&G considers the escapement numbers for 2020 and 2021 preliminary, the escapement is enough above the lower bound escapement level to be able to state that the escapement was met. The Chilkat Chinook stock should be delisted or relax some of the actions taken in 2018 for District 15.

2

http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/southeast/meetings/gillnet/2021 se salmon escape ments.pdf page 21



We would point out that if you take language from the 2018 King Salmon River action plan, there was an inconsistency in directions regarding section 11-C. District 11-C is mainly opened in the end of July or August on returning pink salmon abundance. The conflicting statement are:

- Using emergency order authority, Do not open section 11-C to drift gillnetting
- Using emergency order authority, impose night closures between 10:00 pm and 4:00 am in sub-district 111-31 and Section 11-C if open.

If using language from the 2018 action plan, we would recommend that these two sections are reconciled by stating that Section 11- C will not open before July 20th. The King Salmon River Chinook should be past Section 11-C by this date based on the fishing experience in the area and the data that was presented.

SEAFA appreciates the actions taken by the Board of Fish last cycle to provide flexibility within the action plans, allowing the Dept to choose more restrictive measures suggested in other options if they felt they were needed and putting the gear groups on notice that additional management measures could be implemented rather than prescribed to start with. Action planned on being taken were listed in the annual management plans provided pre-season every year and in discussion at the salmon task force meetings.

SESSION ONE

Comments on proposals are in the order presented in ADF&G's staff comments RC2

KING SALMON – GROUP 1

Proposal #80: SUPPORT

SEAFA agrees with ADF&G that Chinook allocation issues need to be addressed based on the new treaty language. We would like added to the current allocation, a provision that allows the Dept to transfer unused all gear catch to the troll fleet so the Alaska's harvest share can be maximized (see proposal #81). For the issue of overages and how to allocate them, we would suggest that the payback provisions be taken off the top. If a gear group, exceeds their allocation in consecutive years, the allocation would come from their share. For example, gillnetters generally contributes extra fish to the troll fleet every year but 4 times in the 20 years, they went over their quota, one of those years payback would have been necessary because the overall quota was exceeded. The amount of Chinook the troll fleet would have received over time from the gillnet fleet of unused quota far exceeds the little bit that they



occasionally exceeded in their allocation³. We would note the gillnet harvest of Chinook is considered dead and therefore kept, the seine fleet is mostly on periods of non-retention right now in times of low chinook abundance generally providing the troll fleet with extra fish in September to maximize the harvest. In-season management of the sport fish sector is necessary with payback provisions involved to prevent overages with consideration given to a resident priority.

Proposal #81: SUPPORT

SEAFA supports a provision to allow the troll fleet to harvest unused Chinook salmon from other gear groups after September 1st. This proposal addresses one of the issues raised by ADF&G above in proposal #80.

Proposal #82: SUPPORT/AMEND

SEAFA supports ADF&G proposal to clarify sport fish regulations and to bring the current regulations into line with the new treaty provisions. We believe that it is very important that the resident sport fishermen always has the priority and opportunity to fish before a non-resident. Our suggested amendment is in section

(g) (2) <u>when wild stocks management measures are unnecessary: (A) a resident bag limit of</u> <u>one king salmon [except from July 1 through July 31 resident anglers may not retain king</u> salmon].

We are supporting this amendment because if there are no wild stock management measures necessary, resident opportunity should not be restricted.

We would also note in the proposal the Dept highlights that under section (b)(1) the sport fishery is to be managed on average for its allocation but under sections (f), (g), and (h) the dept is to use in season management to stay within the sport allocation of the plan. SEAFA recommends that the Board of Fish make the Southeast Alaska King Salmon Management Plan consistent with sections (f), (g), and (h) where the Dept manages the fishery in-season to stay within the sport allocation of the plan based on the payback overage provisions of the Pacific Salmon Treaty.

Proposal #83: OPPOSE

SEAFA opposes this proposal that tries to achieve a 20% sport/80% troll allocation over time intentionally allowing the sport harvest sector to overharvest in years of low abundance. In trying to minimize the effect of a changing resource and provide stability to the charter sector, instability is passed on to the troll sector.

³ See RC 2 Staff Comments, page 4 Table 80-1 – 80-3



Proposal #85: NO ACTION

SEAFA suggests no action be taken on this proposal based on actions that will be taken on ADF&G's proposal #83. We support the concept within the proposal that provides resident sportfish a priority and making it clear that if in-season action is necessary to stay within the quota, the non-resident season and bag limit would be adjusted. It does appear that in proposal #83 the Dept is removing this exact language. We don't believe this language restricts department's flexibility but depends on the actions taken in proposals #80-83.

ENHANCEMENT AND SPECIAL HARVEST AREAS – GROUP 2

When reviewing enhancement and special harvest area proposals for Southeast Alaska, consideration of the SE Enhanced Allocation Plan (<u>5AAC 33.364</u>) and the Board of Fish Finding (<u>94-148 BF</u>) needs to be considered as well as the cumulative effect of any changes to the status quo will have on the individual gear groups allocations. Please remember SEAFA represents gillnet, seine and troll members and our comments try to balance the needs of all groups and in consideration of the Enhanced Allocation Plan status. See ADF&G report to the <u>Board RC 3, tab</u> <u>2</u> to see graphs showing the current status of the allocation plan for those years with final data. NSRAA at the gillnet & seine task force meetings will provide a best guess estimate of the <u>current years data</u>⁴, showing 5-year rolling averages for 2016-20 and 2017-21. When looking at this more current data, keep in mind that the seine fleet will be losing a low year in the next 5-year rolling average and the gillnet fleet will be losing a high year.

Proposal #96: SUPPORT/AMEND

SEAFA supports the expansion of the District 1 Herring Bay Terminal Harvest Area July 1 – July 31, the time period ADF&G is comfortable with and has no concerns of wild king salmon interception. The troll fleet is below their allocation of hatchery produced salmon and this would help adjust them upwards.

Proposal #97: OPPOSE

SEAFA would point out that in ADF&G staff comments (RC 2) on this proposal, Figure 97-1 does not show the closed areas for crab gear in the month of June. A map of these closed areas can be seen in the <u>news release</u> dated April 16, 2021⁵. In addition, Southern Southeast Regional Aquaculture Association (SSRAA) closed the THA for cost recovery July 13 – August 9, 2021. It is our expectation that this closure will also occur in the upcoming years. Under this proposal, the

⁴ https://www.nsraa.org/ pdfs/TaskForce/NSRAA 2021 GN task force.pdf pages 26-29

⁵ http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1258277085.pdf



gillnet fleet and seine fleet will lose access to the THA four or five days in the month of June each, dependent upon the way stat weeks fall. All of the fleets are losing time and area due to conservation measures for wild stocks, particularly stocks of concern, the loss of this area as well as possible other closures in SSRAA THA's will impact the fleets and will have an impact on the SE Enhanced Salmon Allocations in different way for different fleets.

Proposal #98: AMEND

SEAFA opposes this proposal as presented but believes that based on the SE Enhanced Allocation plan and current status of the gear groups including the current trajectory of each gear group that the rotation in Anita Bay should stay at the 2018-2020 ratio of 1:1 gillnet to seine. During this time frame the seine fleet has entered within their range and the gillnet fleet while still above is below the high they had reached. Flipping over completely to a 2:1 ratio seine to gillnet provides too big of a swing in the allocation balance.

Proposal #99 & 100: NO ACTION

SEAFA does not believe that the drift gillnet should be taken out of the Southeast Cove Terminal Harvest Area Management Plan. While the gillnet fleet has not yet had an opportunity to fish in this area based on the current status of the Enhanced Salmon Allocation Plan but having them listed as a gear group, acts as a marker for the Association, Board of Fish and participants, that in the future this is an area that could be used to adjust the gillnet fleet upwards if necessary. The current arrangement of seine and troll opportunities could be continued in collaboration between the hatchery association and ADF&G.

Proposal #101: OPPOSE

SEAFA opposes this proposal to modify the Silver Bay Salmon Management Plan to attack the hatchery program in Southeast Alaska. The permitting process is a very public process with many opportunities to comment. Straying is a natural trait of salmon. Otherwise, we would not have salmon establishing themselves where the glaciers were long ago. Alaska has the best protections for salmon enhancement through our genetics policy, statutes and regulation framework, as well as the public process. SEAFA supports ADF&G's staff comments to oppose this anti-hatchery proposal.

Proposal #102: AMEND

SEAFA opposes this proposal as written to modify the ratio of seine to gillnet openings in Deep Inlet. As with proposal #98 and based on the SE Enhanced Allocation plan and current status of the gear groups including the current trajectory of each gear group that the rotation in Deep Inlet should stay at the 2018-2020 ratio of 1:1 gillnet to seine. During this time frame the seine fleet has entered within their range and the gillnet fleet while still above is below the high they


had reached. Flipping over completely to a 2:1 ratio seine to gillnet provides too big of a swing in the allocation balance. Actions being considered on proposal #98 and #102 must be considered in relation to each other and the overall change would have on the SE Enhanced Salmon Allocation Plan. If the Board was to adopt proposal #99, then consideration of opposing this proposal should be given serious consideration.

Proposal #103: OPPOSE

SEAFA opposes this proposal to modify the Management guideline for allocating Southeast AK pink, chum and sockeye salmon between commercial net fisheries. This is the wrong avenue to try and address anti-hatchery sentiments. Elevating statutes and the sustainable salmon fisheries policy is also unnecessary to bring these to the attention of the public. Processes are available for ADF&G to review the hatchery projects on a case-by-case basis when new information becomes available or the Dept has concerns the hatchery project is impacting wild stocks. The guideline requesting to be changed in this proposal was meant to be a snapshot in time of the harvest between net fisheries when necessary to help guide the Board of Fish in the event a major change in the fisheries occur due to the Pacific Salmon Treaty or other considerations. It is not meant to be a way to make changes in the SE enhanced salmon programs.

Proposal #104: SUPPORT/AMEND

SEAFA supports SSRAA's proposal to develop a Burnett Inlet Terminal Harvest Area Salmon Management Plan. This proposal could be amended to address one of the Dept's concerns by adding into the regulation a statement that <u>A gillnet or seine can not operate in such a manner</u> <u>that it cuts off the inlet or prevents safe navigation for other vessel transiting Burnett Inlet.</u> There are other THA's in Southeast Alaska that a common property fishery currently exists that has similar issues to Burnett Inlet.

Proposal #105: SUPPORT

SEAFA supports SSRAA's proposal to create a management plan and associated terminal harvest areas for Port St Nicholas. This hatchery return currently does not have an associated THA or management plan to provide opportunity when available to harvest salmon in excess of broodstock and cost recovery needs and this helps prevent straying.

Proposal #106: SUPPORT

SEAFA supports this proposal to add drift gillnet as a legal gear type for cost recovery in the Special Harvest Area (SHA). This just provides SSRAA additional flexibility in meeting their obligations to clean up excess salmon in the Special Harvest Area and to use the gear that is most effective in the circumstances.



Proposal # 107: SUPPORT

SEAFA supports the development of a management plan and THA in Port Asumcion. This hatchery return currently does not have an associated THA or management plan to provide opportunity when available to harvest salmon in excess of broodstock and cost recovery needs and this helps prevent straying.

Proposal #108: SUPPORT

SEAFA supports this proposal that creates a special harvest area for Port Asumcion. The first returns to this site were in 2019. This puts in regulation the area the Dept has been authorizing by EO authority. The plan for Port Asumcion when developed by the SSRAA Board of Directors was that Port Asumcion would mostly be a cost recovery site creating the necessity of having an area established. Proposal #107 develops the THA for clean-up of any chum salmon in excess of broodstock and cost recovery, a condition of the permit and also helps prevent any straying.

Proposal #109: SUPPORT

SEAFA supports the creation of a SHA in Carroll Inlet with the stipulations suggested by the Dept to open the area by EO to minimize the harvest of returning wild chum salmon.

COMMERCIAL SALMON – GROUP 3

Proposal #110: OPPOSE

SEAFA opposes this proposal to require mandatory reporting of a net lost or a portion of a net and the associated marking requirements that would become necessary. First the Dept is correct in the staff comments (RC2) that the cost of a net generally makes a fishermen try to recover all parts of the net possible just due to the expense, particularly the leadline and corklines. Second, in Southeast Alaska there is a lot of selling of used nets and corklines, the necessary marking such as Bristol Bay has would make the selling of a net with a corkline on it or a used corkline very undesirable in trying to take off the identification of the person selling and put on your identification information. In 36 years of fishing, I personally have only heard of one full net being lost and then the one that generated this proposal. If the Department wants voluntary reporting of lost nets or portion of a net, that could be requested through the gillnet task force meeting and the annual management plan as well as fishing associations putting the word out.

Proposal #111: SUPPORT

SEAFA supports this proposal we submitted to change the maximum size gillnet mesh to 6-1/4". The Dept summarizes the issue very well, But, you generally cannot buy a standard 6" net off



the shelf and have it work for both fisheries. If you are very knowledgeable, you can manage to buy a net that would work for both fisheries. While there have only been a couple of citations to date, surprising when on the dock talking to fishermen, we find many that are fishing there 6" net when the maximum 6" net restriction is in place and we suggest they measure their net and they are surprised to see that the net most likely measures more than 6-1/8". A 6" net is fished in District 11 & 15 at the beginning of the season by fishermen targeting the hatchery chum salmon. The early portion of the run are the larger 5-year-old fish. We would be willing to discuss this proposal with board members.

Proposal #112: SUPPORT/AMEND

SEAFA supports the use of deeper gillnets in District 11 by EO at the Departments discretion in sub-district 111-32 to help harvest our share of Taku treaty coho that have been very elusive to the gillnet fleet in recent years but have had good escapements.

Proposal #113: OPPOSE

SEAFA opposes this proposal to put a range in place for maximum gillnet mesh sizes as a person could not be prepared with what size net might be required, prompting fishermen to have more nets on hand at a cost of approximately \$7,000 or more each. Current regulation allows the Dept to have flexibility to require the appropriate size net for conservations concerns in the area necessary.

Proposal #115: SUPPORT/POSSIBLE AMENDMENT

SEAFA supports ATA's proposal to change the winter troll fishery start date from October 11 to the start (first day) of Stat week 41 so a consistent time frame is used going forward. That said this support is because of the new District 13 CPUE data assessment being used which uses the time frame of Stat week 41-48. Using a date within a Stat week creates a different number of days within the assessment period every year, sometime more and sometimes less. Our concern that could be addressed with an amendment is that the District 13 CPUE assessment is set to be reviewed periodically within the treaty arena. An amendment could be added to this change that the fishery would go back to an October 11 start date if the District 13 CPUE data assessment isn't being used or put a sunset date on the change so it can be reviewed next cycle after the Pacific salmon treaty review occurs.

Proposal #116: OPPOSE

SEAFA agrees with the comments by Staff that this proposal asking to use a judgement call on whether a salmon could survive creates an unenforceable regulation.

Proposal #117: SUPPORT/AMEND



SEAFA supports the intent of this proposal to allow the use of two additional fishing lines in the troll fishery in hatchery THAs during the month of August. SEAFA recommends that in addition to amending language in 5AAC 29.120 Gear and vessel Specifications and Registration amend 5AAC 29.112 Management of chum salmon troll fishery. This could be accomplished something like:

5AAC 29.120 Gear and vessel Specifications and Registration

- (a) Salmon may be taken by hand troll gear and power troll gear only in the Southeastern Alaska-Yakutat Area.
- (b) The maximum number of trolling lines that may be operate from a salmon troll vessel is as follows:
 - (1) From a power troll vessel:
 - (A) No more than six lines may be operated in the exclusive economic zone north of the latitude of the southernmost tip of Cape Spencer; <u>or as</u> <u>provided for by Emergency Order under 5AAC 29.112 Management of chum salmon troll fishery</u>;

And add a new section at the end of 5AAC 29.112 Management of chum salmon troll fishery

(e) The Department may open between August 1 and September 20th in the waters of Sitka Sound, Eastern Channel, Crawfish Inlet and West Crawfish Inlet, the liberalization of gear when participating in a directed fishery for enhanced chum salmon.

(1) from a power troll vessel: six lines

(2) from a hand troll vessel: four lines

(3) Coho and Chinook salmon may not be kept, sold or onboard a vessel participating in the directed chum salmon fishery with the additional lines.

We support this modification as a means to help increase the trollers harvest of enhanced fish as it would not affect wild stocks and the troll fleet has been below their allocation range since inception of the Southeast Enhanced Salmon Allocation Plan.

Proposal #118: OPPOSE

SEAFA understands the desire and benefit to moving the District 6 and 8 boundary line to the gillnet fleet. We understand and **support the Dept's opposition** to this proposal. Changing district lines has implications to other fisheries than just the gillnet fleet.

Proposal #119: SUPPORT/POSSIBLY AMEND

SEAFA supports clarifying the section 6D regulations between the gillnet and seine fishing opportunities. Allowing gillnetting in this area will provide a little more harvest to the gillnet



fleet which is cumulatively below their historical range⁶ for pink salmon as specified in 5AAC 33.363.

Proposal #121: OPPOSE

SEAFA opposes this proposal to close historical gillnetting waters near Coffman Cove. There has not been an increase of gillnets deployed in this area, but it is an important area to the small fleet of vessels (approx. 15) that traditionally fish within this area. To our knowledge, there have been no official complaints or incidents reported to any official agency that we could document of a safety to navigation. As the department states this is more an educational issue if vessels are having difficulty in navigating through the fleet. It appears that they are using the idea of safety as a way to try and move the gillnet fleet out of their way.

Proposal #122, 123 & 124: COMMENT

SEAFA agrees that removing the sunset date is important in keeping the Northern Southeast seine salmon management plan in regulation. The main difference between the three proposals is the date used for accounting of sockeye. This management plan was developed after much intense conflict at Board of Fish meetings repeatedly as a way to allocate sockeye between the two fleets and share in the burden of conservation and has been in place since the 1989 Board of Fish meeting. Pt Marsden shoreline is a very mixed stock fishery with all species of salmon going both northbound and southbound. In 2018 an agreement between the gillnet and seine fleets changed this regulation from the month of July to July 22 with a sunset date. We oppose proposal #123 to move the date even earlier to July 15. The drift gillnet fleet in District 15 and District 11 feel the effects in reduced availability of all salmon species following openings in this area, while this management plan allows the seiners opportunity on north migrating pink salmon when available. The peak of pink salmon migration is in the month of August, after this plan is no longer in effect.

SUBSISTENCE, PERSONAL USE, and SPORT SALMON AND OTHER NON GROUNDFISH FINFISH – GROUP 4

Proposal #136 – NO ACTION

It is already illegal for a commercial fishing vessel with commercially caught salmon onboard to possess personal use taken or sport fish taken salmon onboard at the same time.

6

http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/southeast/meetings/gillnet/120121_gtnf_handouts.p df



Proposals #138-141: OPPOSE

SEAFA opposes the expansion of personal use sockeye fishing in the marine waters of District 11 (or portion thereof). In the early years of the Sweetheart lake sockeye personal use fishery, the marine waters of Gilbert Bay were open for the use of drift gillnet gear. This fishery was later closed after many subsistence nets were unable to be retrieved due to the number of pinks in the net and unable to be hauled or the dead pinks were released in violation of wanton waste laws while trying to target sockeye. If for some reason, consideration of allowing a personal use marine fishery were to occur, it would be important that non-species specific possession limits and annual limits be implemented and also consider a smaller length net with a season start date after June 30 to protect Taku and King Salmon River Chinook salmon. Fishery to occur only when the commercial fishery is closed.

HERRING – GROUP 5

Proposals #156, 157, & 158 OPPOSE

SEAFA opposes proposals 156, 157 & 158 to reduce the harvest of herring in the Sitka Sac Roe fishery. The current herring management is based on best scientific information available, the ASA herring model has been peer reviewed and the fishery has conservation principals built in the management strategy looking at both the herring population and the ecosystem.

Proposal #166: OPPOSE

SEAFA continues to oppose this proposal to convert Sitka Sound sac roe permits to a pound fishery. CFEC has held a hearing on this issue previously and determined at that time that they had not made a mistake in designating the areas under limited entry for the Sitka Sound Sac Roe fishery and the L21A herring pound permit. Without this change the Board does not have the regulatory authority to adopt this proposal.

SESSION TWO

COMMERCIAL, SUBSISTENCE, SPORT, PERSONAL USE GROUNDFISH – GROUP 6

Proposal #217 SUPPORT

SEAFA supports changing the allocation for lingcod from the jig fishery to the troll fishery. Based on RC 2 staff comments, the jig fishery has had very minimal harvest since 2001 and the troll fishery is closed most seasons before the end of the year. This suggested allocation change still leaves lingcod allocation available for the jig fishery.



We do have a comment about the current regulation that the Board may want to clarify if they adopt and take action on this proposal. 5AAC 28.165 section (4) Central Southeast Outside Sector and section (5) Southern Southeast Outside Sector both have the same issue. Wouldn't hand troll gear in (E) also be included in section (D) under salmon troll fishery. We noticed in the Dept's comments they discussed the troll fishery and the jig fishery. Looking at the language below maybe section E should be amended as shown below

(D) seven percent to bycatch in the commercial salmon troll fishery;

(E) four percent to bycatch in the commercial groundfish fishery using [HAND TROLL GEAR AND] mechanical jigging machines;

Proposal #218 SUPPORT

SEAFA supports this proposal to require registration for the directed Pacific Cod fishery.

Proposal #219 SUPPORT

SEAFA supports ADF&G's proposal to allow rockfish to be taken and sold as bycatch based on allowances in pot gear.

Proposal #221 SUPPORT

SEAFA supports this proposal submitted by ADF&G to reduce the escape ring size down to 3-3/4" based on their research during the ADF&G surveys as the best fit for protecting immature fish and harvesting sablefish. This proposal while it lowers the minimum size it does not require fishermen to change their larger escape rings if they don't want to.

Proposal #222: SUPPORT

SEAFA supports ADF&G's proposal to require full retention of all rockfish in groundfish and halibut fisheries in the Eastern Gulf of Alaska area mirroring federal requirements.

Proposal #223: SUPPORT

SEAFA supports ADF&G proposal to require escape rings and clarify gear specification for the personal use and subsistence fisheries for sablefish.

Proposal #225: OPPOSE

SEAFA opposes this proposal to change sablefish bag and possession limits for sport fish. This is a one-way abundance based proposal to increase the allocation but does not have mechanisms to reduce the bag limit when the abundance declines. It is also starting the abundance changes at a baseline for the commercial sector that is below what it was when the bag and possession limits were originally set between the two sectors.

Proposal #229: OPPOSE



SEAFA opposes this proposal to increase the non-resident lingcod slot limit for sportfishing in the Central Southeast Outside Waters. It does not make sense to change the slot limit knowingly if it causes the harvest to exceed the allocation and the resource is fully allocated. Lingcod allocations were developed by a stakeholder committee and thru advisory committee recommendations to the Board of Fish and have been established for some time.

COMMERCIAL AND SPORT FISH CRAB PROPOSALS – GROUP 7

Proposal #190 & #191: SUPPORT/COMMENT

While PVOA and SEAFA submitted these proposals, we are holding off on providing comments at this time but agree with PVOA's assessment of these two proposals. We are in discussions with ADF&G on a possible revised management and harvest strategy for red king crab.

Proposal #192: SUPPORT

This is another joint proposal where PVOA & SEAFA were trying to find a way to provide a minimum amount of data for the Golden King Crab fishery as it is very data poor, depending solely on the information provided by the fishermen. ADF&G last year provided the King and Tanner task force a golden king crab harvest strategy but was unable to provide any feedback on industry's proposal until December 2021. ADF&G golden king crab harvest strategy does provide more transparency to their decision-making process but industry still has some major concerns over portions of the policy and would like more time to work with the Dept before it becomes a regulation.

Proposal #193: SUPPORT

SEAFA was a co-author on this proposal to increase the size of the golden king crab Southern Management area. There is depth and substrate suitable for golden king crab and redefining this area provides fishermen an opportunity to explore and possibly find suitable crab fishing grounds.

Proposal #194: SUPPORT

SEAFA supports this housekeeping proposal to remove Glacier Bay from the list of blue king crab fishing areas.

Proposal #195 & #197: SUPPORT/AMEND

SEAFA supports this proposal that would extend fishing time for the tanner crab fishery in the exploratory areas and redefine an exploratory area. At the December King and Tanner task force meeting, industry agreed to amend these proposals to read (Dates in the individual proposal) to April 1st whichever comes first.



Proposal #196: OPPOSE

SEAFA opposes reducing the pot limit for the golden king crab fishery in Southeast Alaska to 80 pots. Fishermen can currently haul 100 pots in a day. With a reduction in pots, some gear would be double hauled, increasing handling of small crab as they will have less time to escape from the pot. In addition, the new harvest strategy uses CPUE as one of the factors in the management, changing the metric from 100 pots to 80 pots will make all past metrics unusable.

Proposal #198: AMEND

The author of this proposal is a SEAFA member and we discussed his intent with this proposal following the King and Tanner crab task force meeting. First, it was never his intent to not have the tanner and golden king crab fishery start at the same time. (Board of Fish proposal instructions say to only reference one regulation per proposal making it difficult for fishermen to understand how to reference connecting regulations.) A compromise for the smaller vessels in the fleet might be starting the fishery on the appropriate tide between the 15th of Feb and the end of the month.

Proposal #200: OPPOSE

SEAFA opposes this proposal to close commercial and non-resident sport fishing to the taking of Dungeness crab. SEAFA opposes additional closures of any commercial fishing grounds where there is not a conservation concern. The number of commercial fishermen that fish in this area is less than 3 since the data is confidential. All areas where there are crab is becoming increasingly important as crabbers are getting squeezed by communities wanting closed areas around their community to the effect of ever expanding sea otters. We also oppose the size of the area being requested, but do appreciate that the closure was for both non-resident sport and commercial trying to truly provide a closure for community use only. In the staff comments RC 2 page 277 the Dept provides the commercial harvest in pounds and the sport harvest in number of crab, a more comparable comparison is the commercial catch was 2,647 crab at a 2lb average to the sport harvest of 3,994 crab for sport fish indicating more pressure from the sport fishery than the commercial.

Proposal #201: OPPOSE

SEAFA opposes expanding the closed waters of the Sitka Sound Special Use Area to commercial Dungeness crab fishing. SEAFA opposes additional closures of any commercial fishing grounds where there is not a conservation concern. The area currently provided in the Sitka Sound special use area provides enough opportunity for the community to harvest crab in the summer with no competition from the commercial crab fleet. Based on the Dept's information on the



sport harvest in the area in figure 201-2 RC 2 Staff comments page 284 there is no justification in the request for additional area.

Proposal #202: SUPPORT

SEAFA supports reducing the size of the Tenakee Inlet waters closed to commercial Dungeness crab fishing. The area is larger than needed for a community of 150 residents and with no conservation concern. The area left closed is the more traditional community area to harvest crab.

Proposal #203: SUPPORT

SEAFA supports reopening the Port Althorp Dungeness crab closure to commercial fishermen. There is not a conservation concern of Dungeness crab in Southeast Alaska. The current population based on the most recent census is 134 residents but is a community that increases substantially in the summer months with sport fishermen, lodge customers and both guided and unguided fishing clients.

Proposal #205: OPPOSE

SEAFA opposes closing waters to commercial crabbers in Coffman Cove to the taking of Dungeness crab. SEAFA opposes additional closures of any commercial fishing grounds where there is not a conservation concern. Every time more area is closed even for only a handful of boats, other grounds get more congested causing concern from another community.

Proposal #207: OPPOSE

SEAFA opposes closing waters to commercial crabbers in the Whale Pass area. This area is already closed during the summer crab season to reduce conflicts and is only open during the Oct $1 - Nov 30^{th}$ fall fishery. Again, there is minimal number of commercial crab fishermen working in statistical area 106-35 as the data is confidential. Additional closed areas just create more congestion somewhere else and an increased potential for localized depletion.

Proposal #208: OPPOSE

SEAFA opposes establishing closed waters in Kassan Bay to commercial Dungeness crab fishing. We are particularly opposed to closing an area only to commercial fishing. If an area needs a closure to provide for local resident use it needs to be a small area where the majority of the community harvest takes place and be closed to sport as well as commercial fishing. Generally, when these communities get the commercial closure, they are disappointed that there really isn't the decrease in pots they expect. This area is already closed during the summer months when locals would most likely be crabbing as the commercial season is only open during the fall/winter season or Oct $1 - \text{Feb } 28^{\text{th}}$.



Proposal #210: OPPOSE

SEAFA opposes establishing a new closed water area in Natzuhini Bay and Sukkwan Strait to commercial Dungeness crab fishermen for all the same reasons in previous proposals. Sea Otters are affecting all users who harvest Dungeness crab. If sea otter rafts have moved into the area, the crab are going to be gone whether there is a commercial fishery or not.

Proposal #211: SUPPORT

SEAFA supports reverting the Sitka Sound Special Use Area back to a fall/winter season of Oct 1-Feb 28th. This would extend the season from Nov 30th to Feb 28th, an additional three months. SEAFA was at the meeting where an individual who serves on the Sitka AC implied they spoke for all of the Sitka AC and convinced the board to shorten the season. There is not a Dungeness crab conservation concern in the Sitka Sound Special Use Area or in Southeast Alaska.

Proposal #212: SUPPORT

SEAFA supports extending the time Dungeness crab pots can be stored in the water from 72 hours to seven days or at least to five days as is in regulation for tanner crab. This will allow more time to safely retrieve pots if poor weather or icing in the winter season becomes an obstacle.

Proposal #213: OPPOSE

SEAFA opposes defining a Dungeness crab pot as circular only. The definition is that a pot has an outside diameter that is not more than 50 inches and is not more than 18 inches high. You put the tape measure along the topside ring whether it is circular or a square pot for the less than 50 inches and the 18 inches high tends to imply that the sides are straight, otherwise a portion of the outside diameter would be larger. We understand that there are a few square pots in use in the fishery. Adopting with proposal would require those fishermen to replace their pots if a circular pot becomes mandatory.

SUBSISTENCE SHELLFISH, COMMERCIAL AND SPORT SHRIMP, OTHER MISC SHELLFISH – GROUP 8

Proposal #171, 172, & 173 – COMMENT

SEAFA has members on both sides of this issue, some wanting a spring fishery so it doesn't cause them to choose whether they are going to go shrimping or Dungeness crab fishing as both seasons start on October 1st. Some want the spring fishery in order to sell shrimp without eggs. We have members who have shrimped when the fishery was still open all year long to commercial harvest. These members point out that harvesting shrimp in the spring and



summer months is a much slower paced fishery than in the fall where the shrimp are faster to the pot. The shrimp freezer burn more often in the summer fishery than shrimp harvested in the fall. When the Prince William Sound fishery re-opened to a spring/summer fishery, we heard from several buyers that they would never buy shrimp from Prince William Sound again because the shrimp are not as firm as the fall fishery in SE. For many fishermen changing to a spring/summer fishery will impact other fisheries they participate in such as herring, and longline, and if you go into the summer far enough Dungeness crab and salmon.

SEAFA questions the Dept's conclusions that a spring fishery would provide increased GHL's. There would only be the benefit in the one year that you change from a fall fishery to a spring fishery, where the fishery doesn't take place in the fall. After that you will still have the amount of harvest taken out of the water based on the GHL set; and you will still have the high mortality period of molting, mating, egg development and extrusion. Whether you catch the female in the fall with eggs or catch the female before it extrudes eggs you are still taking that female out of the fishery. This reasoning does not make sense with what the longtime shrimp fishermen understand about the stock.

In some areas of Southeast, the Dept uses an in-season management model that compares the current years CPUE and size mix of shrimp with past seasons. This data is used to adjust the target catch level in each area that is actively managed. If the season date is changed so that the fishery happens during a different life stage of the shrimp, the baseline data on fishery performance will not be valid and a new baseline will need to be used to evaluate fishery performance. This will slow down adoption of an active management model for this fishery if the season of harvest is changed.

Proposal #174: OPPOSE

SEAFA opposes moving District 2 & 6 to a spring fishery and retaining all other districts to a different schedule. This would create overcrowding and conflict among permit holders with of shrimp fishermen trying to fish the District 2 & 6 fishery and then fishing the fall season in other districts.

Proposal #175: OPPOSE

SEAFA opposes this proposal that has been heard several times before to limit the number of shrimp pots on a string. Limiting the number of pots on a string does not provide for gear standardization between large and small boats, a small boat can put more pots on a string as easily as a large boat, they may not be able to haul as many pots out to the grounds as a large boat, but it doesn't prevent them from setting the appropriate number of pots for the area/ledge they are fishing. Again, limiting the number of pots on a string does not reduce the capture of small shrimp as implied in the proposal.



Proposal #176: OPPOSE

SEAFA opposes reducing the number of shrimp pots. The Dept is able to effectively manage the fishery as it is now configured and with less pots, the pots will be double-picked within a day being less effective in allowing the mesh to sort out the smaller shrimp.

Proposal #177: OPPOSE

SEAFA is opposed to closing a portion of Section 3A around the town of Hydaburg to commercial pot shrimp fishing. If a fishery closure is warranted for the commercial fishery then it should be closed to the sport fishery concurrently. The proposed closed waters is an important district to the commercial fishery and closure of this area will just make other shrimp fishery areas become more congested and even faster paced in taking the GHL in an area causing a closure.

Proposal #178: OPPOSE

SEAFA is opposed to expanding the closed water of Kassan Bay to commercial pot shrimp fishing. If a fishery closure is warranted for the commercial fishery, then it should be closed to the sport fishery concurrently. Closure of this area will just make other shrimp fishery areas become more congested and even faster paced in taking the GHL in an area and causing a closure.

Proposal #179: OPPOSE

SEAFA is opposed to expanding the waters closed to commercial pot shrimp fishing in Twelve-Mile Arm. If a fishery closure is warranted for the commercial fishery, then it should be closed to the sport fishery concurrently. Closure of this area will just make other shrimp fishery areas become more congested and even faster paced in taking the GHL in an area and causing a closure.

Proposal #182: SUPPORT

SEAFA supports ADF&G's proposal to sub-divide District 15 into two separate areas and splitting the GHL between the two sections. This action would help prevent overfishing of the most lucrative shrimp area and allowing a harvest to occur in other parts of the district.

Thank you for the opportunity to comment on these Board of Fish proposals and please feel free to call me (907-465-7666) anytime or email for additional information on our positions for the comments we submitted. We tried to keep our comments as concise and short as possible but is not all the information or knowledge we have on these issues. We will be reaching out to contact you for additional discussions, particularly on stock of concern action plans as we



monitor the COVID situation. Conditions will have to improve greatly before I can risk attending the meeting, although I am registered to attend and testify. I take my responsibility to represent our members seriously but need to weigh out personal health factors also. I hope that you will work with those not present that are generally active at Board of Fish meetings. I have been participating since 1988 but will likely not be attending based on health concerns in today's current COVID status.

Sincerely,

Jathya LA-

Kathy Hansen Executive Director





Marit Carlson-Van Dort, Chairman Alaska Board of Fisheries 1255 W. 8th Street Juneau, AK 99811-5526

Re: SEAGO comments on Southeast proposals.

Madam Chair and members of the Alaska Board of Fisheries,

Southeast Alaska Guides Organization (SEAGO) is a regional non-profit trade association working to sustain a healthy guided marine sport fishery in Southeast Alaska. There are roughly 300 businesses in the fishery that contribute to local and regional economies, community tax bases, and create meaningful jobs and livelihoods for Alaskans.

We'd like to comment on several Southeast proposals with summary support/opposition listed first, followed up with detailed comments.

Proposal 82- Oppose without amendments to troll/sport allocation Proposal 83- Support with bag and annual limits as amended by RC and detailed below Proposal 85- Support in conjunction with an amended Proposal 82 (85 not needed in conjunction with Proposal 83 which incorporates resident protections) Proposal 226- Support

Nature of the Southeast Sport Fishery

The Southeast sport fishery plays both a consumptive and recreational role for both residents and non-residents. It's a definite means of food access for locals, and funnels tens of millions of outside dollars annually into the Southeast economy from those willing to pay a premium for the recreational and consumptive opportunity of harvesting their own Alaska seafood.

The sport fishery has a steadier harvest dynamic than other fisheries, not as capable of expanding to capture surplus in high abundance, and less tolerant of loss of opportunity in low abundance. The guided sport industry has the added dynamic of building a clientele base and keeping customer momentum which is susceptible to bouts of poor regulation.

Past management constructs recognized these dynamics, and we encourage the board to keep the nature of the sport fishery in view as it navigates through the current proposals.

King Salmon Management



SEAGO opposes Proposal 82 without amending the troll-sport allocation.

Proposal 82 is a fundamental departure from previous principles of sport management that mitigated swings in regulation from year to year and eliminated inseason management for allocative reasons.

It perpetuates a 2019 withdraw from core objectives when the department drafted a sport proposal out of cycle to address a new payback provision in the Pacific Salmon Treaty. The work was meant as a quick patch until the board could thoroughly flesh out the implications of the new provision and provide clear direction to the department on how to integrate it.

The mechanics of the department's previous proposal and current proposal are in conflict with three of the four core sport management objectives adopted by the board in 2003.

Specifically, they conflict with objectives (1), (2), and (4) of the four core objectives guiding sport fishery management which are to:

 (1) manage the sport fishery to attain an average harvest of 20% of the annual harvest limit specified by the CTC after subtracting the commercial net harvest,
 (2) allow uninterrupted sport fishing in salt waters for king salmon while not exceeding the sport fishery harvest ceiling, (3) minimize regulatory restrictions on resident anglers, and (4) provide stability to the sport fishery by eliminating inseason regulatory changes except those needed for conservation.

(ADFG Report to the BOF pg. 13)

The result is loss of important sport harvest opportunity in low abundance, a potential inability to harvest allocation at high abundance, and challenging and often inaccurate inseason management that destabilizes the fishery.

Objective (1) applied in pre-2019 sport management was meant to temper swings in regulation between abundance tiers. It prescribes bag and annual sport limits that overharvest the average sport target to a degree in low abundance and underharvest it to a degree in high abundance to produce interannual stability while achieving an average harvest target of 20%.

For the 2009-2018 treaty cycle, the realized annual sport percentages were 23.8%, 21.6%, 19.8%, 15.3%, 26.7%, 18.2%, 29.8%, 18.1%, 22.8%, and 16.0%. The final average for the full cycle was 21.2%. (ADFG Report to the BOF Table 3, pg. 9)

Bag and annual limits prescribed in Proposal 82 constrain sport harvest to a hard annual limit rather than applying management consistent with Objective (1).



The bag and annual limit schedule from Proposal 82 below illustrates the effect of switching to a hard annual target on non-resident sport opportunity in low abundance.



With regulations subject to inseason adjustments, there are also no guarantees of opportunity as the season progresses. Resident anglers should get protections from closure, but unknown opportunity makes it difficult for non-residents to plan or for businesses that cater to nonresident anglers to market fishing trips.

If the department relies on Proposal 82 as a basis for sport management, we support a sport adjustment from 20% to 25% of the combined troll/sport allocation in tiers (h), (g), and (f), and support incorporating resident protections outlined in Proposal 85.

SEAGO supports Proposal 83 with the following amendments to bag and annual limits:



SEAGO Proposal 83

	Non-Res		ADFG Estimated Avg. Sport/Troll		
	(1/3	= 1 per day/3 annual	etc.)		Percent
		l			
	Jan 1 - June 30	<u>July 1 - July 31</u>	<u>Aug 1 - Dec 31</u>	Harvest Est.	Sport % Troll%
Tier1 (i)	TBD	TBD	TBD	TBD	TBD TBD
Tier 2 (h)	1/3	1/2	1/1	24,750	24.1% 75.9%
Tier 3 (g)	1/3	1/2	1/1	31,530	24.4% 75.6%
Tier4 (f)	1/3	1/2	1/1	39,810	21.0% 79.0%
Tier5 (e)	1/3	1/2	1/1	45,530	18.5% 81.5%
Tier6 (d)	1/3	1/2	1/1	47,645	15.4% 84.6%
Tier 7 (c)	1/3	1/2	1/1	52,875	15.3% 84.7%
	Tier 1 (i) Tier 2 (h) Tier 3 (g) Tier 4 (f) Tier 5 (e) Tier 6 (d) Tier 7 (c)	Non-Res (1/3) Jan 1 - June 30 Tier 1 (i) TBD Tier 2 (h) 1/3 Tier 3 (g) 1/3 Tier 4 (f) 1/3 Tier 5 (e) 1/3 Tier 6 (d) 1/3 Tier 7 (c) 1/3	Non-Resident Bag and Annual (1/3 = 1 per day/3 annual 1/3 = 1 per day/3 annual 1/3 = 1 per day/3 annual 1/3 Jan 1 - June 30 July 1 - July 31 Tier 1 (i) TBD TBD Tier 2 (h) 1/3 1/2 Tier 3 (g) 1/3 1/2 Tier 4 (f) 1/3 1/2 Tier 5 (e) 1/3 1/2 Tier 6 (d) 1/3 1/2 Tier 7 (c) 1/3 1/2	Non-Resident Bag and Annual Limits (1/3 = 1 per day/3 annual etc.) Jan 1 - June 30 July 1 - July 31 Aug 1 - Dec 31 Tier 1 TBD TBD TBD Tier 2 (h) 1/3 1/2 1/1 Tier 3 (g) 1/3 1/2 1/1 Tier 4 (f) 1/3 1/2 1/1 Tier 5 (e) 1/3 1/2 1/1 Tier 6 (d) 1/3 1/2 1/1 Tier 7 (c) 1/3 1/2 1/1	Non-Resident Bag and Annual Limits (1/3 = 1 per day/3 annual etc.) Jan 1 - June 30 July 1 - July 31 Aug 1 - Dec 31 Harvest Est. Tier 1 (i) TBD TBD TBD TBD Tier 2 (h) 1/3 1/2 1/1 24,750 Tier 3 (g) 1/3 1/2 1/1 31,530 Tier 4 (f) 1/3 1/2 1/1 39,810 Tier 5 (e) 1/3 1/2 1/1 45,530 Tier 6 (d) 1/3 1/2 1/1 47,645 Tier 7 (c) 1/3 1/2 1/1 52,875

Proposal 83 works to keep sport management in compliance with the core objectives set forth by the board since 2003 and provide stable and predictable opportunity to the fishery.

The proposal uses bag and annual limits targeted to attain an average harvest of 20% of the combined troll/sport allocation (objective 1). Managing on average facilitates uninterrupted sport fishing and eliminates inseason management, satisfying core objectives (2) and (4).

The proposal provides protection to resident anglers since there are no closures prescribed or inseason management mechanisms, except those for conservation purposes. It raises the resident bag limits from one fish to two fish in tiers (h) and (g) for the balance of the year where wild stock closures reopen and prescribes a 2-fish resident bag limit in tier (f) where proposal 82 prescribes a 1-fish bag limit.

The same bag and annual limits for non-residents across abundance tiers facilitates expanding resident access as abundance grows while still reducing total sport harvest percentage to target an average 20% harvest. Stable limits across tiers help businesses to reliably market trips in advance.

Mechanically, Proposal 83 reverts to previous troll-sport management in place from 1992-2002 to meet combined troll/sport treaty limits and target an average 20% of combined troll/sport allocation. During this period troll absorbed projected underages and overages of sport harvest annually as described in an ADFG report to the board:

Under the 2000 plan, the commercial troll fishery continued to be managed to harvest the difference between the all-gear catch limit less the net allocation and projected sport harvest. Cumulative sport harvest above the sport fishery allocation came out of the troll allocation and were to be paid back in future

Southeast Alaska Guides Organization 1600 Tongass Avenue, Ketchikan, AK 99901



years by not implementing more liberal regulations in the sport fishery, and the cumulative number of fish not harvested (underage) was applied as an offset against excess harvests in prior or future years.

(ADFG Report to the BOF pg. 13)

Given the goal of meeting, but not exceeding, the all-gear treaty harvest annually, recoupling troll and sport helps the combined fisheries hit annual allocation goals under new treaty provisions. In 2020, troll received 6000 sport fish that sport anglers couldn't absorb even with successive liberalization of bag and annual limits. As stated by the author in Proposal 81, "The troll fishery is best suited to harvest . . . fish via trip limit fishery or an unlimited opening if numbers warrant. Other fisheries lack the harvesting power and the controlled harvesting ability the troll fleet has on this species." By contrast, sport effort and success is hard to predict and regulate to any degree of precision.

Proposal 83 assumes fluctuation in stock abundance over time. The past two decades illustrate the cyclical nature of aggregate Chinook stocks shown in the following figure for 2001-2020:



Recent ADFG charter harvest, effort, and business data runs requested by SEAGO do not show significant indicators of growth in any of these categories. Charter anglers represent the vast majority of non-resident participants in the Southeast sport fishery. There is no reason to expect that growth in non-resident harvest on charter vessels would be a threat to allocation targets set out by this proposal.

Table 8. Salmon angler days* in Southeast Alaska from ADF&G saltwater logbook data, 2006 - 2020

* A salmon angler day is defined as a record with salmon effot (stat area or hours), regardless of success, PLUS all other records with at least one King Salmon > 28" harvested. Includes crew and comp anglers

	Salmon/King Salmon Angler Days														
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Southeast ^a	129,863	133,462	121,197	91,205	89,352	97,016	93,133	101,930	111,224	116,783	113,398	122,668	112,332	115,160	45,641



Table 6. Active saltwater charter businesses in Southeast Alaska from ADF&G saltwater logbook data, 2006 - 2020

	Businesses														
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Southeast ^ª	439	430	429	387	373	341	320	301	302	300	309	308	311	314	222

Table 5. Chinook salmon > 28" harvested in Southeast Alaska from ADF&G saltwater charter logbook data, 2006 - 2020

	Chinook Kept														
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SEAK Charter Harvest	56,548	49,835	20,552	25,792	26,758	39,100	26,575	25,595	53,533	50,163	45,287	34,590	16,353	21,016	21,782
SEAK Troll Harvest	263,980	240,474	126,352	159,126	177,982	220,787	191,553	134,580	340,015	251,086	266,172	123,691	101,469	103,376	165,406

We strongly encourage the board to weigh the merits of incorporating the four core sport management objectives and the elements of this proposal in restructuring the king salmon management plan moving forward.

Groundfish Management

SEAGO supports Proposal 226

Proposal 226 sets a one fish bag and possession limit for slope rockfish in the Southeast sport fishery.

The proposal would establish in regulation what the department has already done by E.O. for the 2020 and 2021 fishing seasons by separating out slope rockfish and establishing a one fish daily bag limit.

Though the department formerly grouped slope and demersal shelf rockfish together, the two are separated by habitat and there are no conservation concerns with any slope species. Slope rockfish are good table fare and are often caught incidental to fishing for sablefish in deep water. Harvest occurs in state water on the inside passage and largely in federal water along the outer coast because of the close proximity of the slope.





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December 22, 2021

Marit Carlson-Van-Dort, Chair Alaska Board of Fisheries P.O. Box 115826 Juneau, AK 99811

RE: Support Proposals: 98, 99, 102, 117, and 123 Oppose Proposals: 97, 101, 103, 106, 119, 120, 121, 124, 136, 156, 157, and 158

Dear Madam Chair Carlson-Van-Dort and Board of Fisheries Members:

Southeast Alaska Seiners Association (SEAS) respectfully submits the following comments for your consideration concerning proposals before the Board at the upcoming Southeast Alaska and Yakutat finfish and shellfish meeting in Ketchikan. SEAS was established in 1968, as the preeminent local, species specific, regionally based commercial fishing association, and has over 120 members.

Proposal 97- Oppose

The Regional Associations can choose to allow for exclusive harvest without taking area permanently away from another gear type.

Proposal 98- Support

This proposal seeks to change the time ratio for gillnet to seine openings to 1:2 instead of 2:1 in the Anita Bay Terminal Harvest Area (THA). The gillnet fleet has been above their allocation range for eighteen 5-year rolling average time frames (Table 1).





Table 1. 2021 Allocation Update given at the Joint, Northern & Southern Regional PlanningTeam Meeting, December 2, 2021. Data from 2020 and 2021 are preliminary. (NSRAA update)

Actions taken by the Board of Fish (BOF) in 2018 to allow equal time in the Anita THA was an attempt to balance that disparity. Due to Southern Southeast Regional Aquaculture's (SSRAA) financial needs, the bulk of the fish returning in 2020 and 2021 were taken for cost recovery (Table 2). The harvest share in 2021 remained at the negotiated ratio of 1:1 by action taken by the BOF when the SE finfish cycle in 2021 was postponed.



Voor	Gear	Class	Total	Ratio	Cost
rear	DRIFT	PURSE	TOLAT	Gln/Seine	Recovery
2012	99,679	296,080	395,759	2:1	
2013	62,668	44,153	106,821	2:1	
2014	50,988	30,906	81,894	2:1	
2015	63,874	99,726	163,600	2:1	
2016	74,638	62,099	136,737	2:1	
2017	50,296	105,009	155,305	2:1	
2018	40,383	59,222	99,605	1:1	
2019	55,121	81,177	136,298	1:1	
2020	17,778	6,198	23,976	1:1	68,205
2021	49,945	2,999	52,944	1:1	67,703

Table 2. Chum harvest in Anita Bay THA- most recent 10-years, fish harvested.

Anita Bay Terminal Harvest area 107-35

The SSRAA Board has voted to take all the returning chum to this and all their Terminal Harvest Areas (THA) for cost recovery in the 2022 season. Removing Anita and Kendrick Bay's historical terminal harvest from the seine fleets allocation numbers will serve to drive the seine fleet back under their allocation range. One of the tools the BOF has to balance allocation is adjusting time in the THA's. The seine fleet had been under their allocation range for thirteen 5-year rolling average time periods prior to the action in 2018 by the BOF. Since the adjustments in Anita Bay and Deep Inlet were made, the seine fleet is within its allocation range (Table 3).





Table 3. 2021 Allocation Update given at the Joint, Northern & Southern Regional PlanningTeam Meeting, December 2, 2021. Data from 2020 and 2021 are preliminary (NSRAA update).

Actions taken at the last SE cycle proves that through BOF action, we can effectively make adjustments in the allocation of enhanced fish to better achieve the plans agreement. Even the troll fleet, who has struggled to achieve their allocation since the plans inception, made progress towards that end (Table 4). In essence, all gear groups are moving in the right direction to bring them in alignment with the Allocation Plan. As one troll RPT member commented at the December meeting, the plan is working and it's not broken.





Table 4. 2021 Allocation Update given at the Joint, Northern & Southern Regional PlanningTeam Meeting, December 2, 2021. Data from 2020 and 2021 are preliminary. (NSRAA update)

Proposal 99- Support

This proposal concerning THA rotations in Southeast Cove, seeks to allocate the excess fish between the seine and troll fleets, while keeping gillnet gear on the books as a tool for future Boards to use. This additional harvest opportunity to the seine and troll gear has worked to bring the seine fleet in their allocation range (Table 5).



Table 5. Harvest History of Southeast Cove THA, In Number of Fish.

			Cost	
Year	Purse Seine ^a	Troll ^a	Recovery	Total
			Broodstock	
2015	_	_	7,240	7,240
2016	_	_	221,111	221,111
2017	-		46,498	46,498
2018	_		166,888	166,888
2019	39,556	659	853,017	893,232
2020	118,723	0	4,676	123,399
2021	55,934		0	55,934
Average	71,404	330	185,633	216,329

Annual harvest of all species by gear group in Southeast Cove THA, 2015–2021*

^a Common property fisheries began in 2019. * ADF&G data

Proposal 101- Oppose

As the Department points out, this would fall under a different Terminal Harvest Area Management Plan, not Medvejie Creek Hatchery. The Department already considers many of the areas of concern brought up by the proponent through existing policies and the Regional Planning Team (RPT) process. Setting hard triggers based on emotion and not biological information and science, is not how Alaska will continue to have the best managed fisheries in the world. The proposer throws terms like Relative Reproductive Success (RRS) out there with no relevant data, confuses and interchanges straying rates and straying proportions, and references percentage rates that don't exist in policy. A single unprecedented survival rate and subsequent adult return is the impetus for all this perceived need. Fish and Game manages inseason and can adapt to unknowns and nuances that occur that are not predictable. To have such rigid outcomes as defined in this proposal is counter intuitive to how fisheries work, and there is no relevant data to support these triggers as proposed.

Proposal 102- Support

This proposal would seek to change the time ratio for gillnet to seine openings to 1:2 instead of 2:1 in the Deep Inlet THA. The gillnet fleet has been above their allocation range for eighteen 5year rolling average time frames (Table 1). Again, modifications the BOF made in 2018 went a long way in changing the allocation picture in the right direction (Table 3). If not for the million fish harvest in Deep Inlet by the seine fleet in 2021, they most likely would be out of their current 5-year allocation range (Table 6).



Table 6. Deep Inlet Harvest Data provided by ADF&G

Voor	Durso Soino	Drift Cillnot	Troll	Total	Time Datio Cillnot/Soine
2001	222 108	266 706	12 159	502 152	
2001	222,198	200,790	15,156	205.770	2.1
2002	118,558	186,584	637	305,779	2:1
2003	379,575	212,892	14,616	607,083	2:1
2004	629,459	421,070	10,107	1,060,636	2:1
2005	410,610	432,483	32,250	875,343	2:1
2006	965,713	651,689	25,488	1,642,890	2:1
2007	110,348	113,546	857	224,751	2:1
2008	322,008	213,581	4,369	539,958	2:1
2009	277,492	119,719	42,994	440,205	2:1 > 3rd Sunday in June 1:1
2010	802,653	296,907	20,682	1,120,242	2:1 > 3rd Sunday in June 1:1
2011	104,626	83,581	2,841	191,048	2:1 > 3rd Sunday in June 1:1
2012	333,868	183,309	12,880	530,057	2:1 > 3rd Sunday in June 1:1
2013	581,669	600,377	1,858	1,183,904	2:1 > 3rd Sunday in June 1:1
2014	590,875	278,245	5,103	874,223	2:1 > 3rd Sunday in June 1:1
2015	1,308,994	759,080	7,558	2,075,632	2:1 > 3rd Sunday in June = Stat 30 1:1
2016	610,242	447,215	7,159	1,064,616	2:1 > 3rd Sunday in June = Stat 30 1:1
2017	750,771	352,446	4,214	1,107,431	2:1 > 3rd Sunday in June = Stat 30 1:1
2018	959,896	310,642	40,848	1,311,386	1:2
2019	755,947	421,556	24,114	1,201,617	1:1
2020	402,142	209,899	2,624	614,665	1:1
2021	1,005,592	378,644	470,325	1,854,561	1:1
2011–21 Avg	554,440	330,489	35,461	920,389	

Deep Inlet THA annual common property chum salmon harvest, 2001–2021.

Returns in northern southeast Alaska from Douglas Island Pink and Chum Inc. (DIPAC), contribute almost exclusively to the gillnet fleet. Only when the Amalga Special Harvest Area (SHA) is open, does the seine fleet realize any real benefit from these productions, and it hasn't been open since 2018, and it has only been open a total of 7 years since 1993 (Table 7).

The gillnet fleet has regular access to chum and sockeye in district 111, and chum in district 115. Those numbers are significant and keep the gillnet fleet above their allocation even with ratio adjustments in southern southeast regions. In District 115, the gillnet access to hatchery chum has averaged 500,000 fish but in 2021 was only 115,000. In District 111, the ten-year average is 115,000 harvested sockeye salmon, and the chum return has averaged 430,000 fish historically, with a harvest in 2021 of 183,000. Even with lower harvest numbers in 2021 on these returns, and adjustments to the rotations in Anita and Deep Inlet, the gillnet fleet remains above their allocation range. All this to say that it is a Southeast Allocation Plan, and the southern southeast areas have to make up for the imbalance that is inherent in the northern region of southeast.



Table 7. Historical Amalga Chum Harvest

	Harves	t Type	
Year	Cost Recovery	Seine	Total
1993	149		149
1994	124,994		124,994
1995	304,626		304,626
1996	968,443		968,443
1997	692,592		692,592
1998	508,686		508,686
1999	723,284		723,284
2000	1,342,140		1,342,140
2001	540,112		540,112
2002	1,350,732		1,350,732
2003	1,820,506		1,820,506
2004	1,062,667		1,062,667
2005	246,405		246,405
2006	1,711,785		1,711,785
2007	837,307		837,307
2008	946,429		946,429
2009	1,066,619		1,066,619
2010	1,004,022		1,004,022
2011	1,350,696		1,350,696
2012	842,049	411,397	1,253,446
2013	1,049,962	1,081,913	2,131,875
2014	492,784	227,048	719,832
2015	798,026	222,594	1,020,620
2016	690,263	252,496	942,759
2017	555,793	513,689	1,069,482
2018	346,916	328,241	675,157
2019	420,664		420,664
2020	204,112		204,112
2021	458,077		458,077
Total	22,460,840	3,037,378	25,498,218



Proposal 103- Oppose

This proposal seeks to include in statute and regulation trigger points that are not based on any scientific data for the species, variations in environmental conditions, run strength, or relevant information about Alaska's stocks. The industry and the Department realize the importance of having real data about some of the questions and concerns surrounding hatchery production and wild stock interaction and has embarked on a comprehensive multi million dollar set of studies to hopefully answer some of the most pressing unknowns. Until that research is complete, it is premature to develop new regulations based on emotion and fear.

Proposal 106- Oppose

We support the larger THA for increased troll access to these Chinook, but oppose the addition of gillnet gear to a non-traditional gillnet area. Whether or not the troll fleet will have increased opportunity is yet to be seen. These fish were moved out of Neets Bay because the troll fleet had very limited access to them in these times of *Wild Stocks of Concern* surrounding Chinook in the Behm Canal corridor. Having the net fleets realize the bulk of the return does not help the allocation picture, and is not who these Chinook were intended to benefit.

Proposal 117- Support

If the F&G Department and Enforcement can sign off that this is manageable for them to implement, we are in support of alternative ways to make the troll fleet more efficient at accessing chum, especially without the need for expanded area that can be problematic in some areas of high chum abundance.

Proposal 119 and 120- Oppose

In essence this gives the gillnet fleet access to a huge area they didn't have access to before. It is sold as pink salmon access, when in reality it is access to hatchery chum salmon in a non-traditional area. When the gillnet fleet is already above their allocation range, we fail to understand how this honors that agreement.

Proposal 121- Oppose

This is a non-starter. Closing a traditional commercial area because some new charter boats, and or sport boats, have no knowledge of the area or understanding of the fishery, is quite simply, offensive. The gillnet fleet has offered their local knowledge and expertise in Coffman Cove to this group, but has had no takers.



Proposal 123- Support Proposal 124- Oppose

Proposal 122- Hawk Inlet 15,000 sockeye cap through July 22, remove sunset dates Proposal 123- Hawk Inlet 15,000 sockeye cap through July 15, remove sunset dates Proposal 124- Hawk Inlet 15,000 sockeye cap through all of July, remove sunset dates

All proposals, and the Department, support removing the sunset provision of this plan. As more genetic information has come available and with the addition of enhanced sockeye in the catch, adjustments have been made at various BOF cycles to address the desire to improve access to Taku River and Lynn Canal origin pink salmon runs while addressing sockeye concerns. In 33 years, only three times has this area been open in the last week of July. It makes no sense to apply a catch limit to a time frame that has been open less than 10% of the time. This was acknowledged at the 2018 board cycle, and the date the sockeye cap covered was shortened to July 22. Since the July 22 date change, the seine fleet has harvested 2,202 and 1,567 sockeye salmon in total in 2018 and 2020 respectively.

Hawk inlet has only been open 16 of the 33 years of the plan, so half the time. In essence the 15,000 yearly cap is only fished every other year, so the yearly average harvest is far below the 15,000 cap at just over 5,000 fish. Even using the average catch for just the years the area is open gives a harvest average of under 10,000 fish (Table 8). Reducing the time period the cap covers, will enable managers the flexibility to harvest pink salmon in years of high abundance or if the run is later than normal. Under this regulation, openings are dependent on the abundance of early run pink salmon and the conservation of all stocks - (1) "... open areas and times must consider conservation concerns for all species in the area;". The Department uses this language every year to restrict fishing time, without the sockeye triggers. We understand that some allocative language is helpful to guide fisheries managers, and would suggest the July 15th time frame would do just that.



	SW 2	7	SW2	8	SW2	29	SW	30	SW3	1	Tot	als
Year	wild sockeye	pink	wild sockeye	pink	wild sockeye	pink	wild sockeye	pink	wild sockeye	pink	wild sockeye	pink
1989			3,595	113,577	11,437	558,013					15,032	671,590
1990											-	-
1991											-	-
1992							12,529	218,873			12,529	218,873
1993					6,120	80,471					6,120	80,471
1994					7,061	283,239	3,262	125,674			10,323	408,913
1995											-	-
1996											-	-
1997											-	-
1998											-	-
1999							5,876	597,674			5,876	597,674
2000											-	-
2001					10,579	194,624					10,579	194,624
2002											-	-
2003			5,623	81,120	2,719	97,099					8,342	178,219
2004			3,427	216,307	14,063	408,936					17,490	625,243
2005			1,561	356,744	6,204	1,093,974	2,307	257,996			10,072	1,708,714
2006	4,499	120,057	2,557	84,884	3,177	105,927	1,128	28,829			11,361	339,697
2007											-	-
2008											-	-
2009					4,132	301,041	3,543	260,853	6,558	943,514	14,233	1,505,408
2010											-	-
2011			2,707	439,606	8,247	826,703	9,286	1,234,091			20,240	2,500,400
2012											-	-
2013									1,690	346,476	1,690	346,476
2014											-	-
2015					1,035	193,534	1,874	405,524	7,674	830,239	10,583	1,429,297
2016											-	-
2017			2,209	173,821	1,767	269,566	9,034	570,623			13,010	1,014,010
2018											-	-
2019					1,139	20,599	1,063	14,573			2,202	35,172
2020											-	-
2021*							1,567	74,007			1,567	74,007
Ave All Yea	ars										5,189	361,478
Ave For Op	en Years										9,802	682,793

Table 8. Hawk Inlet Test Fishery harvest numbers – ADF&G Data

D112 Hawk Inlet shoreline fishery harvests of sockeye and pink salmon, north of Point Marsden in July subject to 5AAC 33.366 Northern Southeast seine salmon fishery management plan

* In 2021 the wild sockeye salmon harvest limit in 5AAC 33.366 applies through July 22nd. All other years through the month of July

Proposal 136- Oppose

It is not clear what the real intent of this proposal is, but commercial fishermen have always been able to retain salmon for personal use as long as it is accounted for on a fish ticket. It makes no sense that a commercial fisherman would have to "purchase back" some of their own catch so they had fish to feed their families.

Proposals 156, 157, 158 – Oppose

The Sitka Sound commercial sac roe herring fishery harvest plan already uses a sliding harvest rate based on forecasted biomass that is considered conservative by the best scientific data. Reducing harvest rates at the lower forecasted biomass estimates is un-necessary to protect



the run and provide for future subsistence and commercial harvests. Exploitation rates on different age classes are already accounted for in the current harvest strategy employed by Fish and Game. The Department uses the best available science and has spent numerous years modeling age class structure and biomass indicators of this stock to provide the best data available to guide this fishery and provide for traditional subsistence harvest.

Thank you for your consideration of our comments regarding these proposals. Myself and Board members will be available during the meetings should you wish to discuss these or other proposals.

Respectfully,

Susan Doherty Executive Director SEAS





Southeast Alaska Subsistence Regional Advisory Council

Don Hernandez, Chairman 1011 E. Tudor Road, MS121 Anchorage, Alaska 99503

December 1, 2021

ADF&G Boards Support Section P.O. Box 115526 Juneau, AK 99811-5526

ALSO VIA EMAIL: dfg.bof.comments@alaska.gov

RE: COMMENTS ON THE 2020-2021 ALASKA BOARD OF FISH PROPOSALS FOR SOUTHEAST AND YAKUTAT FINFISH AND SHELLFISH

To the Board of Fish:

The Southeast Alaska Subsistence Regional Advisory Council (Council) represents Federally qualified subsistence users. One of the Council's duties is to review resource management actions that may impact critical subsistence resources. The Council, during its last three meetings (October, 2020, March, 2021, and October, 2021) formulated comments on the following Alaska Board of Fisheries (BOF) proposals and submit them here for your consideration:

King Salmon Proposals:

Proposal 93: SUPPORT. This proposal is similar to two proposals submitted by this Council, except that this proposal specifically addresses king salmon. The impacts of sportfishing on king salmon are tremendous. This proposal, along with the Council's proposals 143, 145, and 234, would assist in obtaining information necessary to make management decisions that would reduce competition between nonresidents and subsistence users.



Personal Use/Sport/Subsistence Proposals:

Proposal 125: SUPPORT. The Council submitted this proposal with the intent to remove the prohibition of receiving a salmon harvest permit, while making it clear that king salmon cannot be harvested for subsistence on the Taku and Stikine River drainages. (A Federal Chinook subsistence fishery exists on the Stikine River and the Taku fishery is closed under Federal regulations)

Proposal 127: SUPPORT. There is currently no conservation concern of this species in Yakutat Bay so this net tending requirement should be repealed. It is unfair and ineffective to place a net tending restriction on subsistence users who are catching one Chinook when the same net tending requirement is not in place for the commercial fishery, where harvests are much higher. Subsistence users should not be the first group to be restricted nor bear the brunt of conservation measures. The current net tending requirement is detrimental to subsistence users.

Proposal 128: SUPPORT. The Council submitted this proposal to provide an additional and effective method of harvesting salmon for subsistence users while maintaining the ability of resource managers to use permit restrictions to address site specific issues. The current regulation prohibiting set gillnets is unnecessarily restrictive to subsistence users.

Proposal 129: SUPPORT WITH MODIFICATION. The Council supports this proposal to provide opportunities to harvest Coho, but with modification to move the opening date to August 31 so as not to affect the sockeye run. This proposal would not affect Federal regulations in freshwaters.

Proposal 130: OPPOSE. The Council opposes opening this fishing area that is critical to protect sockeye salmon. Available data shows that the overall trend for sockeye runs in the Klawock system has been severely depressed in the last decade and, although there are indications of some improvement in escapement, it is too risky to liberalize sockeye harvest until there are significant healthy returns. The Council has previously supported the closure above the bridge. Efforts should be made to restrict other user groups from catching this system's sockeye from this system. All user groups should share in conservation efforts. Restrictions solely placed on subsistence users does not allow for a meaningful subsistence priority.

Proposal 131: SUPPORT. The Council supports modifying the fishing area and adding hand purse seine as legal gear for the Redoubt Bay subsistence salmon fishery to provide additional opportunities for harvest. This could increase the area for harvesting while maintaining gear type separation. Relocating the line for commercial harvesters should be considered to allow for more space between user groups. The addition of purse seine gear addresses the challenge of fishing in an area of steep beaches. This proposal would make it easier for people to use the community harvest permit and would help subsistence users meet their harvest needs. There is no conservation concern due to healthy escapement.



Proposal 133: SUPPORT. The Council supports allowing the use of seine and gillnet as subsistence gear types in the waters of Redoubt Bay that are open to commercial salmon fishing because it would allow subsistence users to use these in areas that already allow for commercial salmon fishing. Further, it would help clarify the Redoubt Lake sockeye management plan and provide additional access to salmon by subsistence users.

Proposal 134: OPPOSE. The Council opposes moving this permit stipulation to regulation. Current requirements on state permits address the issue with more flexibility than would a State regulation.

Proposal 142: SUPPORT. The Council supports this proposal to provide a limited harvest of Eulachon in lieu of continuous closures. It would also provide some monitoring information. The Council recommends that the regulation make reference to 'a limit of five gallons' versus a '50 pound limit' to allow an easier way to measure the harvest.

Proposal 143: SUPPORT. The Council submitted this proposal to require in-season reporting of nonresident sport fish harvest for accountability. Subsistence users have been experiencing a more difficult time competing for and harvesting fish and shellfish. The Council believes that unguided non-resident sport fishermen are taking multiple daily harvest limits and that harvest limits for unguided non-residents are not well enforced nor are they accurately reported, since non-resident unguided fishermen do not have to record details about their harvest. Currently, there are stricter reporting requirements on subsistence fishermen. Additional data gathered from nonresident sport fishers would help determine if there is an increase in competition between user groups.

Proposal 144: SUPPORT. The Council submitted this proposal to establish a logbook program for rental vessels for the same reasons it submitted Proposal 143 – to gather additional data from nonresident sport fishers to aid in management of resources harvested by all user groups.

Proposal 145: SUPPORT. The Council submitted this proposal to address concerns with nonresident bag and annual limits. This proposal is specific to Coho and Sockeye salmon, the primary species targeted by subsistence users. Under current general regulations, non-resident sport fisherman may take six Coho and Sockeye salmon per day, every day of the season. In contrast, an entire household of subsistence users typically may only harvest an annual limit of 20-50 fish from each of a limited number of sites. The proposed changes would put a ceiling on the annual harvest of each species by nonresidents that is roughly comparable to the limits placed on subsistence households. The Council believes that the proposed limits on non-resident harvest are adequate to allow ample sport fishing opportunity for visitors, while preventing excessive non-resident sport harvest of species important to subsistence users.

Proposal 161: OPPOSE. The Council opposes this proposal that would require a subsistence fishing permit to harvest herring roe on branches in the Sitka Sound area. This is an unnecessary burden for subsistence users who have such a limited harvest capability.



Proposal 170: SUPPORT. The Council supports this proposal establishing a positive customary and traditional use finding for shellfish and plants for all intertidal areas of Southeast Alaska and Yakutat. The Council recognizes that for subsistence users "when the tide it out, the table is set." This is an important first step in getting protection for subsistence uses of beach resources used since time immemorial, including those specifically mentioned in the proposal, but also kelp and abalone. These resources are important for subsistence uses. Impact Statement: Regarding climate drivers and factors that could pose a threat to these resources, including any commercial industries made on these resources, the Council highly encourages discussions with subsistence users on how these issues and activities impact them before any decisions are made for the management or permitting on these resources.

Proposal 177: SUPPORT. The Council supports this closure for commercial shrimp fisheries based on the drastic decline (historic lows) in shrimp resources near Hydaburg. These closures would protect the resource from commercial fishing in a small area near the community. There is pressure on this resource due to competition from multiple arenas (including sea otters). Any loss of area to commercial fishing would be small with limited impacts. This proposal would be effective and assist the community of Hydaburg to meet subsistence needs while protecting the resource and allowing the stock to rebuild.

Proposal 210: SUPPORT. The Council supports the closure of the commercial crab fishery near Hydaburg. Based on local testimony, the Council understands that predation has devastated the Dungeness crab stocks. This closure is necessary to preserve customary and traditional uses for this resource. Closing a small commercial harvest area is needed so that the people of Hydaburg can meet their harvest needs.

Miscellaneous Statewide Sport Shellfish Proposals:

Proposal 234: SUPPORT. The Council supports this proposal requiring inseason reporting of nonresident sport fish harvest (finish and shellfish). Subsistence users are experiencing more challenges in meeting their harvest needs because of the competition with nonresident sport fishermen. There is a concern that the daily and annual harvest limits for unguided non-residents are not well enforced nor are they accurately reported. It is important to capture not only what is kept by the fisherman, but what and how much is caught and released. This proposed requirement would provide additional data from nonresident sport fishers to assist in the overall management of these critical resources.

Proposals 235/236: SUPPORT. The Council supports these proposals to modify the definition of "domicile' and add it to sport fishing regulations. The Council reiterates the importance of the accountability of nonresidents taking fish in Alaska. Consistent with earlier comments, this proposal would assist in reducing competition between nonresidents and subsistence users.


The Council appreciates the opportunity to convey its support and concerns about the effect of these proposals. If you have any questions regarding this letter, they can be addressed through our Council Coordinator, DeAnna Perry, at 907-209-7817, <u>dlperry@usda.gov</u>.

Sincerely,

Donald Herning

Donald Hernandez Chair

cc: Federal Subsistence Board

Southeast Alaska Subsistence Regional Advisory Council Members Sue Detwiler, Assistant Regional Director, Office of Subsistence Management Robbin LaVine, Policy Coordinator, Office of Subsistence Management Katerina Wessels, Council Coordination Division Supervisor,

Office of Subsistence Management

George Pappas, State Subsistence Liaison, Office of Subsistence Management Amee Howard, Acting Fisheries Division Supervisor, Office of Subsistence Management Lisa Grediagin, Wildlife Division Supervisor, Office of Subsistence Management Jonathon Vickers, Anthropology Division Supervisor, Office of Subsistence Management Tom Kron, Statewide Support Division Supervisor, Office of Subsistence Management Greg Risdahl, Subsistence Program Leader, Alaska Region 10, USDA – Forest Service Benjamin Mulligan, Deputy Commissioner, Alaska Department of Fish and Game Mark Burch, Special Projects Coordinator, Alaska Department of Fish and Game Interagency Staff Committee Administrative Record



SOUTHEAST HERRING CONSERVATION ALLIANCE



P.O. BOX 61 Sitka, Alaska 99835 Tel. No. 907-229-2478

December 20, 2021

Alaska Board of Fisheries PO Box 115526 Juneau, AK 99811-5526 <u>https://www.adfg.alaska.gov/index.cfm?adfg=process.comments</u>

RE: Comments on herring proposals for Southeast Finfish Meeting--Jan. 4-Jan. 15, 2022

Chair Van Dort and Board Members,

The Southeast Herring Conservation Alliance (SHCA) is a 501 (c)(6) nonprofit organization that represents the interests of herring fishermen, processors, tender operators, crew, pilots, support businesses and families associated with herring fisheries throughout Southeast Alaska. SHCA members participate in the Sitka Sound herring sac roe fishery and other Alaska fisheries. SHCA members and supporters are committed to the sustainable harvest and management of the herring resource so all users can benefit into the foreseeable future.

SHCA offers comments on the following proposals:Support for proposals 159, 160, 161, and 233.Opposition to proposals 156, 157, 158, and 167; and,Comments for consideration on issues related to SE herring proposals 163, 164, 165.

SHCA members and supporters have participated in Board of Fish meetings and Work Sessions for issues related to herring for decades. In addition to attending meetings of the Board of Fish (BOF), members have also participated in Federal Subsistence Board meetings that have considered SE herring management issues. A common theme with proposals at these meetings has been the Sitka Tribe of Alaska (STA) efforts to curtail or eliminate the commercial sac roe fishery under the guise of protecting subsistence users. While restrictions of the commercial fishery have been implemented in many BOF meetings, the same anti-commercial proposals have been recycled and expanded by STA year after year in an apparent attempt to further reduce and eventually eliminate the commercial fishery. Sitka herring permit holders and other stakeholders hope to continue participation in harvest of scientifically determined surplus herring stocks that are



available for commercial harvest through the conservative, responsive and time-tested management plan that has evolved since the inception of the sac roe fishery in the 1970s.

SHCA members and supporters FULLY support subsistence users' priority while maintaining State of Alaska management control. Most permit holders in the Sitka herring sac roe fishery are Alaska residents--some are also indigenous, and many are subsistence harvesters themselves who rely on strong, science-based management of fisheries resources for cultural and financial sustenance. SHCA members and stakeholders in the fishery all hope to continue participation in harvest of surplus herring stocks managed conservatively and sustainably with a responsive and time-tested plan that has evolved through the years of successful ADF&G stewardship. Although STA proposals often have the stated goal of creating reasonable subsistence opportunity, the apparent purpose seems more oriented toward wresting control of the fishery from the State of Alaska.

<u>Proposal 159: SUPPORT - Repeal this regulation related to management of the</u> <u>commercial sac roe herring fishery in Sitka Sound.</u> SUPPORT

This proposal submitted by SHCA seeks to eliminate unnecessary controversy related to the 2002 promulgated regulation. It was reinterpreted by STA lawyers in 2018 and used as a basis for their legal complaint against the Board of Fish and the department. Other regulations (5AAC27.160 and 5AAAC27.190), establish clear and sufficient guidance to the department for management of the commercial sac roe fishery to assure reasonable subsistence opportunity. In addition, establishment of a 'core' subsistence area and gratuitous increase of the biomass threshold by 5,000 tons over a department recommendation of 20,000 tons has made 5 AAC 27.195 superfluous. Repeal of this regulation would lower the State's legal burden and costs associated with maintaining state management and commercial access to the state's herring resources while not compromising <u>any</u> aspect of subsistence harvest opportunity.

2018 STA Lawsuit Synopsis:

December 11, 2018: STA filed suit in the Alaska Superior Court alleging three broad complaints for relief against the BOF and the department concerning subsistence and commercial management of the Sitka Sound herring stocks. STA claimed that the Board and department had:

- 1. Acted in violation of the subsistence priority statute AS 16.05.258:
- 2. Violated the common use and sustained yield clauses in article VIII, Sections 3 and 4 of the Alaska Constitution, and;
- 3. Had violated the Administrative Procedures Act, AS 44.62

January 23, 2019: The court granted Southeast Herring Conservation Alliance (SHCA) motion to intervene on the side of the state.



February 20, 2019: The Superior Court denied the Tribe's motion for a preliminary injunction which sought to close the 2019 sac roe fishery. The court held that the Tribe had failed to demonstrate irreparable harm if the fishery went forward and had failed to make a clear showing of success on the merits of their complaint(s).

March 27, 2019: The Alaska Supreme Court denied the Tribe's petition for review of the Superior Court decision.

March 31, 2020: The Superior Court granted <u>partial</u> summary judgement in favor of the Tribe on their claim that the department had failed to implement 5 AAC 27.195(a)(2). The court did not find that the department had failed to comply with the substance of the regulation, only that it had not provided adequate explanation of its decision-making.

November 30, 2020: The Superior Court granted <u>partial</u> summary judgement in favor of the Tribe on their claim that the department had failed to implement 5 AAC 27.195(b). As in the previous decision, the court did not find that the department had failed to comply with the regulation, only that it had not provided adequate explanation of its decision-making.

Note: The Tribe has publicly asserted that the above partial summary judgements were great victories in their efforts to bring about fundamental change in management of the sac roe fishery in Sitka Sound. The department has complied with the court rulings by undertaking a process to better document its consideration of subsistence concerns when managing the commercial fishery.

July 2020: The Tribe abruptly dismissed <u>all</u> its claims against the Board.

March 22, 2021: The Tribe's remaining claim, that the department had violated the Sustained Yield Clause of the Alaska Constitution by failing to use the 'Best Available Information (BAI) in providing advice to the board at the January 2018 regular cycle meeting and the October 2018 and 2109 work sessions was struck down by the court for multiple reasons.

May 24, 2021: With all STA's issues resolved, the Court granted final judgement. The Tribe has since appealed to the Alaska Supreme Court alleging that the trial court erred in three respects: (1) Denial of the preliminary injunction motion; (2) granting of summary judgement on the Sustained Yield claim; and (3) the court's refusal to designate them as the prevailing party. The appeal is ongoing.

<u>Proposal 160: SUPPORT - Reduce closed waters in the Sitka Sound commercial sac</u> roe herring fishery.

This SHCA proposal would reestablish the 'core' subsistence area boundaries set up in 2012. The Board granted a major expansion of the 'core' area in 2018 with little



justification or evidence of its efficacy in providing reasonable subsistence opportunity. Given that the herring spawn of 2019 and 2020 centered around Kruzof Island and at least partially bypassed the core areas, subsistence harvesters demonstrated that they had 'reasonable opportunity' to access the stocks outside of those designated core areas without undue hardship.

According to Table 9 of the 2021 Subsistence Harvest Report, 87% of the thirty-eight responding households reported that they got enough for themselves and enough to share with others. Table 7 of the 2021 report indicates that the largest subsistence harvests were taken outside of the 'core' area—an indication that the commercial operation did not compromise subsistence opportunity. In 2020 the fleet voluntarily stood down and there was no commercial fishery due to market conditions and concerns related to the COVID-19 pandemic. For that same year, table 7 of the department's subsistence report indicated that 66.7% of subsistence harvesters took enough for their own use and 100% had enough to meet their sharing obligations. The 2019 subsistence report indicated that, while harvests were low due to the remote location of the major spawn events—outside of the 'core' area—77% of the harvesters got enough to share and 62% enough for their own use.

Overall, subsistence harvesters have had reasonable opportunity to meet their expectations despite traveling outside of the 'core' area, and that operating in areas also used by the commercial fishery is not an impediment to success.

The Board has frequently acquiesced to STA proposals that restrict the commercial fishery under the guise of underachievement of the Amount Necessary for Subsistence (ANS). Under AS 16.05.258(1)(A) Subsistence Use and Allocation of Fish and Game, "[the Board] *shall adopt regulations that provide for reasonable opportunity for subsistence of those stocks or populations*". The statute does not specify any obligation to manage for achievement of a specific harvest amount. In this case, information available from the department's Subsistence Division reports, indicates that the subsistence fishery clearly "…provides a normally diligent participant with a reasonable expectation of success…" (AS 16.05.258(f)). SCHA is not seeking to reduce subsistence harvest or curtail opportunity. We are supportive of efforts to ensure that subsistence harvest is not compromised by commercial fishing activities while also allowing for commercial fishery to take place. This proposal allows both commercial and subsistence harvests to successfully conduct their respective operations.

<u>Proposal 161: SUPPORT - Require a subsistence fishing permit to harvest herring</u> roe on branches in the Sitka Sound area.

This proposal, submitted by SHCA would establish a permit or registration system for harvest of herring roe on branches. Since many if not most other subsistence fisheries in Southeast and throughout the state require a permit to operate and collect verifiable harvest data, it seems as though it is not an undue burden to require one in a place as unrestricted, confined in area, and convenient as Sitka Sound. The roe on branches subsistence fishery is limited by the timing of spawn, weather, other issues unrelated to



the commercial harvest, and—most critically--the effort expended to harvest the product. **There is no limit on the amount that can be harvested for subsistence use**. Nonetheless, this proposal has been consistently and adamantly opposed by STA despite potentially improved data collection and harvest accountability.

<u>Proposal 233: SUPPORT - Remove districts 13-A and 13-B from Northern</u> <u>Southeast herring spawn on kelp pound fishery administrative area.</u>

This SHCA proposal was submitted as an attempt to stave off conflict between limited commercial groups G01A and L21A if other regulations that allow for alternate uses of the Sitka Sound herring stocks are promulgated. While this proposal alone does not resolve issues related to conflicts inherent in allowing for alternate harvest means, it eliminates one area of conflict and deserves support as a way to increase number of regulatory tools available in the toolbox for consideration by this Board and or future Boards.

<u>OPPOSE – STA Proposals 156, 157, and 158.</u> Proposal 156 to modify harvest rate control rule for Sitka Sound sac roe herring fishery; Proposal 157 to modify harvest rate for Sitka Sound commercial sac roe herring fishery based on forecasted age structure; and, Proposal 158 to incorporate forecasted age structure into Sitka Sound commercial sac roe herring fishery spawning biomass threshold.

These three similar and slightly reworked proposals from STA have been all been reviewed, discussed, and rejected by previous Boards since at least 2002. Reversing the decisions of so many previous Boards can only be justified by a major change in herring population dynamics that is not at all indicated by the present observed and predicted stock status. The current management plan is time-tested, responsive to stock size changes, conservative, uses the best available management science, and provides for a subsistence priority while allowing for reasonable conduct of commercial and subsistence fisheries. Any changes to the peer reviewed and time-tested model for managing and forecasting herring stocks in Sitka Sound should be initiated by the department as the agency constitutionally responsible for sustainable fishery management.

Participants in the commercial sac roe fishery attempt diligently to selectively harvest the older age class fish. However, the commercial harvesters <u>largely fail</u> at this goal as shown by department sampling and industry statistics. The STA claim that older fish are at a critical risk as suggested in proposals 157 and 158 is clearly a 'red herring'. The analysis using age 3-4 fish to calculate excessive harvest rates on older fish--as noted in Proposal 157--is deceptive if not disingenuous since a sizable portion of the younger fish are typically immature and are not even available to the sac roe fishery. Other STA contentions that they present as factual in these proposals, such as fealty to spawning locations, are not backed up by observable data and known herring behavior. Another justification listed in STA proposals 156 and 157 is that subsistence harvesters are unable to "...meet their needs", rather than the specific statutory requirement to provide for 'reasonable opportunity'.



Overall, these proposals from STA are rife with inaccurate unsubstantiated statements, fail to acknowledge historic genesis of the harvest rate percentages incorporated in the management plan and have all been subject to intense review by previous boards without modification. Please take no action or reject these proposals outright.

Proposals 163 and 164: NEUTRAL (comments provided for consideration), Establish equal share quotas for the Sitka sac roe purse seine fishery.

SHCA has remained neutral on these proposals for establishing an equal split fishery for sac roe, as this issue is best decided on by individual permit holders. Most of our members favor this idea. We support Board consideration of an equal split management system to help improve safety in the fishery, increase cooperative behavior by the fleet to maximize roe quality, and to minimize impacts to other users of the herring resource.

<u>Proposal 165: NEUTRAL (comments provided for consideration), Allow G01A</u> permit holders to harvest unharvested Sitka sac roe GHL for food and bait.

Although this proposal is appealing to many G01A permit holders, there are issues related to food and bait fishery participants that preclude full support. We look forward to listening to public testimony and the committee process to help elucidate the issues.

<u>Proposal 166: OPPOSE, Create an open pound herring spawn on kelp fishery in</u> <u>Sitka Sound.</u>

Although this may be an attractive proposal for some G01A permit holders, the jurisdictional issues as noted in Proposal 233 and potential subsistence fishery conflicts preclude support for this proposal.

<u>Proposal 167: OPPOSE, Redefine the boundaries of the Hoonah Sound spawn-on-kelp fishery (13-C) and the Sitka sac roe fishery (13-A/B).</u>

Given that this is a clear resource grab attempt by an L21A permit holder that compromises traditional G01A access to the area, SHCA strongly opposes this proposal.

Concluding Remarks

In closing, thank you for the opportunity to submit written testimony on behalf of SHCA. SHCA members and supporters will be at the meeting to testify and participate in the committee process. Although G01A permit-holders recognize, support, and advocate for the statutory priority for subsistence use of the state's fishery resources, we have been unable to find common ground with STA despite considerable effort to do so. Well intentioned efforts by the Board of Fish and SHCA to appease STA have met with their continued actions at the Board level, through the Federal Subsistence Board, and the Courts to further wrest control of the fishery from state management and compromise opportunity for commercial sac roe harvest. We hope that the proposals submitted by



SHCA allow reasonable and realistic appraisal of the issues and hope to assist the Board in understanding the Sitka Sound herring management plan, its genesis and unique conservative, sustainable, responsive, time-tested, and scientifically based characteristics.

Sincerely,

Charles W 'Chip' Treinen President Southeast Herring Conservation Alliance



Southern SE Regional Aquaculture Association 14 Borch Street, Ketchikan, AK 99901; Phone: 907-225-9605; FAX 907-225-1348

December 22, 2021

Alaska Board of Fisheries Marit Carlson-Van Dort, Chair

By Electronic Copy Only: dfg.bof.comments@alaska.gov

Re: Comments on 2022 Southeast and Yakutat Finfish and Shellfish Proposals

Dear Chair Carlson-Van Dort and members of the Board of Fisheries,

Thank you for the opportunity to comment on the proposals you will consider at the above-referenced meeting. Southern Southeast Regional Aquaculture Association (hereafter "SSRAA") is a regional non-profit salmon hatchery organization formed under state and federal law, and which was originally incorporated in 1976. SSRAA is governed by a 21-member board of directors who represent a cross section of regional salmon users, communities, and members of the public. The SSRAA board has considered and approved the support or opposition to proposals which have been summarized below:

Proposals 101 and 103: SSRAA OPPOSES.

These Proposals are substantially similar to the recent Prince William Sound Finfish meeting Proposals 49 through 53 and should be similarly rejected without action or deliberation by the Board. Over the last several years, the proposers of these and similar proposals, ACRs and emergency petitions have put forward specious arguments that are contrary to sound logic, empirical data and good public policy. It is to the Board's great credit that it has seen past these exaggerated, alarmist viewpoints and not given any oxygen to these irresponsible views. Although all Alaskans have the right and opportunity to express their views in this forum, a summary judgment by the Board of these burdensome and repetitive proposals is appropriate and correct in this instance.

Furthermore, SSRAA would draw your attention to highlight several specific points among the myriad and sundry reasons for opposition to these proposals:

1. Overall hatchery production levels have been steady for decades, a time period which encompasses many record-breaking returns of both hatchery and wild salmon. The supposed deleterious effects to natural runs that the proposers hypothesize have been proven false repeatedly. Alaska's PNP hatchery operators and the Department are well aware that there can be periodic levels of increased



straying in the samples of some streams, but the overall fraction of enhanced salmon straying remains very low. The Department's long-running, unbiased research project regarding potential hatchery impacts on wild stocks should be heeded when completed and understood.

- 2. The Alaska Constitution and resultant policies already require that the Department protect wild salmon populations from any "harmful and adverse" interactions with hatchery releases. These proposals provide no tools for achieving this requirement that the Department doesn't already have, they only seek to undermine and micromanage the sound practices that have been proven successful for decades. The public trust, as cited by the proposers, has been well protected for many years.
- 3. Enhanced salmon are vitally important to Southeast Alaska's commercial fisheries, with an annual ex-vessel value that has averaged \$44 million in recent years. The consistent catches of hatchery salmon have had the effect of stabilizing the region's total run volume, enabling fishermen to increase incomes, invest more into their businesses and into the workforce. Sport harvest of hatchery-produced salmon also has a significant impact on the region's economy. Resident anglers who target enhanced fish spend money on boats, fishing gear, fuel, and supplies, while non-resident anglers often hire local charter fishing companies that source many supplies locally and provide jobs to residents. In total, Southeast Alaska hatcheries account for 2,000 jobs on an annualized basis, \$90 million in labor income, and \$237 million in total annual output, including all multiplier effects.

SSRAA urges the Board to review the relevant data and narratives submitted by the Department and SSRAA's sister organizations, and truly understand what a massive impact it would be for the economy and culture of Alaska to have its hatchery programs dismantled through adoption of these proposals.

Proposal 104: SSRAA SUPPORTS

This is a SSRAA-authored proposal which establishes a Terminal Harvest Area ("THA") for Burnett Inlet, a SSRAA facility that produces chum salmon which are caught throughout the region. In addition to the reasoning we included within the Proposal, SSRAA offers the following points in rebuttal of the Department's comments:

- 1. The Department's comments focus on the size of the proposed THA, indicating that it would not allow for an "orderly" fishery. With all due respect for the Department's opinion, the SSRAA Board of Directors have long considered how this THA would function:
 - Any openings in the THA would be carefully crafted by the gear group representatives on the SSRAA Board who are knowledgeable about the area and the opportunity. The Board is creative, engaged, and carefully deliberates all THA opportunities each preseason.



- The Burnett THA will offer another tool for the SSRAA Board to select from when balancing allocation of value to the fleets. Having a diversified selection of areas for the fleets to fish is crucial for allocation planning.
- Any THA opening at Burnett would take into account the other fisheries occurring in other areas. The chance of this THA attracting an overwhelming number of boats is small and would be self-correcting
- All commercial gear groups successfully conduct lineups of one type or another for favorable hook-offs, sets or drags. The Burnett THA is no different in this regard. Fishermen can and do manage themselves in these situations.
- The SSRAA Board could choose to keep the THA open or closed to common property fisheries at any time, either within the yearly rotational fishery plan or in-season, working with the Department using EO authority. We have along track record of successfully managing THAs together this way.
- There have been recent chum openings within this area and right outside. SSRAA has observed effective chum troll fisheries extending right next to the hatchery, and the Fawn Island line seine fishery which is conducted during large pink returns have shown us that fishing effort in this area can be conducted effectively. Cost recovery fishing within the proposed THA area has also given us good information on how a common property fishery could be conducted. We do believe that carefully targeted THA openings could be prosecuted in an orderly fashion.
- 2. The Department comments say they oppose "...common property fisheries within the confines of Burnett Inlet because of the presence of wild stocks...", which is flawed logic considering that the SSRAA-produced chum salmon within the Inlet are 1.) well segregated from natural stocks, and; 2.) are required to be removed by the hatchery permit holder as a permit condition. Whether the enhanced salmon are removed from Burnett Inlet through common property openings in a THA or through cost recovery in an SHA is not a material distinction. The matter of wild stock/hatchery interactions within Burnett Inlet was taken into account by the RPT, by SSRAA and by the Department long ago.

Proposal 105: SSRAA SUPPORTS

This is a SSRAA-authored proposal which establishes a Terminal Harvest Area for Port Saint Nicholas, a release site for chinook salmon. The reasoning SSRAA included within Proposal 105 is self-explanatory and is seen as being essentially "housekeeping" in nature.

Proposal 106: SSRAA SUPPORTS



This is a SSRAA-authored proposal which establishes a Special Harvest Area for Port Saint Nicholas, a release site for chinook salmon. The reasoning SSRAA included within Proposal 106 is self-explanatory and is seen as being essentially "housekeeping" in nature.

Proposal 107: SSRAA SUPPORTS

This is a SSRAA-authored proposal which establishes a Terminal Harvest Area for Port Asumcion, a release site for chum salmon. The reasoning SSRAA included within Proposal 107 is self-explanatory and is seen as being essentially "housekeeping" in nature.

Proposal 108: SSRAA SUPPORTS

This is a proposal authored by ADF&G which establishes a Special Harvest Area for Port Asumcion, a SSRAA release site for chum salmon. The SHA that Proposal 105 would establish mirrors what the Department has allowed by EO for the past three summers and is acceptable for effective cost recover by SSRAA.

Proposal 109: SSRAA SUPPORTS

This is a SSRAA-authored proposal which establishes a Special Harvest Area for Carroll Inlet, a SSRAA release site for chinook salmon. The reasoning SSRAA included within Proposal 109 is self-explanatory and is seen as being essentially "housekeeping" in nature.

Thank you for your attention to these issues.

Sincerely,

David Landis SSRAA General Manager

Submitted By Stephanie Masterman Submitted On 12/22/2021 10:17:02 PM Affiliation



My name is Stephanie Masterman, I am a member of the southeast Alaskan community and a Tlingit & Haida tribal citizen, and I am writing in support of proposals 156, 157, and 158. These proposals offer changes necessary for safer management of the commercial herring fishery in Sitka Sound. It is crucial for the board to prioritize rebuilding the fishery by protecting the herring stock's resilience, ability to reproduce, and ensuring the population retains mature females who are known to lead the stock to spawning grounds. The subsistence roe-on-branch harvest is a sustainable practice, thousands of years old, and needs to be protected and prioritized. I believe these proposals support that goal.

Additionally, I am opposed to proposals 159, 160, 161, 163, 164, 165, and 166 because they are not scientifically grounded, they disrespect and reject modern and traditional Tlingit knowledge of the fishery and the greater ecosystem, and will inevitably cause damage to and reduction of the Sitka Sound herring stock. These proposals fall far short of what is necessary to ensure healthy herring populations for future generations of Alaskans and all who benefit from the herring.

Herring are more than just an economic resource. They are a lifeline to Tlingit people, Alaskans, and the entire ecosystem. Proposals 156, 157, and 158 should be adopted in order to sustain the Sitka Sound herring fishery.

Submitted By Stephanie Stallings Submitted On 12/22/2021 9:50:05 AM Affiliation



I may not live in Alaska, but this seems important enough to say something. I recently completed a student project on Pacific herring populations in the Gulf of Alaska, which has broadened my perspective on the importance of herring to U.S. fisheries and the threats they face. As it exists now, the sac roe industry is wasteful and risks destabilizing an already much-reduced herring population in Alaska. Please support herring protections for the sake of sustainable harvest, because otherwise the herring population may no longer be healthy enough for a worthwhile fishery.

Submitted By Steve Hoffman Submitted On 12/17/2021 6:43:41 AM Affiliation private citizen

Phone 907-220-6475 Email <u>mcs123@gci.net</u>

Address PO Box 7064 Ketchikan, Alaska 99901

Dear Board of Fish members:

First, I am writing these comments to express my displeasure with the BOF decision to hold the SE Alaska meeting in Ketchikan depite the high level of Covid outbreaks in this community. Holding this meeting in person without strict mitigation measures such as mandatory masking, proof of vacation, and physical separation minimums will increase the risk of Covid spread within this community. I Would Encourage The BOF to Delay This Meeting Until A Future Date When Covid Cases Have Decreased.

Second, when the BOF holds the SE Alaska meeting I would like to express my support for the intent of Proposals 84,85.86. and 95. Adoption of the intent within these proposals will give direction to ADF&G to manage the SE Alaska king salmon sport fishery to stay within its allocation without restricting resident anglers unless wild stock king salmon conservation is mandated. In other words. nonresident anglers should carry the bulk of responsibility for staying within the king salmon allocation assigned to the SE Alaska sport fishery.

Sincerely:

Steve Hoffman



Submitted By Steve Hutchinson Submitted On 12/22/2021 11:51:19 AM Affiliation



As a former resident of Sitka and as a beneficiary of the generosity of subsistence herring roe harvesters, I am writing today **in support of proposals 156, 157, and 158** which would lead to safer management of the commercial herring fishery in Sitka Sound by better protecting population resilience while doing less harm to the subsistence roe-on-branch harvest. Moreover, honoring the proposals of the Sitka Tribe of Alaska is of the utmost importance. Sheetka Kwaan, now represented in part by Sika Tribe of Alaska, have stewarded the herring population and the overall abundance of the ecosystem in Sitka since time immemorial and their wisdom on this topic must be heeded.

I am **opposed to proposals 159, 160, 161, 163, 164, 165, 166,** which lack good scientific justification, disrespect subsistence users and modern and traditional Tlingit knowledge, and run the risk of further damaging and reducing herring populations. Many herring fisheries throughout Southeast have crashed in the past century due to overfishing. We must allow the populations to rebound, including allowing the population to rebound to the level of abundance that was seen by the indigenous peoples of this land prior to the start of the commercial fisheries.

Further, I believe that none of these proposals goes far enough to advance respectful stewardship and protect the herring for generations to come. We must move toward respect for the herring as well as Sitka Tribe of Alaska and the elders sharing their wisdom on this issue.

Sincerely, Steve Hutchinson



Testimony to Support SE AK Fish Board Proposal 155 at Jan. 2022 Board meeting in Ketchikan

I am Steve Mathews of Coffman Cove, AK. I am not affiliated with any fishery organization or institution. I am retired from AK commercial fishing but still sport fish. If enacted, proposal 155 would eliminate the use of treble hooks in all SE AK sport fishing, and require that any sport caught salmon released from sport gear, either voluntarily or as required by minimum size limit, daily catch limit, season closure, or numerical quota by fishery, be so released without lifting that salmon from the water, as is commonly done now by landing net or hand. These two interlocking regulations are needed primarily to reduce the incidental mortality rate on caught but released Chinook salmon ("shakers"). Virtually all Chinook stocks from SE AK streams and rivers, particularly the important trans-boundary ones, are at critically low levels.

The total Chinook shaker catch in SE AK by all hook and line gear, including commercial troll, is imprecisely known, but is much in excess of one shaker per every Chinook retained legally. An average of 25% of these will die from the hooking and handling stress. The degree to which such incidental mortality can be reduced by eliminating treble hooks and requiring in-water release is uncertain; but anyone who has commercially trolled or sport fish fished extensively would honestly concur that it requires more human effort and causes more stress on the fish to release a salmon hooked by two or three points of a treble than one caught by a single hook. The research to unequivocally estimate the reduction in shaker mortality from the two interlocking restrictions proposed in 155 would be extensive and expensive. I think that several thousand Chinook salmon could be saved each year in SE AK, if proposal 155 rules were applied to both sport and commercial troll fisheries. But being more experienced with sport fishing, I would defer to the trollers and ADFG regarding regulations for the commercial fishery.

Although there are dozens of published studies comparing mortalities of fish of all kinds released from treble vs single hooks, they are marginally relevant to the current SE AK salmon sport fishery. Our case is unique. Some common sense must prevail in lieu of hard science. Most people troll, such that the salmon are attacking a fast-moving bait or lure and therefore tend to get hooked in the outer parts of the mouth or jaw, not deeper. Consequently there is an easy, in-water way to un-hook them from a single hook: slide the leader against the inside bend of a gaff or boat hook as you pull the leader in the opposite direction of the fish; tug modestly as the gaff or boat hook interlocks with the bend of the hook, and most fish are gone. Try this with a fish that has three points of a treble hook buried in upper and lower jaws, and you could rip off jaw parts or worse. Commercial trollers who are aware enough to avoid trebles have used this relatively benign single hook release technique for years. It is well explained in public education pamphlets of states that have adopted rules similar to proposal 155. Or use one of several plier type of de-hookers on the market that all work far easier with single hooks than trebles. Or just cut the hook off-they are virtually costless compared to the value of the saved fish. If you are in doubt about the legal length of that fish still in the water, let it go. Measuring them on board is another unhelpful, two-handed struggle.

I foresee no added enforcement complexity due to the requirements of my proposal. Patrol agents routinely stop boats on the water to check for licenses, illegal fish aboard, proper safety equipment, etc.



Everyone with a rod out reels in, so any treble hook at the business end becomes apparent. There is already on the rules a far more complex release technique required for endangered demersal rockfish. Watching for someone who might net a salmon and bring it aboard before release, seems far simpler than enforcing the rockfish requirements. All the other states and BC have enacted one or both of my proposal 155 requirements, for varying segments of their salmon fisheries. AK is the holdout.

Most people will readily comply. The needs are self-evident. However, the sport guide and charter businesses might have a reasonable objection. Their clients may like to take pictures of their fish out of the water, particularly of the big Chinook that must sometimes be released along with the under-sized ones, if (say) caught out of Chinook season, or caught by a non-resident client without a Chinook endorsement, or by someone who may have caught his/her daily Chinook limit. I would counter that these businesses are best off in the long run with more Chinook in the water.

Eliminating treble hooks everywhere should benefit rockfish, lingcod and other fish facing too much fishing related mortality. Trout in streams can be caught as well with single hooks as with trebles, to likely improve their catch and release survival. Salmon snaggers in streams usually use trebles. Enforcement against snagging would be easier if trebles were outlawed everywhere.

Tackle manufacturers and retailers may have costly inventories of treble hooks and lures with trebles. It would therefore be fair to enact proposal 155 with a suitable grace period before enforcing full compliance.

Thank you for considering my proposal.

Submitted By stephen b mathews Submitted On 11/1/2020 9:10:17 AM Affiliation self



Phone 9073292139 Email <u>sbmathews38@yahoo.com</u> Address 109 neptune drive coffman cove ak coffman cove. Alaska 99918

This comment pertinent to Proposal 121 of 5 AAC 33.350 Closed waters, to be cosidered at SE Fish Board meeting spring of 2021.

Having gillnetted out of Coffman Cove for 30 years, and still residing there though no longer gillnetting, this proposal addresses no realistic human safety concerns, adds uneeded enforcement burdens to the State, and unessarily stirs up sport:commercial emotional conflict. Less than 2% of total gillnet sets in upper Clarence Strait occur in this area. When gillnetting I stayed out of this area ,in respect to my sport fishing neighbors, and not wanting my net accidentally damaged by any of them. We worked it out neighborly. My net was damaged multiple times over those 30 years by seiners, tugs, yachts, the Coast Guard, guide boats, private sport boats, and other gillnetters. I sucked it up and fixed the net, usually with financial or human effort help by the damaging party-including the Coast Guard. It was no big deal compared with all the other hassles of gillnetting. Never was there a human safety concern, though sometimes the damaging vessle could not run due to mechanical failure or net in the prop. If such, I would tow them to the Cove or make sure someone else did. I would help them find divers or mechanics as needed. Please vote no on this uneeded proposal.

Submitted By Steve Merritt Submitted On 11/22/2021 9:32:09 AM Affiliation



~~Proposal 81 Amendments

Madam Chair and Board of Fisheries members

I created proposal 81 and now have some suggested amendments.

First of all, when I created the proposal, I was under the impression that September 1st would be the soonest the department would know if there were treaty chinook allocations that would go unharvested. I have been informed that the department in some cases knows before September 1st. So, I suggest the first amendment be that the date be removed all together.

Second, I should have included the sport fishery along with the troll fishery to harvest these fish. At the time of 81's creation, I was concentrating only on situations similar to what happened in 2019 when covid crushed the sport fishery.

There are other situations in which the sport fishery could help the troll fleet harvest the unharvested allocations. So, I would encourage you to amend the proposal to include the sport fishery as a possible fishery to help clear the treaty table.

Because of this second amendment, the issue of dividing the unharvested allocations between the troll and sport fisheries must be addressed. It has been suggested that an 80/20 split between the troll and sport fishery is a place to start. However, I do not see this option as being one to ensure all of the excess allocation is harvested nor the best use of the excess in some situations.

For example, if the predicted unharvested allocations totaled 10,000 kings, an 80/20 split results in 2000 fish to be harvested in the sport fishery. That may be too many fish for the sport fishery to harvest before the end of their fishing season. Thus, defeating the proposal's original goal and leave some fish unharvested.

About 4% of the sport fisheries treaty harvest has traditionally occurred between the 15th and 28th of August. About 1% of the sport fisheries treaty harvest occurs after September 1st. So, the harvesting power of the sport fishery is fairly weak towards the end of the fishing season. In the above situation a 90/10 split may be necessary to accomplish the goal.

Another possibility is if the remaining excess allocations total only 500 fish. At an 80/20 split it results in 400 for the troll fleet and 100 for the sports. In this situation 400 fish is probably just a 1 fish per boat limited troll fishery, if at all. It may not be possible to open the troll fishery for just a one fish retention and still harvest 500 fish or less. If the sports had a 500 fish harvest capability, maybe it would be better to allow the sport fishery to harvest it all.

Let the department determine the best method of division resulting in accomplishing the proposal's goal. There are so many situations that one shoe just won't fit all. The important thing to keep in mind is the original goal and not squabble too much about how it's done. So, with the above amendments to proposal 81 in mind (6) should look something like this.

(6) If the department determines that any of the above fisheries will not catch their entire allocation of treaty Chinook for the year, the department will determine the best way to divide the excess between the troll and sport fisheries to ensure that it is caught.

Steve Merritt



Madam Chair and Board of Fisheries Members,

I created proposal 88 and now no longer support it. I submitted the proposal on February 25, 2020 before the impacts of Covid hit the sport fishery. I no longer support it because in the aftermath of Covid, I doubt the allocation criteria spelled out in **Alaska Statutes 16.05.251**, can be met.

Below is the criteria list from 16.05.251

(1) the history of each personal use, sport, guided sport, and commercial fishery;

In 2020, despite increased sport bag limits, the fishery could not catch their allocation of kings due to covid 19 impacts. In 2021 the department augmented the current plan drastically to ensure the sport fishery caught its entire allocation because of covid 19 impacts.

When the most recent history of the sport fishery harvest is considered it can be easily concluded that more fish allocated for the fishery is not necessary nor the solution to the fishery's current problems. It would also be wrong to rely on past harvest history since there is no way of knowing what the harvest trend of the fishery will be in the aftermath of covid. It could be significantly different and there is no way to make an accurate prediction. Allocation changes would be better addressed when the sport fishery is no longer harassed by the pandemic.

(2) the number of residents and nonresidents who have participated in each fishery in the past and the number of residents and nonresidents who can reasonably be expected to participate in the future;

Predicting the number of participants to participate in the future would be highly debatable and speculative. The covid pandemic is going to be with the world for quite some time according to health experts. Covid will most likely impact travel to Alaska for several years. To what extent who is to say? The delta variant of the covid virus created another pandemic within a pandemic. A new variant unsusceptible to the new vaccines could easily throw the country in to another economic crash similar to 2020 in a matter of weeks. So, to reasonably predict any accurate numbers of future participation by nonresidents would be difficult if not impossible.



(3) the importance of each fishery for providing residents the opportunity to obtain fish for personal and family consumption;

If anything, the decrease in nonresident fisherman has increased the residential sport fisherman's opportunity to obtain fish for consumption.

(4) the availability of alternative fisheries resources;

It can be easily documented that there is no need for an alternate fisheries resource at this time. The opposite is true in the current situation where there is more than enough of the resource available. Especially if managed correctly.

(5) the importance of each fishery to the economy of the state;

Currently all of the fisheries involving Chinook salmon can be demonstrated to be very important to the state economy overall. It would be a lengthy article to recite the economic mechanics of both the troll and charter fisheries. Sufficed to say both industries employ and support major parts of the Southeast economy. To allocate more fish to one at the expense of the other, would end in a deficit to the state's economy as a whole.

(6) the importance of each fishery to the economy of the region and local area in which the fishery is located;

In the Southeast region the commercial troll fishery and the charter fishery are both a valuable part of the economy. The troll fishery amid the covid 19 pandemic is performing as it always has. It has been economically stable. The charter fishery has not and has been deeply impacted. Given the recent sport harvest history where the problem clearly is not a lack of fish but covid, it is not logical nor rational to take fish from a functioning troll fishery, making it less economically viable, in attempt to revive the charter fishery from covid . In the current pandemic conditions, risking harm to a well-functioning economic participant of Southeast's current fragile economy, unwisely risks detrimental harm to the region's stability.

(7) the importance of each fishery in providing recreational opportunities for residents and nonresidents.

It can be shown that the opportunities for both would not significantly change if the allocation was changed. 2020 showed there was excessive opportunity for both and 2021 shows that had management been more appropriate for the situation, opportunity for the nonresidents would not have been impacted.

Sincerely, Steve Merritt



Comments on proposal 88 1/5/2021

I created proposal 88 and below is how I came to the conclusions incorporated in 88.

Math.

First of all, the data used to compute percentages and historic trends came from the department. I used the harvest history of the sport fishery from 2009 to 2018 with the exception of 2015.

In 2015, the State Chinook technical team was in a dispute with the Southern team on what exactly the correct abundance prediction should be. Alaska's team insisted that the abundance was much higher than what the South predicted. Below is a paragraph from the department's summer Chinook fishery announcement on 6/26/15.

The Alaska Department of Fish and Game announced today that the first Chinook salmon opening of the general summer troll season will begin at 12:01 a.m., July 1. The opening will be managed in-season and closed by emergency order. Through the Pacific Salmon Commission process, Alaska has committed our fisheries management programs within Southeast Alaska to be configured around an assumed draft abundance index (AI) of 1.45 for the 2015 fishing season. Notwithstanding the decision to configure the SEAK fisheries for an assumed AI of 1.45, Alaska does not agree that the draft calibration from which that number was derived is accurate.

I did not use the harvest data for 2015 because Alaska that season, ended up exceeding their treaty quota by about a 100,000 fish. That is far and away the most Alaska managers have exceeded the treaty Chinook quota. To be using 2015 as a reference to develop any type of accurate historic trends as far as usage of the resource, would be an error.

This proposal is based on the premise of a nonresident daily bag limit of one Chinook and an annual limit of 3.

So, in looking at the past bag and annual limits of the years 2009-2018, I had to adjust the nonresident harvest record down on years when the bag and annual limits were above 1 and 3 respectively. That would aid me in determining what their usage would have been under this proposal's requirements.

In discussing this with a department staff via email, we both agreed that the relationship between bag and annual limit to nonresident harvest, was not a direct one. In other words, it would be incorrect to say that if the nonresident daily bag limit had been 1 instead of 2, or the annual limit half of what was authorized, that the nonresident harvest itself would have been reduced by 50%. When I



suggested the relationship be closer to 30% than 50%, I was told that would be closer to reality.

To that end, the standard I used was 33% and I adjusted the past nonresident harvest down by a 1/3 to obtain a hypothetical 1 fish daily bag limit situation. Similarly, when bag limit one and the annual limit was 5 or 6, I adjusted the nonresident harvest down a 1/3 to get a hypothetical annual limit of 3. But when the bag limit was above 1 and the annual limit was above 4 in the same year, I felt a reduction of 33% unrealistic.

Here's why. There are several types of nonresident anglers. There are the guided, the non-guided who bring their own boat or rent one, and visiting relatives of Alaskans.

Since most charters are of the 3-day nature, the 3 day guided historic harvest would not be affected by an annual limit greater than 3, unless the daily bag limit had been greater than one fish. For the historic catch of charters longer than 3 days, the non-guided renting boats, traveling yachts and family visitors, the annual limit of greater than 3 would play a part in their harvest. These people typically stay in Alaska longer and possibly fish for more than just 3 days. Consequently, in past years where both the bag limit was above 1 a day and the annual limit above 3, the hypothetical reduction of bag and annual limit down to 1 and 3, would have affected the harvest of all non-resident anglers, short term and long. Even though the real impact is probably closer to 50% in those situations, I chose 40% just to be on the safe side.

So, for years like 2011 and 2016 where the nonresident daily bag limit was 2 and the annual limit was 5 and 6 respectively, I reduced the nonresident treaty harvest by 40%, to get a more realistic hypothetical harvest based on 1/per day and a 3-annual limit.

Once the past nonresident harvests had been adjusted to simulate a 1/day and 3 annual limit, I took that adjusted nonresident harvest and added it to the resident harvest. This became the hypothetical sport treaty Chinook harvest for that particular year.

I then applied those adjusted harvests to the appropriate CPUE bracket based on the past Abundance Index assigned to the year the fish were harvested.

Example in 2011 the daily nonresident bag limit was 2 fish and there was an annual limit of 5. The nonresident harvest for that year was 34,450 treaty kings. To reduce this harvest by a 40% I multiplied 34,450 by .6 to get an adjusted nonresident harvest of 20,670 treaty fish. I then added in the resident harvest of 19,967 to get a hypothetical total of 40,637 treaty kings for the sport fishery in 2011 ..

I then went to the CPUE brackets and found the bracket that fit the 2011 abundance index number of 1.69.



An abundance index of 1.69 results in a 266,585 total treaty allotment for Alaska using the new treaty CPUE methodology. I then subtracted the nets which is 7.2% plus 1,000 set net fish, and came to troll/sport amount of 246,391 treaty kings. Then I applied the adjusted sport catch of 40,637 to 246,391 and it computed to 16%.

I repeated this procedure for the years 2009-2018 with the exception of 2015. From there I looked for trends that would aid in developing a proposal that would fit the new treaty CPUE brackets.

For the upper CPUE bracket where the allotment is based on a 2.2 abundance index and higher, we have a couple of years history to extrapolate from. In 2014 there was an abundance index of 2.57 and the sport treaty harvest, after adjustment, resulted in a hypothetical sport harvest of 17% of the new CPUE allotment. Similarly, in 2016 there was a 2.06 abundance index and after adjusting for the new bag and annual limits resulted in a hypothetical harvest of 15% of the new CPUE allotment. Although 2.06 is not above 2.2 it is just .14 short of that and it's the only year out of the 9 available that is realistically close enough to 2.2 for mathematical comparison.

The average of indexes 2.57 and 2.06 is 2.3 which is about as close as we are going to get to 2.2. So, if the mathematical theory holds together, you should be able to average the sport treaty harvest of those years to come up with a trending percentage. The average of 17 and 15 percent is 16%.

This gives us an idea of what would happen on the upper CPUE bracket if a nonresident daily bag limit was one fish and an annual limit of 3.

In looking at the lower CPUE brackets we find that we have 3 years of data that would apply to the lowest CPUE brackets. The years 2103, 2017 and 2018 were years in which the Abundance index was between 1 and 1.27. In 2013 the AI was 1.2 and that year's harvest applied to the new CPUE bracket computed to 34% of the sport/troll allocation. Similarly, 2017 a 1.27 resulted in a 23% harvest of the sport/troll allocation, 2018 at a 1.07 AI resulted in a 16% harvest.

The average of these three years of lower end Abundance Indexes computes to an average 24% harvest of the sport/troll allocation based on the new CPUE system.

This gives us an idea of what the sport harvest of treaty chinook would be under a 1 per day and 3 annual limit in the upper and lower CPUE brackets.

As far as computing every CPUE bracket's sport harvest percentage there simply isn't enough data to do this accurately. So, we have to make some educated assumptions.

For instance, the first CPUE bracket down from the very highest bracket starts at an AI of 1.805-2.2. We consult the history in which we have a similar AI of above



1.8 and less than 2.2 and we have only one year, 2016. 2016 adjusted sport harvest resulted in a 15% harvest when compared to the new CPUE brackets. If the mathematical trend of the sport fishery needing 16% of the sport/troll allocation in the highest bracket and 24% in the lowest, it would not make sense to use 2016' 15% harvest as the indicator for what the sport harvest should be in the bracket below the highest bracket. The predicted percentage usage should be at least as high as the highest bracket or higher but not lower.

The development of the other CPUE bracket's sport treaty harvest followed similar logic and mathematical computation.

After concluding each CPUE bracket's sport/commercial troll percentage parameters, I went to the official regulation language on the sport management plan.

I then adjusted the current plan with the new allocation percentages and annual/daily bag limits. In the higher CPUE brackets I adjusted the nonresident daily and annual limits to one a day and a 3-annual limit. On the lower brackets, since there were more fish available to the sport fishery, I tried to benefit the resident fishery as much as I could.

However, there were problems I saw in the nonresident fishery management that needed solving. In some cases, solving those problems took precedence over transferring fish to the resident fishery. There are several changes written in board of fish format and I won't go thru all of them. I list a couple below.

The current plan on the CPUE less than 6 and greater than or equal to 3.8, calls for a nonresident to be allowed one king a day, 3 annual limit before July 1, two annual limit before July 7, and 1 annual limit after that. I find that this is unnecessarily complicated. Since there was more fish available due to this proposal's higher allocation percentage, I felt I could simplify things by allowing a nonresident one a day bag limit with a two-annual limit for the entire season instead of a 3,2,1 step down annual limit.

In the lowest CPUE bracket, in the current plan nonresidents were not allowed to keep a king salmon from July 1 thru August 15, yet anglers arriving before June 15 could keep 2 kings. And if they fished between June 16th and June 30th, they were allowed to keep one king. I see this as unfair to other nonresidents who can't seem to make it to Alaska before July 1. Currently the guided fishery preferencing more kings early is actually hurting other nonresidents guided or not. Alaska management of its nonresident sport fishery should not facilitate a race to get to Alaska before the sport quota is gone.

Since this proposal's allocation percentage is 24%, I changed the nonresidents harvest to allow one king the entire year or until the allocation is reached as opposed to 2 fish before June 15th and then one before July 1. However, that may be too aggressive and it may result in the closure of nonresident Chinook retention



before the end of the fishing season, possibly mid August. But it would ensure more nonresidents take home a king salmon rather than giving 2 kings just to the early birds and none for others. Overall, more people would think positively about Alaska fishing than just a select few.

Most of the other changes are self-explanatory. Some of them I made to simplify the plan because it is excessively wordy and complicated.

In looking at other proposals on this subject, proposal 88 addresses several of the points brought up by other proposals. Proposal 88 includes proposals 93 and 86.

The proposal 83 by SEAGO, 88 is a version of what 83 should specifically look like, resulting in an overall average of a 20% allocation for the sport fishery. As 83 suggests it is clearly defined in 88. However, 83's removal of allocation percentages from the tiers is not. You can't have a wish of clearly defined and yet at the same time the allocation percentages not defined.

It is also difficult to see the department being able to manage its Chinook fisheries with a goal of staying within federal quota limits, when some departments are managing to a specific allocation percentage and one is not. In addition, I think it would create discontent within the department itself if such a scenario existed.

The language of proposal 84 and 85 is incorporated to a certain extent in proposal 88 5 AAC 47.055. (b). The language of proposal of 85 could substituted for 88 section (b) but it could result in the sport fish allocation being exceeded if the nonresident fishery was not managed appropriately.

Proposal 95 is not included in 88 and that was purposely intended. As 88 notes that one of the problems I saw was that on high abundance years the nonresident annual limits were excessive. To the point that nonresidents were taking home more king salmon than most average Southeast residents were. Now, if proposal 95 was modified to only increase the bag limit of nonresidents to its maximum of one a day and 3 annual limit and leaving the shortfall predicted to be captured by an increase in the resident bag limits, that would be acceptable to me.

With proposal 88's new allocation percentages however, the dilemma of having substantial excess fish in the upper tiers, should not be an issue. It is my hope that proposal 88 will result in no closures to the sport fishery and fully utilize the majority of its allocation at the same time.

You will notice that I have the CPUE tiers this proposal is based on, in brackets. It is intended to get the sport fish management plan in terms of numbers of fish without any references to federal treaty language. In this proposal the tiers are referenced just to keep readers aware how the fish numbers are related to the CPUE brackets.

In 1999 the sport management plan was based on Abundance index numbers produced by the Pacific Salmon Commission. In 2010 Alaska lost 15% of its



harvest share of treaty Chinook in the 2009 treaty negotiations. From 2010 to 2018 the sport fishery bag limits were based on the same abundance index numbers, **yet each index** number represented 15% less fish than when the plan was created. This could have easily resulted in a management plan that consistently over harvested the specified abundance.

In 2019 the state went from an Abundance index system to a CPUE of the winter troll fleet to determine its harvest share of treaty Chinook. In anticipation of this, the Board of Fisheries had to revise the sport plan to fit the new treaty language and provisions since it was previously based on Abundance index figures. Had the State had their Chinook management plans based only on numbers of fish instead, the plan would have endured any abundance indicator changes brought on by treaty agreements. The State is asking for trouble by keeping any Pacific Salmon treaty language within their management plans for the king salmon resource. Let the managers decipher the changing federal acronyms to determine fish available for management, then apply those fish numbers to your fishery management plans.



Comments for the Anita Bay proposal

I submitted proposal 97 in response to action taken by SSRAA in 2019, after they received a letter requesting a designated troll only fishing area within the Anita Bay THA.

The SSRAA board granted that request on June 1 thru June 12 of 2019. At first, I was pleased with SSRAA for recognizing the need for trollers to get additional breaks in the terminal area due to their loss of the hatchery king salmon fisheries, in the surrounding areas. Those spring fisheries were the prime source for trollers to harvest their share of the Anita Bay hatchery fish designated by the allocation plan. But in looking at the data of when the Anita Bay Chinook return to the terminal area, it confirmed that they don't show up until June 15th on a normal year. So basically, the troll fleet was given an empty lake to fish in under the pretense of that being a gift from the SSRAA board.

In talking to one of my troll reps on the SSRAA board, he informed me that they tried to get those dates extended to when the fish were actually there, but could not override the net representatives on the board.

It was also brought to my attention that no trollers were observed fishing the special area when they had it in 2019. This was no shock to me since the whole idea was to harvest hatchery kings, not to troll around in an empty bay.

As any sport or commercial troll fisher knows, tide changes, early mornings and dusk are the best times to convince a king salmon to bite. Trollers depend on these instinctual times Chinook salmon decide to go on the bite. That takes time as these opportune moments only happen during short windows of time during the day. This extra time is not necessary for the nets to capitalize on hatchery fish since a net catches the fish regardless of whether or not it feels like biting a hook.

So, more time without net interference is essential for trollers to catch the hatchery kings they are entitled to. Rotations of every other day do not work for troll access or fishing side by side with the net fisheries. Rotations of 3 and 4 day stretches of troll fishers only or, an exclusive area are the best ways to go.

These hatchery fish are not going anywhere since they have reached their spawning ground. Whatever fish that don't fall to the trollers during such rotations will remain in the area and will be readily caught by the nets during their rotations.



In 2020 the SSRAA board terminated this special area for trollers and I was informed that the troll reps had to trade that away to get an extra day in the Carrol inlet THA near Ketchikan. So, it is quite apparent to me that the net representatives on the SSRAA board are giving no quarter to the troll fleet after their loss of their spring fisheries.

If the nets were truly concerned about the proper allocation ratios set up in the allocation plan, they would be doing more for the troll fleet under these circumstances and not conducting business as usual.

The question is, who is really responsible for making sure the allocation plan of hatchery fish is followed? You can't expect the fisherman representatives to represent the plan over their own fleet's interests. Their sole purpose on these hatchery boards is to represent their user group. So, it is not surprising the nets would be opposed to giving the trollers sole access to any parts of the Anita Bay terminal area when the fish were actually there. It would mean the trollers would intercept some of the hatchery kings they have grown accustom to harvesting.

The responsibility of making sure the allocation plan is followed rests with the Board of Fisheries and they, in my opinion, are failing in their duty. Their duty is spelled out in regulation 5 AAC 33.364 section (c). and so far, I have yet to see the Board exercise its authority under that section. Without the Board's help on this issue, the politics of the SSRAA board will continue to override the troll fleet's needs and the allocation imbalance will continue to widen.

In the Board's defense, if left to their own, they will find it difficult to construct rotations that will solve the issue due to their unfamiliarity with the workings of the fisheries involved. To help the board I have created proposal 97 and if not to their liking please use proposal 97 as an avenue to instill the following alternative.

Alternative

The current June rotational schedule set up by the SSRAA needs to be scrapped and the following incorporated.

- (a) Starting the first Monday in June and ending June 30th.
- (b) Terminating when the spring troll fisheries are allowed to open in the Steamer Point (106-30): and Chichagof Pass (108-10) areas during the month of June.



- 1. Seiners Anita Bay THA access only on Monday 12:00 noon to Tuesday 12:00 noon.
- Driftnet Anita Bay THA access only on Wednesday 12:00 noon to Thursday 12:00 noon.
- Trollers Anita Bay THA access from Thursday 12:01 pm to Monday 11:59 am.

This alternative rotational schedule is to be in conjunction with the typical closures due to the crab fishery and cost recovery in the Anita Bay terminal area.

This will be about the best the Board of Fisheries can do and still allow all user groups to use the THA. Should things continue to head South for the troll allocation percentages, the only other option would be Anita Bay terminal area be a troll only THA until June 30.

Sum of Chinook Column Labels						
Row Labels	Anita Bay Term. DN Anita Ba	y Term. Seine Anita Ba	y Term. Troll Gra	and Total		
2011	6,205	3,136	161	9,502		
2012	3,618	5,540	197	9,355		
2013	8,433	4,848	173	13,454		
2014	7,020	2,680	165	9,865		
2015	4,421	4,818	72	9,311		
2016	2,050	1,536	30	3,616		
2017	4,303	4,485	36	8,824		
2018	5,978	5,149	314	11,441		
2019	4,048	1,748	193	5,989		
2020	3,849	4,121	44	8,014		
Grand Total	49,925	38,061	1,385	89,371		

If you need further convincing to act, below is the Anita Bay terminal harvest chart of Chinook. You can see quite clearly that it is not working for trollers.



Gillnet proposal 113 comments

I created proposal 113 and here is what it does. This proposal raises the bar for when a king net can be used by the drift net fleet in districts 111,106 and 108.

Currently the department's policy is that there is no net restriction imposed during the early sockeye openings of June, if the preseason Chinook forecast for the Taku or Stikine is above the MID point of the spawning goal. That has resulted in fisherman using king nets in the early sockeye fishery to target kings instead of sockeye. Currently by rules of the Pacific Salmon Treaty in the Transboundary river annex, a direct fishery on Chinook bound for these rivers can not occur unless the preseason Chinook forecast for these rivers is ABOVE the spawning goal.

By not imposing a mesh restriction to ensure king nets are not used is in fact sanctioning a direct king fishery by default. So, this proposal's end goal is to put into state regulation management of the driftnet fishery in district 108 and 111 that fully complies with the intent of the Transboundary annex of the Pacific Salmon Treaty. District 106 is included because it surrounds district 108 and often these districts are opened simultaneously. Differential mesh restrictions for areas that boarder each other, open at the same time, are basically unenforceable since traversing and fishing these two districts during an opening happens frequently.

The second goal of this proposal is to change the current Chinook protective mesh restriction, (when applied), to one that actually protects Chinook salmon transiting the area. The initial proposal highlights the fact that during the June openings it is a sockeye fishery and the most effective mesh used for harvesting sockeye is 5.25 inches. In the proposal I referenced a study done by the department on mesh effectiveness on catching sockeye. That study is

CATCH EFFICIENCY COMPARISONS OF FOUR COMMERCIAL GILLNET MESH SIZES IN THE TAKING OF SOCKEYE AND CHUM SALMON IN DISTRICTS 11 1 AND 115, SOUTHEAST ALASKA BY Joseph Muir Ray Staska And Jim Blick



There is however another issue not addressed that is more important concerning kings and mesh size. That is the effectiveness of the typical 6 inch mesh on today's spawning king salmon.

There is conclusive data from the department that proves spawning king salmon are substantially smaller now than in the past. It has been shown that instead of spending 4 and 5 years in the ocean feeding, they are returning after just 3 years in the ocean to spawn!!!

Below is a table of the Taku river age tally for returning Chinook salmon. The trend is alarming and studies show its happening coastwide and not just restricted to a few rivers.

Year	Age-1.2	Age-1.3	Age-1.4	Age-1.5
1973	0.28	0.54	0.18	_
1974	0.49	0.30	0.21	-
1975	0.37	0.34	0.27	0.01
1976	0.29	0.49	0.21	0.00
1977	0.48	0.37	0.13	0.01
1978	0.42	0.40	0.18	0.01
1979	0.15	0.53	0.30	0.02
1980	0.18	0.48	0.33	0.02
1981	0.30	0.45	0.20	0.06
1982	0.14	0.35	0.48	0.03
1983	0.22	0.40	0.35	0.03
1984	0.22	0.34	0.38	0.06
1985	0.18	0.36	0.43	0.03
1986	0.13	0.43	0.41	0.03
1987	0.25	0.36	0.37	0.02
1988	0.25	0.48	0.26	0.01
1989	0.19	0.48	0.33	0.00
1990	0.18	0.49	0.33	-
1991	0.18	0.41	0.41	0.00
1992	0.11	0.60	0.29	0.00
1993	0.16	0.57	0.26	0.01
1994	0.26	0.42	0.32	0.00
1995	0.23	0.55	0.21	0.00

Table .- Terminal brood year returns by age of Taku Chinook salmon.

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1996	0.15	0.54	0.31	0.00
1997	0.10	0.63	0.27	0.01
1998	0.17	0.51	0.32	0.00
1999	0.19	0.62	0.18	0.00
2000	0.26	0.45	0.29	0.00
2001	0.21	0.63	0.16	0.00
2002	0.22	0.54	0.24	0.01
2003	0.19	0.60	0.21	0.00
2004	0.30	0.55	0.14	0.00
2005	0.28	0.61	0.11	0.00
2006	0.24	0.59	0.16	0.01
2007	0.35	0.48	0.16	0.00
2008	0.19	0.60	0.21	0.00
2009	0.37	0.54	0.09	0.00
2010	0.27	0.68	0.05	-
2011	0.41	0.53	0.06	0.00
2012	0.37	0.53	0.10	0.00
2013	0.31	0.60	0.09	0.00
2014	0.28	0.57	0.15	-
2015	0.32	0.68	-	-
Ave 70s	0.35	0.42	0.21	0.01
Avg				
80s Ava	0.21	0.41	0.35	0.03
90s	0.17	0.54	0.29	0.00
Avg 00s	0.26	0.56	0.18	0.00
Avg 10s	0.33	0.60	0.08	0.00

As you can see the spawners instead of spending 4 and 5 years in the ocean, they are returning after only 3 years. We are now down to a point where only 8% of the returning kings to the Taku are 4 ocean fish and the remainder of the run is 3 ocean or less. This means instead of the 18 to 50 lb spawners of the past, we are seeing a much smaller fish returning. The average size of the Chinooks harvested in the district 6, 8 and 11 driftnet June fishery, has fluctuated between 18 and 14 lbs. over the years, but now it's down to between 14 and 12 lbs.

A 6 inch mesh is typically used for chum salmon and is very effective at catching these 9 to 14 lb fish as the mesh study above states on pg 4. . It does not take a rocket scientist to see that a 6 inch mesh would be deadly on today's ocean 3 kings. They are similar in size to a larger chum. In my opinion a 6 inch mesh is not



an effective measure of protection for these fish. I spoke to a gillnetter about it and he said his king net is indeed a 6 inch net because it is the best way to catch the smaller kings we have returning today.

That said I leave you with what the Board of Fisheries has instituted in the past to protect king salmon during a sockeye gillnet fishery. In the Bristol Bay 2019-2021 reg. book you will find regulation.

5AAC 06.331 Gillnet specifications and operations(a) Gillnet mesh sized restrictions are as follows: (1) gillnet mesh sized may not exceed five and one-half inches during periods established by emergency order for the protection of king salmon and the Naknek-Kvichak and Ugashik Districts from June 1 through July 22.

Submitted By Steven McCurdy Submitted On 11/8/2021 11:56:43 AM Affiliation

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Comments for proposal #153. Logjam Creek

My comments are based on 25 years of personal observations of Logjam Creek and my background as a fisheries biologist.

First; the summer coho in Logham Creek are a very unique run of coho. It is not uncommon to see fish attempting to pass the lower falls in late June.

The escapement is unknown, but based on personal observations I would think it is only a few hundred fish in a good year.

It is very difficult for the fish to pass both the lower and upper falls; with the upper falls being the more difficult of the two. The fish tend to concentrate in the pools below the falls, and it can take weeks for the fish to successfully pass the falls (even with favorable flows).

Natural mortality occurs at both falls. Fish often receive wounds when attempting to jummp the falls and bouncing of rocks. It is very common to see unspawned fish with fungus on their head and body. In years with periods of low water in July and early August the number of wounded and dead fish observed with fungus can be significant, particularly at the upper falls.

I support the East Prince of Wales Advisory Committee in trying to conserve the summer coho in Logjam Creek. I support fishing closures at both falls. The closures should include all fisheries and not just sport fishing (I have personally observed people harvesting 20 coho a day at the lower falls with a dip net). The Board and ADF&G should also urge actions by Federal managers to protect this unique run of coho.


Submitted By Steven Stumpf Submitted On 12/22/2021 1:02:40 PM Affiliation Marit Carlson Van Dort, Chairman Alaska Board of Fisheries 1255 W. 8th Street

Juneau, AK 99811-5526

Re: King salmon management proposals 82 and 83

Chair Carlson Van Dort and members of the Board of Fisheries,

My name is Steven Stumpf and I will keep my comments short and to the point. My wife and I own and operate Silver Sea Adventures, a sport fishing business, located 2 miles southeast of Craig, AK. I have been a sport-fishing guide in Southeast Alaska since 1988 and a business owner since 1999. We are a small family operation with 6 seasonal Alaskan employees. We live in Alaska year-round.

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Sport-fishing is and has been my primary source of income since 1988. My wife and I raised 4 children in this industry. Two of our kids currently work with us and wish to follow in our footsteps and run our business for at least another generation.

I would consider our operation small. We host on the average of 8 non-resident customers at a time. Though we are small, our economic impact on the local community is great. We purchase fuel, groceries, fishing supplies, boat engines, equipment and maintenance, hardware, building materials, city utilities, auto fuel and maintenance, restaurants, etc... Almost all of the income generated by our business goes directly back into our community. We feel good about that. We love where we live and the people that live here with us. There are also many other small and a few larger operations in the Craig/Klawock area that benefit these rural communities.

As I mentioned, I have been doing this a long time. When I started guiding (1988) the limit on king salmon was 2 per day 28" or greater in length with no annual limit for non-residents, the entire season. Back then I almost never caught a daily limit of king salmon for my customers and they were never upset because of that. There was plenty of opportunity and that was the attraction to Southeast Alaska. I will emphasize that **we do not sell fish we sell opportunity**. Customers had the opportunity to keep king salmon whether they caught them or not.

For the past two and half decades king salmon limits have been inconsistent and unpredictable due to pre-season abundance and treaty restrictions. We market for each coming season during the fall, winter, and early spring months. King salmon limits for the coming season (after we are done marketing for the upcoming season) are usually posted in April and sometimes as late as May. This makes it very difficult to sell opportunity when you have no idea what that opportunity is and if there is even going to be an opportunity to harvest king salmon. On top of that, there are in-season regulation changes that take away opportunities anglers travelling to SE Alaska were anticipating. The bottom line is we need consistent limits (opportunity) in order to survive as a vital industry to Southeast Alaska. Below is currently what a conversation with a prospective customer is like.

Prospective customer..."If I go fishing with you do I have a chance of catching and keeping a king salmon?"

Business owner... "I think you will be able to keep kings in May or June but after that I cannot be sure." Pause "Hello, are you still there, are you still interested in fishing this coming season?"

Prospective customer... "I will get back to you." Which means I will check my options elsewhere.



For the reasons mentioned in the paragraphs above **I do not support Proposal #82.** It is too similar to what we currently have and have had. We need regulations that are consistent from year to year. Proposal # 82 is also more restrictive to Alaska Residents in low abundance years that use king salmon as a source of food.

I support Proposal #83. It keeps workable regulations in low abundance years and avoids in-season management. It allows for consistency in king salmon regulations from year to year regardless of abundance. Proposal #83 will allow us to market those numbers to prospective clients so they are aware of their opportunity prior to coming. No surprises, no excuses. Proposal #83 also does a better job of supporting resident access to harvest the resource.

I urge the board to consider support for proposal #83. In years of low abundance, it benefits Alaskan anglers that want to put food on their table and it allows **opportunity** for travelling sport fishermen that will bring much needed income to our rural communities.

Thank you for your consideration.

Sincerely, Steven M Stumpf Silver Sea Adventures Craig, AK. USA Submitted By C T t blomstrom Submitted On 1/30/2021 7:09:14 AM Affiliation Sport fisherman

Phone 5124228328 Email <u>tblomstrom@yahoo.com</u> Address

700 lake rd, coldspring, Texas 77331

Amend the rule on limits of sockeye caught by rod and reel to say that the legal limit shall be the first limit caught shall be the limit set by the "board" regardless of where the fish is hooked.

Too many fish caught other than the mouth die thereby wasting the resource





Alaska Dept of Fish and Game Boards Support Section PO Box 115526 Juneau, AK 99811-5526

December 22, 2021

Members of the Board of Fisheries:

I have been a commercial troller for the past twelve seasons. I operate a 31' power troller, most frequently by myself of with one of my daughters (ages 9 and 14). I chose to become a professional hook-and-line fisherman after nearly three decades of sportfishing in northern Southeast Alaska – an activity I continue to enjoy. I have token experience in several other commercial fisheries in the region as well and have participated in subsistence and personal-use fisheries too. I have served for over fourteen years on the Sitka Fish & Game Advisory Committee (including two SE BoF meetings as chairman) and continue to serve on this committee. I am Chairman of Seafood Producer's Cooperative, a major processor of troll and longline fish. Our plant is one of the largest private employers in Sitka.

I greatly appreciate the wonderful opportunity for members of the public to provide so much input in the process of changing fishing regulations. Alaska's system of making the knowledge of local fishermen inherent to the regulatory process is truly extraordinary and extraordinarily valuable. I hope that the members of the Board of Fish will be able to truly listen to those of us with decades of firsthand experience on these waters and then to apply broader knowledge to craft the solutions best for the long-term benefit of the fish and the local residents. I appreciate your taking the time to read my extensive opinions below. Thank you.



80: SUPPORT-a gear group that stays within their allocation should never be subject to a reduced allocation the following year due to an overage caused by others. However, there may be times when a gear group exceeds their allocation early in the year and another gear group is forced to reduce their catch in order to prevent the all-gear harvest from exceeding the allowable level. In a situation like this, the gear group that went over should repay the fish that they "borrowed" the following year even if there is not an all-gear penalty.

However, if imprecise management techniques prevent a gear group from catching their entire quota, there should be no need for compensation if another gear group with more precise management is able sweep up the remaining uncaught quota late in the season.

82: support with AMENDMENTS to ensure resident priority- For the most part, this proposal simply reorganizes all of the individual out-of-cycle changes to the existing King Salmon Management Plan that the BoF has recently made in response to the 2019 updates to the Pacific Salmon Treaty. I generally support the status quo that this proposal represents, but urge the BoF to adopt two specific changes:

1st change: Clarifying that the nonresident sport king annual limits should be adjusted as needed to ensure that the resident fishery remains open year-round. The proposal's language would only protect residents in low abundance years. The plan should be changed as follows to protect resident fishermen all levels of abundance:

5 AAC 47.055. Southeast Alaska King Salmon Management Plan...

(4) provide stability to the sport fishery by eliminating inseason regulatory changes, except those necessary for conservation purposes or achieving the sport harvest allocation.

(5) at Alaska winter troll fishery CPUEs less than 6.0 and equal to or greater than 2.6; a resident bag limit of two king salmon 28 inches or greater in length will be established in areas where conservation management measures for all anglers prohibited king salmon retention or closed fishing for king salmon once they reopen.

(6) [at Alaska winter troll fishery CPUEs less than 6.0 and equal to or greater than 2.6; and the department projects that the king salmon sport harvest allocation is



going to be exceeded, the department shall, by emergency order, adjust the nonresident seasons and bag limits so to stay within the sport allocation; the department shall prohibit resident king salmon retention or close the resident sport king salmon fishery only if nonresident angler closures are insufficient to remain within the sport fishery allocation.

(7) at Alaska winter troll fishery CPUEs less than 2.6 and equal to or greater than 2.0; and] If the department projects that the king salmon sport harvest allocation is going to be exceeded, the department shall, by emergency order, adjust the nonresident seasons and bag limits so that there are no closures for residents.

2nd change: In accordance with the first change, get rid of the proposed July 1-July 31 resident closure under (g) (2) that would apply to years when the CPUE is 2.6-3.8:

(2) when wild stock management measures are unnecessary:

(A) a resident bag limit of one king salmon **[except from July 1 through July 31** resident anglers may not retain king salmon];

(*B*) a nonresident bag limit of one king salmon except from July 1 through July 31 nonresident anglers may not retain king salmon;

(*C*) from January 1 through June 15, a nonresident total harvest limit is three king salmon, 28 inches or greater in length, a harvest record under 5 AAC 75.006 is required;

(*D*) from June 16 through December 31, a nonresident total harvest limit is one king salmon,

As the BoF has not made a saltwater C&T finding for Chinook in SE, local residents fulfill their subsistence king salmon needs through the sport fishery. Thus, while protection is not Constitutionally-mandated, most of the reasons behind the Constitutional priority are still applicable to the resident sport fishery. Hence if the non-resident sport fishery, or commercial fisheries (not addressed in this proposal) needs to be cut back in order to assure residents year-round access to the king salmon resource, then the BoF should direct that to happen.



- That the resident sport fishery in SE deserves priority has been recognized by the BoF for many years. The third point of BoF Findings #93-145-FB from March 1992 the were the basis for the original SE Sport King Salmon Management Plan reflect that, as reproduced here:
- з. The Board unanimously recognized the importance of the resident recreational sport fishery in providing opportunity to take fish for personal family and consumption. Commercial fishermen were found to supply household needs from the commercial catch. It is the desire of the Board that residents harvesting for personal use suffer the least restriction to meet chinook allocations.
- The resident sport king catch has been stable for decades. Residents have not caused the allocation problem, nor are they likely to cause one in the future. It is the huge increase in non-resident catch that started in the mid-1980s that has triggered allocation fights.



This is Fig. 6 from ADF&G's Special Publication No. 17-15 Overview of the Sport Fisheries for King Salmon in Southeast Alaska Through 2017: A Report to the Alaska Board of Fisheries by Robert Chadwick et al. The resident harvest has been stable in



the 20,000-35,000 range for decades. In contrast, the 1987 the non-resident catch was under 6,900 but it grew at a rate of nearly 8% per year to over 50,000 by 2015

- The proposed July resident sport king closure in tier (g) which is moderately low abundance, is unnecessary and inappropriate. The management plan in the next lower tier (h) does not require a resident closure. If residents don't need to be closed in the lowest abundance years, why should they be closed in years when there are more fish available?
- The Staff Comments RC2, says that the department is seeking guidance from the BoF on how aggressively to use of in-season management to precisely hit the sport allocation. The BoF should officially clarify that taking fish from the troll quota in order to avoid in-season management for the sport fishery is only fair if the troll fleet is compensated in an appropriate and timely manner. Specifically:
 - The BoF must require that any fish "borrowed" from the trollers be paid back the following year's by reducing the sport target below their 20% allocation by the same percentage of the sport-troll quota as the previous year's overage. The BoF should direct the department to downwardly adjust the following year's bag/annual limits accordingly. Trollers need to be assured that any fish they loan in one season will be paid back the next year. It is *not* appropriate or fair for the trollers to have to wait until the sport harvest just happens to come in under allocation for the trollers to receive compensation.
 - The BoF needs to set establish a trigger range of acceptable deviation (perhaps +/- 1.5% of the combined sport-troll allocation) for the sport harvest. If the in-season data projects that the sport harvest will end up within that range, then no in-season management would be applied. But the BoF should direct that if bi-weekly sportfish catch data indicates that the sport catch will land outside of that range, in-season management measures should be used to get the year's harvest back inside of the acceptable range.



Proposal 83: OPPOSE- This proposal would turn back the clock to the pre-1992 era. It was in that year that the BoF created separate troll and sport quotas to try to restrain the tremendous increase in the sport catch¹. Proposal 83:

- Uses historic data from years of lower effort resulting in underestimates of future sport harvest, even in the near term.
- by failing to account for a continued increase in the number of non-resident fishermen, the harvest estimates become increasing unrealistic in the medium and long-term
- unreasonably assumes that years of very high quotas will occur frequently enough to mitigate the loss of troll harvest in the lower and middle abundance years
- does not include a cumulative accounting of overages and underages. Instead, the proposer asks the board to believe that the 20% allocation will work out in the end without any mechanism to ensure this.

From 1984 to 2008 the number of non-resident anglers grew by about 7-1/2% per year. While temporarily stopped by worldwide phenomena- the Recession that began in 2008 and the recent COVID-19 pandemic, there is every reason to believe that this growth will continue in the future. Contrary to what the proposer wants the BoF to believe, *a fixed bag limit is not an effective constraint on total harvest as the number of anglers increases*.

¹Page 68 of ADF&G sportfish division's Special Publication No. 21-10 Overview of the Sport Fishery for King Salmon in the Southeast Alaska through 2020: A report to the Alaska Board of Fisheries by Patrick Fowler et al. indicates that "In 1989, however, sport harvest began a rapid increase due primarily to increases in fishing effort and harvest in outer coastal areas in Sitka and Prince of Wales Island (PWI) as well as increases in hatchery returns. Total (sport) harvest increased from 31,100 in 1989 to 60,500 in 1991." That is to say the sport catch nearly doubled in 3 years!





This is figure 3 from ADF&G sportfish division's Special Publication No. 21-10 Overview of the Sport Fishery for King Salmon in the Southeast Alaska through 2020: A report to the Alaska Board of Fisheries by Patrick Fowler et al. Note that the number of non-resident anglers has increased steadily except for the Great Recession of 2008 and its aftermath.

In the absence of a major recession or a pandemic, an increasing number of nonresident anglers will lead to an ever-higher sport harvest, as happened in the early 1990's. Hence, since this proposal lacks any means to stem such inflation, it will not maintain the 80%/20% sharing but instead will result in a major re-allocation of the limited Chinook quota to the charter industry. The accepted 80-/20 split can only be maintained if any sort of borrowing is accompanied by specific provisions to ensure that the loan is repaid. This proposal, is asking the BoF to force the troll fleet to give the sport sector a line of credit, without offering a repayment schedule or even a cap on the maximum size of the loan. No bank would lend under those conditions and the troll fleet shouldn't be forced to do so either. Before extending a loan, a bank would insist on establishing a maximum loan amount, a fixed repayment schedule, penalties for failing



to make the agreed upon payments and a profitable interest rate. The troll fleet deserves no less.

Furthermore, the non-resident annual limits mandated for lower quota tiers (f, g & h) under this proposal are substantially more generous than currently allowed. Even without any increase in effort, these limits would result in sport catches much higher than the historic catches which exceeded the 20% allocation share. The overage would accumulate to the point that it could not be made up without lengthy sustained periods of very high abundance. While such a rosy scenario would solve a lot of problems, neither the BoF nor industry should count on it occurring.

Additionally, the members of the BoF should also be fully aware that any version of the Sportfish Management Plan that lacks a firm separation between the sport and troll allocations will produce a great many proposals next cycle from sports fishermen seeking to raise their bag limits, and from trollers seeking to reduce the sport limits. This was the case in the 1980s and early 1990s. Since then, the firm 80/20 allocation has eliminated the incentive for such proposals and the board no longer has the duty of deliberating on dozens of such purely allocative sport king salmon proposals. A forward-thinking BoF would prevent this gear war by reaffirming, not tearing down the wall between the sport and troll allocations.

Proposals 85 & 86: SUPPORT- As a quasi-subsistence activity, the resident sport king fishery deserves the highest priority when allocating the resource. The current management plan already includes this level of protection when the quota is at a very low tier under 5 AAC 47.055 (h) (5). There is no reason that residents shouldn't be prioritized when abundance is higher too. The new electronic logbooks required of charter guides allow ADF&G Sportfish Division to confidently project the year-end harvest early in the season, thus providing time to fine-tune non-resident limits well in advance, rather than having to suddenly close fisheries because data wasn't analyzed until it was too late. Given that clear priority and protection for the resident fishery is already in regulation for the times of lowest abundance, there is no reason that this



protection should not be extended to times of larger quotas too. Note that the language of Proposals 85 & 86 that prioritizes residents is the subject of the 1st amendment that I propose in my discussion of Proposal 82 which would apply it to all tiers. See that section of this letter for more information.

Proposal 88: OPPOSE- After further reflection, even the proposer has withdrawn support for this proposal. Note that this proposal is not internally consistent. Section (i)(1) sets the resident limit at 2 kings per day when the quota is at a moderately low level, yet in section (h)(1) the limit drops to one king per day in years when the quota is higher!

Proposal 89: OPPOSE- This is a permit-stacking proposal.

- The troll fishery does not need permit stacking. It would increase the price of permits reducing the appeal of what is now an affordable entry to commercial fishing.
- Changing the historic gear allowance would alter ADF&G's historic relationships between CPUE and abundance since the unit of troll effort would no longer be standardized. In the face of uncertainty managers tend to become conservative- and rightly so. This proposal would potentially reduce total troll harvest in the name of caution.
- This proposal would benefit big boats with well-capitalized owners at the expense those with fewer resources and owners of boats physically too small to operate 6 lines without tangling gear.

Proposal 90: SUPPORT- This primarily house-keeping proposal would align the triggers of the existing provision to carryover uncaught winter quota into spring with the CPUE metric which was adopted by Alaska as part of the 2019 Pacific Salmon Treaty Agreement rather than continuing to be based on the computer model Abundance Index which is no longer used for management by the state of Alaska. Because the CPUE metric involves six flat tiers rather than a continuously increasing scale, under this proposal, there is a small additional range of abundance where unused winter quota will



be transferred to spring by increasing the spring area quotas by 250-500 fish. However, this should not be a concern because:

1) The spring fishery has been greatly constricted and per BoF directive, occurs only in those areas where it is known that SE wild stocks are scarce and

2) Overall spring troll harvest is thus down greatly from recent years. As such, even with slightly higher quotas in the few remaining areas, the total spring harvest will remain much lower than it used to be, and with the fishery restricted to areas with very few SE wild fish, the harvest of SE wild stocks is proportionally lower yet.

3) The only reason that the carryover bonus does not already apply in low abundance years is that when it was proposed the Alaska Trollers Association wanted to assure a summer quota large enough to support a July opener of 4-5 days so the provision was not permitted to take effect in years when the quota was low. This concern does not apply now because:

a) Under the current tiered system, the quota is the same across the entire tier regardless of what the exact abundance is.

b) Under the 2018 restrictions on the spring and winter fisheries, the spring and winter harvests have been reduced so much that more of the quota than in the past will remain for summer, even if the treaty cap is increased by 500 kings in each spring district.

4) Due to the highly conservative restrictions on where spring fishing is allowed, the concerns over SE wild stocks being caught in the spring troll fishery are overblown. The historic projections of SE wild Chinook in the spring catch are misleading, since they include many districts that are no longer open under current management.

Proposal 91: OPPOSE- While the stated purpose of this proposal is to manage the July summer troll king opening so as leave enough quota that the August opening lasts 4-15 days, the proposal is unduly complicated, awkward and only marginally effective at accomplishing this goal.

- Example 1: 2020-Under the current management plan the July opener ran 6 days and the remaining quota was adequate for a full 15 more days in August. Had Proposal 91 been in effect, the July opener would have been shorted by a day in order to increase the length of the August opener by an estimated 4 days. This would have extended it beyond the 4-15 day target length.
- Example 2: 2018-this proposal would have entirely eliminated the August opener on the supposition that the 75,000 fish summer quota was too small to support two reasonable length openers. However, under existing management, the July opener lasted 14 days and the August opener 5 days.

In keeping with the old saying, "If it ain't broke, don't break it!", I don't think that the issue that the proposer seeks to address needs fixing at this time, but if the BoF is convinced that constraining the August opener to a period of 4-15 days is a necessary objective, they should instead amend this proposal to simply require that the length of the July opening be managed in-season so as to achieve this. It will be far easier for department staff to determine when to close the July fishery utilizing actual harvest data from that season than it is for the BoF to manage this aspect of the fishery years in advance of the actual fishing.



Proposal 92: support AMENDED version- This proposal as written would reduce the size limit for king salmon caught in spring hatchery THAs from 28" overall to 26" overall in order to increase the harvest of early-maturing male jacks. However, that would necessitate a different set of rules within THAs compared to other spring troll fisheries. That would be highly inconvenient for enforcement and for any troller that fishes THA and non-THA waters on the same trip. Instead, I suggest that the *minimum size limit in all troll areas during the spring season change from 28" overall to 26-1/2" from the snout to the fork of the tail.*

This alternative has the following advantages:

- Immature kings have deeply forked tails as shown in the top specimen in the picture to the right. This immature fish is 28" overall, but the tips of the tail extend 1-1/2" past the fork. Hence this immature fish is only 26-1/2" to the fork of the tail, that being the equivalent to the existing 28" overall minimum. Thus, the proposed amendment would not change the number or stock composition of immature kings being kept. These fish can and should be released to grow bigger.
- The tails of mature spawners on the other hand have a



much shallower fork. The mature jack in the lower portion of the picture is also



28" overall, yet the tips of the tails extend only ½" past the fork. Hence, the proposed amendment would allow trollers to retain mature kings as short as 27" overall.

- A consistent rule in all spring areas is easier to enforce and doesn't require the fisherman to offload 26"-28" fish caught in the THA prior to fishing in other waters
- The fork length is a more consistent measurement than the overall length, as the latter can vary up to an inch depending upon how the fish's tail is positioned. This has led to honest fishermen getting citations for fish that pointed their tail when they came aboard, but went into rigor mortis with a flared tail.
- About 15 years ago, ADF&G staff switched from an overall length to a fork length measurement for their biological data because it is more consistent since it doesn't depend upon how the fish holds its tail.
- Many Alaska hatchery stocks are returning to spawn at younger ages than they used to. Two-ocean jacks are much more common than in the past. They tend to be 27"-33" long. So, while most of them met the current 28" minimum size, a fair number of them are just short, but would be legal for trollers to keep under this amendment. In the past there were few of them, so catching one under 28" was a rarity. Now, there are many more jacks, and I release several each spring that are barely too short.
- Allowing trollers to retain more Alaska hatchery fish would help to reduce the troll deficit under the SE Enhanced Salmon Allocation Management Plan. Per 5 AAC 33.364, the hatchery fisheries are supposed to be managed so that trollers catch 27-32% of the hatchery fish. For more than 2 decades, the troll share has significantly lagged this allocation. Allowing trollers to retain these hatchery kings (that gillnetters and seiners have long been allowed to keep) would be a small step towards addressing this imbalance.
- In the event that anybody does raise a potential concern over the possibility that a very small number of mature SE wild Chinook might be caught and retained despite spring troll fisheries being conducted exclusively in areas



where SE wild stocks are rare, the BoF should keep in mind that the only fish that would be affected by the amendment would be those between 26-1/2" fork length and 28" overall. Official escapement counts of SE wild stocks are limited to "large kings", i.e. fish bigger than 28" overall, so this *proposed change would not result in any decrease to the escapement counts*. Furthermore, mature kings under 28" are precocious jacks, small males that typically are redundant to reproductive success anyway- so it is with good reason that they are not included in the spawning escapement counts.

The only new fish that could be retained under a 26-1/2" fork length would be mature (i.e. Alaskan) fish with an overall length of 27-28". Since 2018 when the current restrictions went into effect there have been 153 CWTed Alaskan king salmon sampled from the spring troll fisheries that were approximately 28"-29" in overall length. The stock composition of this subset should be nearly identical to that of the 27-28" Alaskan fish that could be retained with a 26-1/2" snout to fork minimum. Of these 153 fish only one (out of 4 years of data) was a SE wild stock (from the Unuk). All of the rest were hatchery fish. As outlined above, even had it not been caught, this fish was too small to have been included in escapement counts anyway.

- Under the requirements set by the BoF in 2018, spring trolling is restricted to areas that have a low prevalence of SE wild Chinook. That leaves hatcheries as the only local producer of kings in waters open to trolling in the spring, so virtually all of the mature fish caught during the spring troll fishery are Alaskan hatchery kings. There should be no conservation concerns or Treaty concerns with harvesting more of these mature fish since nearly all of them are hatchery fish and all of them are small.
- CWTed adults are somewhat shorter on average than the non-CWTed fish in their hatchery cohort². Thus, the slightly smaller fish that would be allowed to be retained under a 26-1/2" fork-length minimum size would make the overall CWT rate in the spring troll catch more representative of the overall return.

² See *The Effects of Adipose Fin Clipping and Coded Wire Tagging on the Survival and Growth of Spring Chinook Salmon* by Geraldine Vander Haegen and H. Lee Blankenship in the August 2005 edition of the North American Journal of Fisheries Management

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Currently, by being required to release small fish, trollers are selecting for non-CWTed fish, thereby distorting the stock composition when the tags are expanded.

Proposal 95: SUPPORT- The newly implemented electronic logbook requirements for charter guides allow ADF&G to closely monitor the harvest of the majority of the sport anglers. This proposal would direct the department to use this information to adjust limits in-season in order to manage the fishery to the sport quota. While it wasn't in regulation at that time, this is exactly what was done in 2020 when it became apparent that due to the COVID-19 pandemic, non-resident sport effort was much lower than usual, and as a result the sport harvest was down as well.

Proposal 99: OPPOSE- This proposal (sponsored by the seiners) would assure the seine fleet of the maximum harvest of hatchery chum salmon within the SE Cove THA at the expense of the troll fleet. While the 2 days of seining: 5 days of trolling ratio is already in regulation, the greater efficiency of seine gear means that with a seine fishery every 3 or 4 days, the chum never get a chance to build up enough to provide for good trolling. The trollers are currently well behind their allocated share of hatchery-produced salmon under 5 AAC 33.364 the SE AK Area Enhanced Salmon Allocation Management Plan. Under the 13th finding of BoF finding 94-148FB, THA fisheries should adjusted to make up that deficiency. Hence, trollers, not seiners should be the ones to set the rotation for their benefit within the existing guidelines.

Proposal 100: SUPPORT- Over the most recent 5-yr period the gillnet share of hatchery salmon has been 35.2% of the total commercial harvest of hatchery salmon in SE. This is well above the 24-29% goal set by the BoF in finding 94-148FB and codified in 5 AAC 33.364 the SE AK Area Enhanced Salmon Allocation Management Plan.





Above is slide 28 from the NSRAA presentation to the 2021 Seine Task Force, a link to which can be found at <u>https://www.nsraa.org/?page_id=65</u>. As the chart clearly shows, the gillnet fleet has been harvesting well over their allocation of hatchery fish for two decades. While the gillnet share is not as large as it was a decade ago, it is still consistently over their allocated range.

The BoF in finding 94-148FB, #13, directs that the proper remedy for an imbalance such as this one is to adjust the management of fisheries in hatchery terminal areas. Hence, it is completely appropriate that gillnetters not be allowed to fish in the SE Cove THA, at least until such time as their 5 year average drops below their 24-29% allocation range. The BoF will most certainly meet again before this happens, so there is no need to allow for the possibility of a gillnet fishery in SE Cove at this time.

Proposal 112: OPPOSE- this proposal would allow deeper gillnets (90 mesh vs 60 mesh) in District 11 beginning with stat week 34. District 11 includes the estuaries of both the King Salmon River and the Taku River. The Chinook run in the former was designated as a Stock of Concern in 2018, and the Chinook run in the latter is proposed as a Stock on Concern at the current time. While Taku kings are thought to typically rear in distant waters (except possibly as very young fish), the King Salmon River Chinook are a hyper-local rearing stock and likely to spend their entire lives in District 11 where the gillnet fishery takes place. Deeper gillnets will greatly increase the catch of immature feeder Chinook.



Proposal 114: SUPPORT- This proposal would allow commercial Hand Trollers to use downriggers (presumably hand-cranked only) during not just the winter fishery, but yearround. While some members of the law enforcement community have opposed similar proposal in the past, on the instinctive thought that it might cause identification problems for them, following a careful consideration of all possible scenarios I was unable to think of a scenario where this proposal would make it any more difficult to determine if a fisherman is sportfishing or commercial trolling than it already is.

- A fisherman fishing with a sport rod in an area or time that is closed to commercial fishing is clearly sportfishing. This would be true whether he is fishing with or without a downrigger. So, the proposal would make no difference in this scenario.
- If a fisherman in a licensed commercial boat is using a rod in an area open to commercial trolling, then there should be no need to be concerned about whether he is sport fishing or commercial fishing at that particular time. This is equally true whether the fisherman is using a downrigger or not.

Proposal 115: SUPPORT-This proposal would open the winter troll season on the beginning of stat week 41, rather than waiting until Oct 11 (which typically falls near the end of week 41 or sometimes in week 42).

- This provides partial mitigation to winter trollers for the loss of the March 15-April 30 portion of the winter fishery that occurred at the 2018 BoF meeting as a measure to conserve local wild Chinook.
- The winter fishery brings much higher prices than the summer fishery, so increasing the number of fish caught in winter increases the value of the resource.
- While some members of the Alaskan delegation to the Pacific Salmon Commission's Treaty negotiations who are hesitant to "stir the pot" might try to claim differently, the latest treaty agreement specifically allows the winter fishery (and the associated index fishery in District 113) to begin as early as the first day of Week 41. This language (rather than specifying October 11th) was carefully preserved in the treaty language to maintain the BoF's traditional freedom to make adjustments to our fisheries without undue constraint by Treaty commitments.



- The traditional start date for the winter fishery was Oct 1 (which typically falls in week 40). It was advanced to October 11 in 1993 at the request of the troll fleet for internal allocation purposes to limit the winter catch. The severe truncation of the last six weeks of the winter season by the BoF in 2018 greatly reduces winter harvest, so delaying the opening to October 11 is no longer needed.
- Over the last 5 years, Alaska hatchery fish have comprised about 20% of the October winter troll catch. These fish are funded by a 3% tax on commercial salmon landings, and don't count against the Treaty quota. By allowing more fishing time in October, the trollers can take advantage of this opportunity to catch additional fish that we have already paid for at a time of year when very few SE wild stocks are mixed into the catch.
- Contrary to the staff comments that express concern over changing the length of the index fishery, this proposal makes the length of the surveyed period a consistent 56 days/year rather than varying each year from 47-53 days. Stability will improve, not detract from the ability of the index to forecast abundance. Historical precedent is a poor excuse for continuing to do something poorly. In the case of an index, inconsistency is clearly a bug, not a feature!

Proposal 116 OPPOSE (reluctantly)- I understand the motivation behind this proposal, and once even drafted one similar to it. However, I learned that the Pacific Salmon Treaty Agreement that governs Chinook harvest in SE, was negotiated with the expressed understanding that a certain percentage of released kings would not survive. The troll fishery has greatly reduced their release mortality since the first version of the Treaty was negotiated in the 1980s. The current treaty agreement has separate limits that were agreed to by all parties for landed Chinook and for incidental mortalities. Ironically, this means that further reducing our incidental mortalities below the already low number by retaining these fish as the proposer suggests, does not provide any benefit to trollers since it would reduce the number of other kings that can be kept during the king openers. This would require shortening the summer troll king openers,

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and thereby increasing the number of days when kings cannot be kept. This would actually increase the number of kings that must be released.

Note that if instead of separate limits for landed catch and incidental mortality, the terms of the Treaty had a single limit for the combined mortality caused by Alaska's fisheries, I would potentially come to a different conclusion on this concept.

Proposal 117: COMMENT- The proposer is good friend of mine, so while I am hesitant to be on record opposing his proposal, the BoF should be fully aware that in addition to creating enforcement challenges, this is a highly allocative proposal between large vessels capable of effectively running 6 lines and smaller boats that can not do so without tangling their gear.

Proposal 144- SUPPORT – The sport rental boat industry has grown significantly since the imposition of sport halibut regulation that are more restrictive on guided anglers than on unguided anglers. However, these fishermen target other species too. This growing rental fleet is now large enough that their harvest is probably significant enough that it should be documented separately and included in ADF&G's in-season data analysis. ADFG's claim that they are not aware of any reason to be concerned by the level of catch by rental boat clients is a disingenuous circular argument since the point of the proposal is to gather data that doesn't currently exist. The BoF should not be fooled into thinking that the absence of data is adequate proof that the problem doesn't exist.

The Board of Fisheries has long supported the concept of logbooks for rental boats. This was suggested as far back as 1992, as documented by this excerpt from page 5 of the BoF Findings 93-142-FB dated March of 1992 regarding the allocation of Chinook. In order to improve catch reporting and assist in management of the

 Establish a mandatory log book program to monitor the harvest and effort of guided sport anglers (charter boats and fishing lodges), outfitters and/dry skiff rentals.

recreational fishery, the department may:



Proposal 155- SUPPORT with AMENDMENT to prohibit removing a salmon from the water if it is a species that must be released- In 2018 the BoF closed most of the inside waters of SE to king salmon retention during the spring spawner run to protect the local wild stocks. However, the intended level of protection was not fully achieved due to out-of-state fishermen targeting these fish for catch-and-release opportunities. While the fish might be ultimately released, this is all to often preceded by netting the fish and holding it up for pictures, etc. If the BoF is not willing to prohibit these catchand-release fisheries, it should be required that the fish be carefully released without being removing from the water.

The second portion of the proposal would prohibit using treble hooks- even when the fisherman intends to take the fish home. This is unnecessarily restrictive and I do not support this portion of the proposal.

Proposal 158: SUPPORT with AMENDMENT- I support the philosophy of forgoing the harvest of young rapidly-growing fish in order to be able to catch them later when they are bigger and more valuable. While the proposal as written would require a pre-season bait or test fishery, that is not a financially feasible means of establishing the age-composition. In lieu of the test fishery, since the department always publishes a forecast of the age composition of the spawning stock as soon as their computer model has been run, I suggest that **in the years when the model predicts that 80% or more of the return will be less than 5 years old, that the sac roe fishery be cancelled.**

- The sac roe industry did this voluntarily in 2020 when the 4-year-old cohort was predicted to dominate the return.
- The sac roe market has a strong preference for fish over 110-120 grams. It takes fish at least 5 years on average to obtain this size. Before that, they are worth very little.
- Herring grow so rapidly through their first 5 years, that a cohort of herring will have a larger biomass as 5-year-olds than as 4-year-olds. Thus, uncaught 4year-olds will not only be much more valuable per pound in the following year, but actually will increase in weight too, as the growth of the individual surviving herring outpaces the natural mortality.



- The scenario encompassed by the proposal is akin to the recent blackcod situation. In 2019, >70% of the blackcod biomass was fish 5 years old or less. For a species that is known to live for decades, such an imbalanced age structure carries both great promise and great risk. As a blackcod IFQ holder, I have been increasingly appalled when the quota has been raised repeatedly just as these barely-mature fish are entering the fishery.
- Given the longstanding hostility between the sac roe industry and the proposer, as a BoF member, you should be prepared to expect that the industry will oppose this proposal on instinct, without even stopping to consider the possibility of economic benefit.

Proposal 160: OPPOSE- the proposer's description of the issue begins with "(The closed waters) have been increased 3 time in the last ten years under the *guise* of increasing reasonable subsistence harvest opportunities based on the *purported* failure of the subsistence harvester to reach the *artificially inflated* 136,000 to 227,000 pound 'Amount Necessary for Subsistence'." I find the italicize terms in that sentence to be inappropriately disrespectful. This sort of attitude should not be rewarded by the BoF.

Proposal 161- OPPOSE- this proposal would impose an unnecessary burden on a longestablished subsistence activity. The subsistence take does not pose any sort of conservation risk, nor is there any reason to believe that the eggs are illegally entering commerce. In general, the BoF should be looking to reduce the paperwork requirements on Alaskan subsistence fisheries, not increase them.

Proposal 162- SUPPORT- Current regulations allow for a resident subsistence gatherer to get a permit that allows the harvest up to 158 pounds of herring roe on macrocystis kelp (or 32 pounds if they are the sole member of their household), then return the permit to Fish & Game, and exchange the permit for a second one of the same poundage allowance. I sponsored this proposal to eliminate the need for Sitka subsistence gatherers to return to the Fish and Game office after harvesting half of their allowed limit and to increase the limit to a more easily measured quantity. Requiring the

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harvester to make two trips to the grounds means requiring twice the time, twice the fuel and risks storm-driven sand or other events spoiling the resource in the meantime. In the past I have been unable to harvest my full allowance when the second trip was delayed due to bad weather, an adverse tide cycle, or other obligations, to the point that the eggs were no longer good to harvest.

Prior to the explosion of the sea otter population, macrocystis kelp was not as common as it is now, so perhaps there was a concern of over-harvest of kelp when this proposal was originally implemented. Thanks to the otters nearly wiping out the kelp-eating urchins, that has not been an issue for many years. Consequently, commercial roe-onkelp fisheries are allowed to take hundreds of blades of macrocystis each without any thought of depletion of the kelp resource, so allowing subsistence harvesters to take a bit more kelp shouldn't be an issue.

Proposal 184: OPPOSE (for consistency sake)- the BoF and ADF&G have historically sought to provide for clearly distinguishable method and means between sport fisheries and Personal Use/Subsistence fisheries. It would be contrary to this long-standing philosophy for longlined shrimp pots to be allowable gear in both sport and P/U shrimp fisheries. Unless ADF&G intends to fully reverse this principle (which is of questionable value in my opinion) I suggest the BoF clarify that while P/U shrimp pots may be longlined, sport shrimp pots must be single set. If ADF&G does intend to continue to support this proposal, this would mark a change in their philosophy and it should be noted when the board deliberates on Proposal 224 as well.

Proposal 185 & 186: SUPPORT- While the seawater temperatures have cooled off in the last few years and squid are again very scarce, it seems likely that they will again return in quantities sufficient to support a sport fishery in the future. When that happens, it would be desirable if sport fishermen could be allowed to use lights and multiple lighted lures to attract squid as is commonplace in other areas with rod and reel squid fisheries.



Proposal 190- OPPOSE-The current regulations require that pre-season surveys estimate that at least 200,000 pound of legal male red king crab are present before opening a fishery, but this proposal would allow a fishery on less than half of that amount.

- The survey is inherently an imprecise tool and generates an imprecise estimate. The 200,000-pound threshold acts as a buffer against an estimate that indicates a surplus erroneously. If there truly is a small surplus available, it is ok to leave it in the water to accumulate towards next year's quota.
- If small surpluses are harvested every year that they are thought to exist, (and potentially when they aren't even really there) it will take an extraordinary recruitment event to ever reach the 200,000-pound threshold for a competitive fishery. The current buffer allows small surpluses to accumulate over multiple years until there is enough crab for a competitive fishery.
- This is an allocative proposal, not just between competitive and noncompetitive commercial crabbers, but between commercial and Personal Use crabbers. Currently, limited Personal Use fisheries are allowed when there is a harvestable surplus < 200,000 pounds. Allowing commercial fisheries to routinely sweep up these small amounts will increase the number of years when there is no harvestable surplus and thus the P/U fishery will be shut down more frequently.
- With commercial fisheries occurring much more frequently, even on stocks with very small surpluses, there will be fewer large old dominant male crab in the spawning population.



Proposal 214- OPPOSE- This is a solution in search of a problem. There is no biological



LESTER'S SQUARE COMMERCIAL CRAB POT or legal need for a commercial Dungeness pot to be circular. Plenty of sport pots are square or rectangular. While I am not a commercial crabber, I have seen some of these square pots used in the commercial fishery. The Pacific Fishing magazine ran a story on the Custom Crab Pots company that started making square commercial Dungie pots in 2015. Among their other attributes, square pots stack more efficiently on deck.

\$225.00

This is a screenshot from <u>https://lesterscrabpots.com/</u> of a square-shaped commercial Dungeness crab pot offered for sale.

If ADF&G or the BoF feels that there is a need to limit the size of pots from an efficiency standpoint, the area of the pot's footprint could be used rather than the diameter. A round pot with a 50" diameter has a footprint of 13.62 square feet. So, a square pot of equivalent footprint would be 3'8" on each side. In short, just because square or rectangular pots lacks a "diameter" is not a good reason to stifle innovation in pot design.

Proposal 222- SUPPORT as AMENDED- There is no need to require mandatory retention of thornyhead rockfish. Unlike most rockfish, thornyhead do not have a closed swim bladder and thus can resubmerge and survive release. Far better to encourage excess thornyhead to be returned to the water to live another day, than to mandate that they be retained simply so that they can be counted.



Proposal 224- SUPPORT- Rod and reel ought to be allowed for personal use and subsistence rockfish. When somebody is looking for a fish or two for dinner, it makes much more sense to use rod and reel than to use a longline which requires making two trips to the grounds and might catch more fish than wanted. With the recent closure of the sport rockfish season, local residents lack a means to easily catch a rockfish for dinner. When I made a similar proposal (Proposal 243 in 2012), the department opposed it on the grounds that "Enforcement becomes difficult when the same gear is used in two or more fisheries with different bag limits, season, and areas." However, ADF&G must have changed their philosophy during the submittal period preceding this board cycle as they have sponsored proposal 184 which would allow sport shrimp pots to be fished longline style in a manner identical to Personal Use and Subsistence shrimp gear. The BoF should recognize the submittal of ADF&G proposal 184 as a strong rebuttal to any claim from ADF&G that using identical gear in multiple fisheries is inherently problematic.

Proposal 225: OPPOSE - The proposal as written arbitrarily increases the annual limit of sablefish on the grounds that the biomass is larger than it was a few years ago. However, this slight increase has been minimal in the context of a fuller history. If the BoF would like to adopt abundance-based limits, the baseline should be much higher than the arbitrarily-picked 1M lb level. The Northern SE Inside waters GHL was over 1,500,000 pounds when the sablefish bag limits were originally established by the BoF. This proposal would increase the bag limit even though the allowable harvest is less than it was at that time. If the BoF is interested linking the bag limit to abundance, the bag limit should actually go down, not up from the original level. However, this proposal lacks any provision to do so regardless of how low the stock goes.





This is Fig 2 from page 16 of ADF&G's RIR 1J21-13 *Northern SE Inside Sablefish Management Plan and Stock Assessment for 2021* by Rhea Ehresmann and Andrew Olson. The top graph (A) shows that while the allowable catch has slightly increased in 2020, it is still very low by historic standards and has been relatively flat for over a decade.

Independent of the computer model used to determine the allowable catch, the lower graph (B) shows that the actual productivity of the stock as measured by catch per effort, has not changed in over the past decade and also remains well below the high of the 1980s and early 1990s. In short, the arbitrary 1M lb. ABC threshold that Proposal 225 sets for increased sport limits, is an inappropriately low bar for a fishery that once supported catches of around 5M lbs./year.







Furthermore, as shown in Figure 13 from RC 3 Tab 5 above, the current 4 fish bag limit which was first imposed in 2009 (based on the 2008 GLH) have not constrained the sport harvest of sablefish. Rather it has grown rapidly, increasing more than 5-fold from 4,793 fish in 2010 (the first year that the SWHS asked about blackcod) to 20,431 in 2018. Only the 2020 Covid pandemic has been able to reverse that trend.

Proposal 226 support with AMENDMENT-The slope rockfish subgroup should also include thornyhead. Thornyhead are also a deep-water rockfish species found in similar habitat, as the other species being proposed to be included in the slope rockfish assemblage, but because they are biologically classified as genus *Sebastolbus* rather than *Sebastes* they are currently excluded from any bag limits. From the point of view of an angler, the difference in genus means very little. Purely as a result of being in the genus *Sebastolbus*, currently there is no sport limit on thornyheads. Historically this was a non-issue as they were rarely encountered since they live in such deep water, but with more and more effort directed at blackcod, they will become an increasingly common



catch. Thornyheads are extremely long-lived and the status of the stock is concerning enough that Alaska does not authorize any directed commercial fisheries for these fish.

Proposal 230- SUPPORT- I sponsored this proposal to provide a resident priority for Demersal Shelf Rockfish (DSR). While DSR levels are down from their pre-exploitation highs, they are stable or increasing over the past 7 years. After a downward trend prior to 2010, catch levels were greatly reduced in 2013. This resulted in the stock stabilizing by 2015.



Figure 227-3.-Yelloweye rockfish biomass estimate (t) (solid line) and 90% lower and upper confidence intervals (blue) for Southeast Outside (SEO) waters, 1994–2021.

This is figure 227-3 from Staff Comments RC2. Note that the population has been stable or rising since 2015. There is no need for the recent drastic closures of 2020-21.

Restoring the 2006-2010 resident sport bag limit of 3 DSR including up a single yelloweye, does not pose a conservation threat. Per Staff comments RC2, the historic resident DSR harvest was only 6.3 tons when the proposed limit was last in effect. In contrast, 124 tons (54%) of the 231-ton TAC remained unharvested in 2020.



Table 1.-Mortality of demersal shelf rockfish (DSR) in metric tons (t) from research, directed commercial, incidental commercial, sport and subsistence fisheries in the Southeast Outside Subdistrict, 1992–2020, and total allowable catch (TAC) for commercial and sport sectors combined (modified from Wood et al. 2020).

Total catch is consistantly well below TAC									Sport fishery realized % of sport	Sport fishery realized % of	All fisheries realized %
Year	Research	Directed ^a	Incidental ^{d,f}	Sport ^b	Subsistence ^c	Total ^d	TAC	allocation	allocation	TAC	of TAC
1992	-	351	119	-	-	478	550	-	-	-	-
1993	13	341	188	_	-	534	800	_	-	-	-
1994	4	383	219	_	-	604	960	_	-	-	_
1995	13	168	103	-	_	271	580	-	-	-	-
1996	11	350	85	_	-	436	945	-	-	_	-
1997	16	280	100	_	-	380	945	_	-	_	-
1998	2	241	120	—	-	361	560	-	-	-	—
1999	2	242	126	-	-	367	560		_	_	-
2000	8	187	107	_	-	295	340	_	-	_	_
2001	7	178	146	_	-	324	330	-	-	-	_
2002	2	136	149	_	-	285	350	-	-	-	-
2003	6	105	169		-	275	390	_			-
2004	2	173	155	_	-	329	450	_	Majority of 1	AC left un	-caught!
2005	4	42	195	—	-	237	410	-	-	-	- 1
2006	2	0	203	75	-	280	410	66	114	18	68
2007	3	0	196	60	_	259	410	66	91	15	63
2008	1	42	152	68	-	263	382	61	111	18	69
2009	2	76	139	37	-	254	362	58	64	10	70
2010	7	30	131	52	8	228	287	46	113	18	79
2011	5	22	87	36	6	156	294	47	77	12	53
2012	4	105	76	46	7	238	286	46	100	16	83
2013	4	130	83	34	7	258	296	47	72	11	87
2014	5	33	63	40	7	148	267	43	93	15	55
2015	4	33	70	48	8	163	217	35	137	22	75
2016	4	34	79	48	7	172	224	36	133	21	77
2017	5	32	92	45	7	181	220	35	129	20	82
2018	6	51	79	40	7	183	243	39	103	16	75
2019	10	45	76	47	7	185	254	41	115	19	73 V
2020 ^a	6	0	87	7	7	107	231	37	19	3	(46)

As shown in Table 1 of RC3 Tab 9 (reproduced above) the 2014-2019 all-gear harvest was much reduced from earlier years. The stability of the stock since then as shown in the previous chart reflects that there was no need for the extreme further harvest reduction imposed in 2020 (and continued in 2021). Note that the all-gear mortality has only even approached the Total Allowable Catch (TAC) once in the past 30 years (way back in 2001).





This screenshot from the IPHC website shows that the encounter rates of yelloweye rockfish in the halibut survey in SE Alaska was more or less constant for a decade from 2008-2017 and has recently been increasing. The IPHC survey data independently verifies the health and stablity of the yelloweye population. The IPHC survey includes extensive coverage of all of SE, and is conducted annually in the same stations, unlike the much more limited ADF&G survey that is on a multi-year rotation between small areas. Simply stated, *neither the DSR stock assessment, nor the IPHC survey data provides any justification for the extreme harvest reductions that ADFG has recently imposed on the DSR fisheries.*

Furthermore, resident anglers have never been the cause of the historic increased harvests. This is clearly shown in Fig 9 from RC3 Tab 9 to right.



Figure 9.–Estimated harvest of rockfish in sport fisheries of Southeast Alaska as derived from the Statewide Harvest Survey (SWHS) by angler residency for years 1996–2020.



Resident harvest has been small, and stable or decreasing for 25 years. On the other hand, "*In the last 5 years (2016-2020), nonresidents have taken an average of 89% of the total rockfish sport harvest in Southeast Alaska.*³" Residents are not the cause of the increased harvest, do not pose a threat to the resource, and deserve to have their access to DSR restored.

The department justifies opposing this purely allocative proposal due to the 6.3 ton increase in harvest that it would allow. This is absurdly conservative management when there is over 100 tons of unused TAC remaining. Furthermore, the department is clear (RC 2 page 245) that *"it is unlikely that the sport allocation would be exceeded solely due to resident harvest…"* so both the TAC and the sport allocation have adequate fish to allow residents to keep a few to eat. In 2020, the majority of the TAC went unharvested. Simply put, an underharvest of this degree is poor management and should not be supported by the BoF.

Comments on Northern SEAK King Salmon Stock Status & Action Plan, 2021 (RC6)

- King Salmon River-MSY is inappropriate: The size of this run (~100 fish) is far too small to support a directed fishery, or even contribute meaningfully to the mixed stock fisheries. As such it is inappropriate to apply Maximum Sustainable Yield (MSY) management to this stock. There is relatively little benefit to maximizing the yield of a stock of this size compared to the costs of doing so by restricting harvest of other stocks. It would be better to use a SEG (Sustainable Escapement Goal) rather than an MSY goal, as the appropriate management concern for this stock is one of sustainability, not maximum yield.
- King Salmon River- Harvest: Page 4 states accurately that "Harvest estimates of the King Salmon River king salmon are not available because the stock contribution in marine fisheries has not been determined." Similarly, page 15, correctly reports that "Rearing areas, returning adult migration routes, and run timing for King Salmon River king salmon are unknown". Page 12 starts off accurately with "...there is no CWT (coded wire tag) information available for

³ From page 16 RC3 tab 9



the King Salmon River stock of king salmon..." but the authors somehow conclude from this void of information that "...harvest of Taku, Chilkat and Stikine Rivers and Andrew Creek stocks of king salmon can serve as indicators for when and where King Salmon River fish are harvested since the King Salmon River is geographically close to these systems..." This conclusion is pure speculation. It is unsupported by any data relevant to the King Salmon River. Furthermore, aside from being northern SE Chinook stocks, the Taku, Stikine, Chilkat, and Andrew Creek stocks are known to have very little in common with one another. The first two are early-returning (April-May) outsiderearing stocks, while the latter two are later-returning (June-July) inside-rearing stocks. How can they all be similar to the King Salmon River stock when they aren't even similar to one another?

What little information can be inferred about King Salmon River Chinook migration comes from recoveries of CWTed King Salmon River brood stock fish released from DIPAC hatchery in the mid 1990's. These fish were nearly all caught in Stephens Passage or Lynn Canal near the Juneau release site, with 80% of them being caught in the local sport fishery. Given this minimal migration, it is quite likely that many wild King Salmon River Chinook never leave Seymour Canal.





• DHSHA vs. District 103-104 run timing:

Under Sport options A & B, the DIPAC Hatchery SHA (DHSHA) would open on June 1, which is 2 weeks earlier than the June 15 date approved by the BoF in 2018, even though the DHSHA is near the mouth of the Taku River and also along the migration corridor for Chilkat fish and many CWTed Taku kings have been caught in this water in the past. In 1976, the last time that the Taku Chinook run was similarly depressed, nearly all of the DHSHA area was closed until June 15.

Troll Options A & B do not include the easing of any of the 2018 restrictions, even though the troll sector was the most severely impacted of any gear group and operates far from the rivers of concern. If the DHSHA is indeed opened two weeks earlier than under the BoF's 2018 plan, an equitable concession should be offered to the troll fleet as well. Allowing the winter king fishery to remain open through the end of March in Districts 3 and 4 would be an appropriate match and would create almost no risk of


catching fish from one of the stocks of concern, as Districts 3 & 4 are outside waters well south of typical migration pattern of the early-returning Taku & Stikine fish. *Since 1977 there has never been a CWT from a wild Alaska Chinook recovered in these districts in March or early April.* (For the record, I have never fished those districts and have no intention of doing so in March even if they were open, but I propose them here because they are biologically low risk.)





Potential for unwarranted spring troll closure: Option C would close the few remaining northern SEAK spring troll fisheries. This would be an extraordinarily excessive choice. Tables 1 & 4 of RC 6 report a troll harvest rate of zero Chilkat and Taku kings respectively since the 2018 restrictions. It should be clear that the troll fishery has been cut to the point that further restrictions will have no meaningful biological benefits, whereas they will impose significant burdens. The spring season gives the troll fleet the highest value per Treaty Chinook. With prices over \$100 per fish, the Sitka area spring troll fisheries alone generated about \$1M for Alaskan trollers in 2021. If that quota had been left until July, the flooded market and scarcity of Alaskan hatchery fish (which are "bonus" fish above the Treaty quota) would have caused the majority of that value to have evaporated.

Table 1.-Escapement, harvest, total run, and harvest rate by fishery of large (\geq age 5) king salmon in the chilkat River include some age 4 fish.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 ^d
Escapement ^a	2,674	1,723	1,719	1,529	2,452	1,380	1,173	873	2,028	3,180
Harvest	1,094	1,032	398	1,090	706	323	239	196	87	79
Total Run	3,768	2,755	2,117	2,619	3,158	1,703	1,412	1,069	2,115	3,259
Harvest Rate:								\sim	\sim	$\overline{\sim}$
Troll Winter	0.03	0.04	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.00
Troll Spring	0.03	0.05	0.02	0.00	0.02	0.00	0.03	0.00	0.00	0.00
Troll Summer R1 ^b	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Troll Summer R2 ^b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Troll All	0.06	0.10	0.02	0.00	0.03	0.02	0.07	L 0.00	0.00	0.00

Note: All zeros since SoC plan in 2018! Table 4.–Escapement, harvest, and total run of large (≥ age 5) king salmen in the Taku River 2011–2020. Harvests inc

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 ^c
Escapement ^a	19,672	16,713	18,002	23,532	23,567	9 <mark>,1</mark> 77	8,214	7,271	11,558	15,593
Harvest	8,051	8,526	3,191	5,886	4,944	3,938	1,122	58	420	582
Total Run	27,723	25,239	21,193	29,418	28,511	13,115	9,336	7,329	11,978	16,175
Harvest Rate:								IN	\sim	~
Troll Winter	0.00	0.09	0.03	0.01	0.01	0.01	0.05	1		1
Troll Spring	0.13	0.08	0.06	0.06	0.02	0.10	0.01	5		7
Troll Summer R1 ^b					0.01			/		
Troll Summer R2 ^b					0.01			5		2
Troll All	0.13	0.16	0.09	0.07	0.05	0.11	0.06	5	\sim	\sim



- Lack of troll/sport parity in Icy Straits spring fisheries: Under all Options, the charter fishery in western Icy Strait is allowed to continue without any concessions towards the Taku and Chilkat kings migrating through this corridor. Prior to 2018, there were spring troll fisheries in much of this area that were all closed by the BoF for SoC reasons in 2018. There was no CWT sampling of the charter catch out of Elfin Cove or Gustavus in 2020 or 2021 due to Covid concerns, so the stock composition of the recent catch is unknown, but if 5 separate spring troll subdistricts in these same waters were all entirely closed, either the non-resident sport fishery in the same waters deserves to be on the list of potential restrictions under Options A, B and C, or else these spring troll fisheries ought to be restored. The Stag Bay (113-97) and South Passage (114-23) subdistricts each had but a single CWT from a SoC recovered from more than a decade of spring troll openings, and the Cross Sound subdistrict had only two SoC CWTs recovered in thirty seasons!
- Furthermore, while sport fishing for king salmon thorough the central and eastern parts of Icy Strait and Chatham Straits is justifiably allowed to reopen on June 15, the spring troll fisheries in the same waters remain closed through the end of spring season (June 30). This discrepancy should be addressed too by allowing the historic spring troll districts to reopen on the same date as the nonresident sport fisheries occurring the same waters.



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This map from the ADF&G's 2011 Spring Troll Management Plan shows the areas that previously had been open on a weekly rotation for spring king trolling prior to the 2018 SoC plan. None of them have been open for spring king trolling since. The waters west of Lemesurier Island are open to sport king fishing all spring and the waters east of Lemesurier Island open to sport king fishing on June 15.

Thank you for taking the time to consider my opinions,

Tad Fujioka FV Sakura Submitted By Taylor White Submitted On 12/22/2021 9:51:55 PM Affiliation



I support management strategies that promote herring population viability concurrent with traditional, customary, subsistence herring and egg use. I, therefore, support herring proposals 156, 157, and 158.

As a lifelong Sitkan, I have noted concerning variability and decline in the abundance of herring eggs at my annual harvest sites. My observations pale compared to the local Tlingit generational knowledge and adaptive management of local herring populations. The Pacific herring is a cultural keystone species for the Tlingit and other Indigenous people, and risky, highly discounted management strategies may reduce herring populations and contribute to the erasure of traditions and cultures (Thornton & Moss 2021). I therefore strongly oppose proposals 160, 161, 165.

Inclusive and equitable ecosystem-based fisheries management would be ideal for this and similar fisheries (Karnauskas et al. 2021). However, I empathize with the demands that would necessarily come with creating such a model (i.e., time, staffing, fieldwork, additional stakeholder engagement, and inclusions of evolutionary ecology, climate modeling, and socio-ecologic systems, and diverse knowledge systems).

With the cultural importance of the species, concerns of continued access to harvest, subsistence (STA v State of Alaska case #: 1SI-18-212C1 (2018)), decreasing market prices (Funk et al. 2001), and a legacy of herring overfishing and population collapse, I support more conservative proposals to harvest tonnage, herring sizes, and age classes.

References:

F. Funk, J. Blackburn, D. Hay, A.J. Paul, R. Stephenson, R. Toresen, & D. Witherell. 2001. Herring: Expectations for a new millennium. University of Alaska Sea Grant, AK-SG-01-04, Fairbanks. 721-739.

Karnauskas, Mandy & Walter, John & Kelble, Christopher & McPherson, Matthew & Sagarese, Skyler & Craig, Kevin & Rios, Adyan & Harford, William & Regan, Seann & Giordano, Steven & Kilgour, Morgan. 2021. To EBFM or not to EBFM? that is not the question. Fish and Fisheries. 22. 10.1111/faf.12538.

Thornton, T. F., & M. Moss. 2021. Herring and People of the North Pacific: Sustaining a keystone species.

Submitted By Tele Aadsen Submitted On 12/22/2021 8:02:14 PM Affiliation

Phone

3603037770 Email

nerkasalmon@gmail.com

Address 3739 Birch Way Anacortes, Washington 98221

Re: Proposal 82 - SUPPORT

My name is Tele Aadsen & I'm a second-generation salmon troller, raised on my parents' boat, crewed on a variety of vessels in a variety of fisheries, running the F/V Nerka with my partner for the past 16 years. I support Proposal 82 with the amendments from the Sitka AC. I encourage the Department to take full advantage of in-season management tools to keep the mostly non-resident guided sport fishery and emerging bare boat charters to stay within the sport allocation without taking fish away from resident sport fishermen and the mostly resident commercial troll fleet.



Submitted By Tele Aadsen Submitted On 12/22/2021 7:59:25 PM Affiliation

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Address 3739 Birch Way Anacortes, Washington 98221

Re: Proposal 80 - SUPPORT

My name is Tele Aadsen & I'm a second-generation salmon troller, raised on my parents' boat, crewed on a variety of vessels in a variety of fisheries, running the F/V Nerka with my partner for the past 16 years. I support Proposal 80, ADFG's intent to establish provisions in regulation to address overages and payback. If one gear group goes over its allocation, they should be the gear group to forfeit fish the following year. These fish should NOT be taken out of the all-gear group quota or any other gear group that stayed within their allocation. At the same time, the Department should be given flexibility to allow one gear group to go over their allocation if and when needed to ensure that we are able to harvest the all-gear quota and not leave fish on the table.



Submitted By Tele Aadsen Submitted On 12/22/2021 8:32:43 PM Affiliation

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Address 3739 Birch Way

Anacortes, Washington 98221

Re: Proposal 103 - OPPOSE

My name is Tele Aadsen, second-generation salmon troller, & I oppose Proposal 103. Southeast Alaska's Crawfish chum program & healthy hatchery production are essential to multiple gear groups.



Submitted By Tele Aadsen Submitted On 12/22/2021 8:25:12 PM Affiliation

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Address 3739 Birch Way Anacortes, Washington 98221

Re: Proposal 101 - OPPOSE

My name is Tele Aadsen, second-generation salmon troller, & I oppose Proposal 101. The concerns stated in Proposal 101 are unfounded & not supported by any statistical analysis. The chum fisheries that have resulted from these highly effective hatcheries have been greatly beneficial for multiple gear groups. While my personal chum fishing experience is limited to a single one-way tack through the dog patch as a teenager - almost 30 years ago - I see how the Crawfish chum program & NSRAA's work have been essential life-savers to many of my fleetmates, & to the commercial troll fleet as a whole. Healthy hatchery production diversifies our fleet & behooves us all.



Submitted By Tele Aadsen Submitted On 12/22/2021 8:16:37 PM Affiliation

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nerkasalmon@gmail.com

Address 3739 Birch Way Anacortes, Washington 98221

Re: Proposal 83 - OPPOSE

My name is Tele Aadsen, second-generation salmon troller, running the F/V Nerka with my partner for the past 16 years. I oppose Proposal 83.

While commercial troll permits have always been capped, Southeast Alaska's charter industry is growing without any limited entry to curtail its exponential growth. Without any such limits in place, Proposal 83 will result in an open-ended reallocation of king salmon from the mostly resident commercial troll fishery to the mostly non-resident sports industry driven by charter boats and lodges.

Between the losses we all sustained during the last treaty negotiations, ongoing struggles in Southeast's own rivers, and the further restrictions we are all likely to face as a result of these stocks of concern, these are challenging times for us all. The troll fleet is not seeking additional fish to make up for these losses at the expense of another sector. To the contrary: trollers have helped pay for the production of king salmon at the regional hatchery associations with the 3% enhancement tax on all of the fish sold from our fleet. The charter fleet and lodges have for years benefitted and caught more fish as a result of this production... yet have not contributed anything to help support these local hatcheries. For the recreational sector to try to mitigate their losses by taking fish from another sector is unjust and wrong.

I strongly urge you to oppose Proposal 83. Instead, I encourage you to support Proposals 80 and 82, put forth by the Alaska Department of Fish and Game as better alternatives to bring the sport fishery into alignment with the updated framework of the SEAK all-gear catch limit and resulting sport allocation.



Submitted By Terrance Kilbreath Submitted On 12/14/2021 12:18:14 PM Affiliation

Phone 14252757407 Email

tlkilbreath@msn.com

Address

31 Pine Street #210 Edmonds, Washington 98020

I purchased my Sitka Sound Southeastern roe herring purse seine permit #GoiA 64579A in 1996.

I have depended financially on the proceeds from the use of the permit for years.

I strongly support proposals 163 and 164.

I feel equal split is the best way to maximize this resourse and benefit all concerned.

Terry Kilbreath





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November 29, 2021

Alaska Department of Fish and Game Boards Support Section P.O. Box 115526 Juneau, AK 99811-5526

Dear Alaska Board of Fisheries:

The following comprises the comments of Territorial Sportsmen, Inc. (TSI) on the proposals to be considered at the January 2022 meeting in Ketchikan.

Proposal 82.

Favor the Housekeeping provisions, Oppose the new language as follows:

TSI is severely concerned about a few provisions in Proposal 82, which is the Department staff proposal seeking to clarify the Southeast Alaska King Salmon Management Plan consistent with recent US-Canada treaty agreements. During a meeting with department staff in January 2021, TSI representatives expressed a desire to avoid a time-consuming disagreement at the Southeast Alaska Board of Fisheries meeting over two primary issues.

Department staff agreed to rewrite or clarify that portion of the plan where the new proposed language in subsections (f)(1) and (2) and (g)(1) and (2) are set out, as follows: "in conjunction with wild stock management measures" and "when wild stock management measures are unnecessary" These two phrases are not clear to us and we could benefit from some clarification.

The other concern expressed by TSI representatives was the new language proposed in subsection (g)(2), that added a month-long July closure for resident anglers. In response to TSI questioning, Department staff indicated the language was a "straw dog" or "placeholder" so that the Board could consider all options if it so desired. As expressed at the time, TSI representatives objected to the language for the following reasons:

1. The justification for the proposal made no mention of new language being added as a straw dog or placeholder. If that placeholder language is implied, several more options should have been included, not just one.

2. The added language for a July closure to residents had never before been a part of the King Salmon Management Plan and was never a part of the treaty.

Sportsmen Promoting Conservation of Alaska's Fish and Wildlife Since 1945

3. The language also appears only in subsection (g) and not in a lower tier [subsection(h)]. I nis makes little sense.

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4. Since inside waters have been closed to king salmon retention for several years in April, May, and June, a July closure on top of that would assure almost no opportunity for anglers from inside waters communities to catch king salmon. The proposed language appears to be biased towards benefitting outside water communities and fisheries since the peak of the outside water king salmon abundance is usually in the rear view mirror by June 30. In other words, a July closure for residents would have far less effect on opportunity for outside water residents than for inside water residents.

5. The proposed language for a July closure for residents is not consistent with the plan's resident protection measures set out in subsections (b)(2), (3) and (4).

6. Since non-residents catch about 65-70 percent of the sport treaty quota, it makes sense to provide no in-season allocative closures for residents, and place the burden of sharing on the largest user group, the nonresidents, since they catch the majority of the fish.

Because of these concerns, TSI respectfully suggests that the July closure for residents be eliminated from the proposal. Instead, we propose inserting a nonresident closure in the plan beginning the last 7 or 8 days of June and continuing through July, as a way to control the treaty catch of king salmon. The elimination of the July closure to residents would be "paid for" by closing nonresidents one week earlier. This seems to us to be a much simpler solution that recognizes the resident protection measures set out in subsection (b) of the plan.

Proposal 83

We are opposed. The US-Canada treaty is not set up to provide allocations averaged over time. Penalties are assessed for a yearly overage, not an average over time. This proposal would be unworkable.

Proposal 84

Favor, for the reasons set out in the proposal.

Proposal 85

Favor for the reasons set out in the proposal.

Proposal 86

Favor

Proposal 88

Opposed. The nonresident sport fishery already harvests 65-70 percent of the sport treaty allocation. This proposal would increase that percentage during low abundance years. If 65-70% of the allocation is not enough, the nonresident sport fishery should be limited, not expanded.



Proposal 90

Opposed. All spring king salmon fisheries, sport and troll, are closed in northern inside waters to protect local chinook stocks bound for the Chilkat, the Taku, the King Salmon, and the Stikine rivers. Some of these fish are caught in District 13 in the spring, even though an "every fish counts" management scheme is in place in inside waters. Any liberalization of spring fishing in District 13 could increase harvest of protected northern inside waters wild stocks, particularly the later fish headed for the Chilkat and the Stikine.

Proposal 94

Favor, for the reasons set out in the proposal.

Proposal 125

Opposed. Taku king salmon stocks are in no position to undergo any harvest no matter how small.

Proposal 128

Opposed. All fisheries in Southeast Alaska are already fully utilized. New or expanded set net fisheries are inconsistent with historical fisheries and could exacerbate fishing on weak stocks.

Proposal 135

Opposed. Southeast king salmon are either in full conservation mode (Chilkat, Taku, Stikine, Unuk and others), or are already fully utilized by historic fisheries. Adding a new user group is inconsistent with king salmon conservation and management.

Proposal 139

Opposed. The proposal as written could lead to gear conflicts with existing long-standing sport and commercial fisheries. Since there are no time constraints imposed, a new fishery in Taku Inlet could exacerbate king salmon interception issues on a deeply troubled stock.

Proposal 140

Opposed

Proposal 141

Opposed

Proposals 145, 146, 147 & 148

In general, we oppose these proposals. We are opposed to any further bag limit or size limitations for residents. Creating a minimum size restriction for salmon other than king salmon makes no sense. It would create an enforcement nightmare. However, if these proposals are seriously considered, we request that it be limited to nonresidents. Also, these proposals in total deal with both salt water and freshwater salmon fishing and we propose they be considered separately.



One of the big issues with size limitations is the increased mortality rate on released fish. The ultimate impact of these proposals could lead to an increased harvest due to that additional mortality rate. That does not seem to be the objective of these proposals.

Proposal 150

Favor

Proposal 154

Opposed. The proposal is too vague. Some fisheries such as shoreside fisheries near hatcheries, are crowded and would be adversely affected. A new user group needs to be better justified.

Proposal 155

Favor the first provision, Oppose the second.

Proposal 225

Favor. It makes sense that as the commercial black cod quota goes up based on increasing stock abundance, that the sport bag limit also be increased slightly. The sport fishery has been sharing in the burden of conservation on black cod since 2009, and now that stocks are increasing the sport fishery should get a modest benefit – a small increase in the bag limit.

Proposal 227

Favor. The current rockfish restrictions are over-the-top restrictive, particularly in inside waters. What is needed in Sitka Sound is not needed in hundreds of miles of unfished coastline in inside waters of Southeast Alaska. This proposal will return a modicum of common sense to rockfish management.

Proposal 230

Favor

We appreciate the Board considering our comments and we intend to be at the meeting in January to defend our positions and support the Board process.

Sincerely,

Ryan Beason

Ryan Beason President