RC LOG

Board of Fisheries Arctic-Yukon-Kuskokwim, January 26-31, 2010

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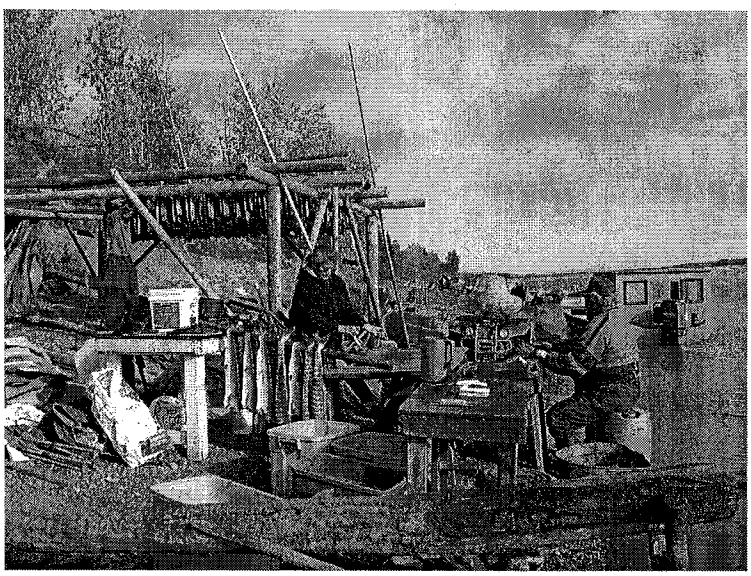
RC #5

Department of Fish and Game
Tanana Rampart Manley Advisory Committee
Opinion Paper and Related Data for
2010 AYK Board of Fisheries Meeting

At our meeting held on Nov. 4, 2009, all 6 members present voted to have this paper represent their view before the Board of Fisheries in January 2010. All 6 members are from households actively engaging in subsistence fishing and 5 members hold commercial limited entry fishing permits.

Chinook data collection projects were started in our area years ago in response to the growing concerns of fishermen that average Chinook size was getting smaller, there were few older age class fish being caught, and that females were often very limited in fishers catches. Also Ichthyophonus disease was being found in a significant percent of the population, especially in the larger Chinook. All these issues have direct effects on the quality of escapement and future health of the Chinook fishery and it was decided that collection of full season data for multiple years would aid in understanding the issues and problem solving in the future.



The following Chinook weight, length, sex and disease data were randomly collected over the entire run each year. Sampling only took place out of well-established Chinook fish wheel sites. The sites are extremely stable with hard rock bottoms and wheel positions did not change from year to year. Data was collected by students and their adult supervisors at Rampart Rapids 40 miles upriver of the village of Tanana. "Rapids" is located right in the middle of the state and Chinook passing there are primarily bound for Canadian spawning grounds.

The Past:

Around the early 1990's and prior, it was common for Rampart, Tanana and Rapids fishwheel fishermen who fished the whole season to catch one or more 50 pound Chinook salmon each year, and 30-35 pound fish were common and not considered to be exceptionally large back then. Of note is the fact that prior to that time, Rapids commercial fish buyers would only buy 14 lb kings and larger as a matter of policy. Then it went to 12 lb and 10 lb minimum and now, except for grayling size king, fishers sell any size.

The Present:

Prior to the 2009 season the same fishermen, fishing the same gear as then, have been getting about an 11.6 lb average for the previous 5 years. Out of 5,144 Chinook measured by the student data collection project at Rapids in these 5 years, a single 49.5 lb fish is the largest with the next largest being only 38 lbs.

After 1137 samplings in 2008 only 6 were over 30 lbs. and average weight for all was 11.7 lbs. Sampling done further upriver at Eagle in 2006 shows even lower averages, of less than 10 lbs. This is getting closer to the average weight for chum salmon not king.

In 2009:

In 2009 because both Lower Yukon assessment projects recorded very low Chinook numbers, a complete commercial closure, severe subsistence restrictions, and a complete 10 day subsistence closure of the 1st pulse and some of the second pulse was instituted. As you can see from the data below and in Table 1 there was a dramatic increase in the average size of king salmon passing into the upper river that had not been seen in years. Female rates were also higher. Overwhelmingly, fishers on the Koyukuk River and upper Yukon also reported the best fishing in many years when openings did occur.

This is significant because it shows that we can indeed do something about the poor runs. If we can turn one of the poorest runs recorded at the mouth into one that not only met border escapement but did it with some of the best quality female rates and size in years just think what we could have done with some of those larger runs of the past when problems were starting.

Of interest below was how the weight of king changed after the 2009 10 day closure was over and the open part of the second pulse arrived (king got smaller), which was the period that fishermen opened on after waiting 10 closed days to fish.

The 2008 1st pulse is thrown in for comparison:

2009 Pulse 1 (fully protected)
- Average weight - 14.5 lbs
- Percent female - 29%

2008 Pulse 1 (fully open)
- Average weight - 9.7 lbs
- Percent female - 7%

2009 Pulse 2 (protected period 7/9 - 7/11)
- Average weight - 14.5 lbs

2009 Pulse 2 (open period 7/11 - 7/14)
- Average weight - 11.7 lbs

Anecdotal information from fishermen and data collected by the Rapids Data Collection project show pulse 1 each year lately, having very poor size and numbers of female king salmon. That this is also the part of the run each year that is most heavily fished downriver is probably not a coincidence.

Why is this something new?

There was a long period in the past when king salmon came in the mouth in large enough numbers and size that 100,000 fish commercial seasons, a full subsistence and customary trade take, and healthy passage into Canada for fishers and escapement was possible. A fish generation later healthy runs came back from that level of harvest. Because of the good size of the runs these large downriver harvests had little effect on upriver areas such as the Koyukuk River, Rapids and Canada which regularly saw large fish and many females. Everyone benefited and times were good.

Now add an emerging disease (ICH) affecting 20 to 50% of the female population (20.1% visible infection in 2009), an obvious decline in king size and therefore eggs put on the spawning ground, a dramatic shift in almost all the fishwheels used in the drainage to large mesh set nets and drift nets, more aggressive counting of king by the most important project on the Yukon (Didson Sonar at Pilot) and an inability of fishers and management to come to grips and deal with these issues and we have the present situation.

Currently: 1. because of the weakness of the actual run size each year, 2. genetic loss of our older age classes, and 3. weakness in numbers of even 20 and 30 lb kings, even limited subsistence, as reduced as it is from years past, is having a severe effect on just meeting basic escapement.

We have arrived, through our collective inaction, at a time of no commercial fishing and very limited subsistence not because of proposals pushed by upriver complainers and restrictions passed by the Board of Fisheries (not one has ever passed), but because there simply are not the numbers of king to fish on.

Table 1. Selected 2004 - 2009 Chinook Size/Weight Figures:

Year	2004	2005	2006	2007	2008	2009
* Total Weight samples	1113	927	737	1230	1137	773
* Average weight for all king	n/a	11.4 lbs	11.9 lbs	12.1 lbs	11.7 lbs	14.4lbs
* Average length - all	67.1cm	68.9cm	69.0cm	71.7cm	70.5cm	75.2cm
* % of king 30 lbs. and over	n/a	.7%	.8%	.8%	.5%	3.1%
* % of king 25 lbs. and over	n/a	2.3%	3.0%	3.4%	2.1%	9.4%

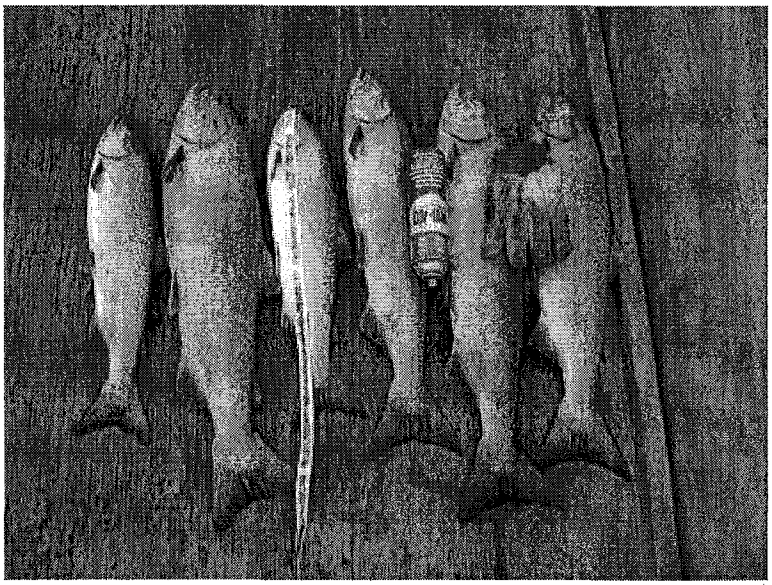
Table 2. 2009 (773 samples) compared to 2008 (1137 samples)

	2009	2008
Average weight all	14.4 lbs	11.7 lbs
Average length all	75.2 cm	70.5 cm
Visible ICH all	10.2 %	10.5 %
Visible ICH in 65.5 cm or >	14.2 %	12.1 %
Visible ICH in Male king	11.2 %	7.6 %
Visible ICH in Female king	20.1 %	22.4 %
King 25 lbs or >	73	24
King 30 lbs or >	24	6
Largest king	40.3 lbs	38 lbs.
Percent of females	26.3 %	19.6%

For the past decade net mesh reduction and other proposals have gone before the Board of Fish each cycle as a means of better managing king runs. These were put there by a small number of upper river fishermen who believed that selective large mesh net overfishing was being allowed year after year in the Yukon. All have failed repeatedly each AYK Board cycle.

Since 2007 the USFWS has put some support behind a few similar proposals that are now going before the Federal Subsistence Board and more fishermen riverwide are voicing their concern about smaller king. A significant number of Yukon biologists and managers are privately expressing that much damage has already been done and many generations will be needed to undo what is essentially a genetic shift in age class of Yukon king salmon. The picture below is a complete catch of king from the first pulse in 2008 - these size kings are making up a significant part of fishwheel catches in the upper river as of late.

So what can be done?



We can do what should have been done long ago when the problems first started to emerge. We compensate for them and include that in our management plan.

Instead of lowering management and escapement goals so more fish can be harvested on declining runs we should try to improve the quality of that escapement. Instead of creating more fish by additional counting technology we do it by letting a few more get upriver to spawn, as in 2009.

Most importantly we stop pushing to catch the absolute maximum amount of fish every year. Had we made small adjustments such as reducing mesh size or reducing our 100,000 king commercials by say 30,000 back when the run was healthy but starting to decline, we possibly could have kept passing decent sized fish and female rates into the spawning grounds and avoided where we're at now. Now the runs are so small and size so genetically altered, that even just limited subsistence puts escapement in jeopardy. Fishermen riverwide must push for the adjustments necessary – management as usual will produce more of the same decline. This is difficult as it goes contrary to short term self interests, but our long term interests demand it.

* Considerable negative comments have been made about the source of this data (fish wheels) in ADF&G reports, at past Board of Fisheries meetings etc. Opponents feel that fish wheels catch mostly the small, male, weak, sick, handicapped, bank orientated, and diseased king compared to the normal king population in the river, nets in general and driftnets. Many variations of this theme have been expressed.

My comment here is that there is no data at all supporting that and there are a number of situations refuting it such as unbiased upper river weir data (Tozitna River – BLM), female and size data taken by DFO Canada at border, a USFWS study on shore based fish wheels vs. off shore drift nets for chum salmon (done 35 miles upriver from the Rapid project), ADF&G's own data from a 2004 Ichthyophonus report and etc.

Finally and most important is to consider just what we are saying - that the same gear in the same sites is presently catching much less of the older age class Chinook, making the whole fishwheel bias argument a irrelevant point.

* Data in this paper has been taken with care to be unbiased and random and its collection was funded by the AYK Sustainable Salmon Initiative. The analysis and opinions expressed here about this data are the authors (T-R-M AC) only and are not paid for or the result of any US / Canada, Federal or State funding or a request, requirement, or supported by AYK SSI or any other entity.

12/07/09

RC 6

This is my written draft testimony to the Alaska Board of Fisheries for the January 2010 AYK meeting in Fairbanks, Alaska.

Good morning/afternoon Mr. Chairman and members of the Alaska Board of Fisheries and to the public in attendance and department staff members.

This may be another listening session for you to find out what is happening in the Arctic/Yukon/Kuskokwim area fisheries after hearing many testimonies from our people on the Yukon River you may then come up with a plan through your committee process to see what can be done to help all users out with the best possible remedies in making sure we continue our long standing traditional commercial fishery on the mouth of the mighty Yukon River.

My name is John H. Lamont and I have been a commercial salmon fisherman for quite a few years on the mouth of the Yukon River. My family and I have fished commercially on the mighty Yukon for well over 70 years. My late oldest brother was a high liner for 30 years and I have nephews and nieces who are currently some of the best salmon fishermen on the Yukon.

After going through all the proposals that are before you today in dealing with the salmon fishing on the Yukon River, I can tell you that there is one basic thread that runs through all of it, it is that there are other users of the salmon in other areas of the river who are wanting to shut me and 700 other commercial fishermen down. They want to re-allocate the salmon from the users on the lower portion of the river to users in the upper portion (I don't want to judge others, buts facts speak for themselves). There are some proposals that have merit in that they want to make sure the fishers use the most efficient nets to catch the specific species of salmon they might be fishing for at that specific time in the season. I am asking that you look closely at all the proposals that may affect the users throughout the Yukon River Drainage and after hearing all testimony make a decision that will not continue to take my traditional livelihood away from me and many others.

I may be luckier than many other fishermen in that I have a good job (but the definition of luck is when preparedness meets opportunity) and that is what I was when this job came along, I was prepared. That is what I want for all users on the Yukon River, when the Salmon come along I want people ready and waiting to harvest without management continually changing and manipulating when and where fishers can fish. I believe in management and believe the state managers have done a good job over the years (with the exception of restricting time, when time is restricted it creates more pressure for users to become more efficient). As you may have heard there continually is a communication problem with users and management on the river, just last summer when the users discussed letting a run of Chinook pass all areas of the river with closures on that specific run, many users did not fish at all prior to that thinking they were not allowed to therefore missing out on harvesting early run Chinooks.

As you have heard from me in many testimonies over the last so many years, our Traditional Chinook Salmon Commercial Fishery on the Lower Yukon River has been our lifeline. It has allowed our people to maintain their subsistence way of life for many years, without our Traditional Commercial King Salmon Fishery our people would not have been able to purchase food, heating oil, gasoline, equipment, guns, ammunition, and other material items from the local salmon processors and others over the past long cold winters on credit and pay for them during the Traditional Commercial King Salmon Season the following summer, this really has maintained our way of life on the Lower Yukon River.

The Board of Fish through proposals and recommendations from the Alaska Department of Fish and Game have continued to restrict this fishery for the last 39 years, I don't think there ever was a season that past the BOF actions for AYK without some restrictive action being implemented on the Lower Yukon River (I may be wrong). The first year that I commercially fished we had a 48 hour and a 72 hour commercial fishing period per week, this went on from June 1 through June 30th every year (whether there was ice in the river or not). A couple of years later it was further reduced to two 48 hour periods and the dates were moved to no later than June 9th (for an opening) through the end of June. In the early 70's when Arctic Keta (Chum, Dog Salmon) were first bought on the mouth of the Yukon the season was extended a little longer, but the times were reduced. I served in the Active Air Force for 4 years in the mid-seventies and when I returned home (in 1980) fishing was further reduced to two 24 hour fishing periods per week with the season opening sometime after 7 to 10 days of building Chinook salmon run strength, one good thing was that we now had a late summer season for chum and a fall season for Fall Chum and Coho (I thank the managers for this).

Looking at all my old data on harvest of Chinook salmon, we have had some years that we harvested 180,000 plus Chinook and still had by-catch in the ocean waters; no one was worried about salmon not coming back because the more salmon we seemed to have taken more would return. I can tell you without being a fisheries biologist that we are currently putting too much salmon in the spawning grounds in Canada and Alaska. Your scientific experts know exactly how much spawn a salmon habitat can maintain to be adequate (even counting in environmental and other ocean conditions), my unscientific speculation is that we are spending too much time trying to over populate all the Chinook salmon spawning habit areas in Alaska and Canada and not considering the salmon's survivability load for each spawning ground. Of course there are a lot of other factors involved with how many salmon return to an area. Another factor is that there are way too much artificially propagated salmon released into the rearing grounds of the natural wild salmon. These non-natural salmon are eating most of the nutrients that are provided for our natural salmon and in turn the natural salmon are not staying out in the rearing grounds as long as they used to (we used to catch 8 and 10 year old Chinook salmon) now scientist are speculating that our harvesting with larger than 6" mesh nets is the cause (what a joke) as you all know we kill more fish with smaller mesh web (especially with 6 inch for the simple reason 6 inch is just large enough for the Chinook to lock their gills shut and suffocate them with-in minutes and when a smaller species comes along and hit the net and fight, the large Chinook drops off the web). I am in support of an

efficient web size that will harvest specific species of salmon on the Yukon but under no circumstances 6 inches for targeting Chinook for the reason we will do more harm than good.

I know I have covered a lot in this brief testimony, but I would like for you to listen closely to all the testimony from salmon users on the Lower Yukon, they depend on the Chinook for their livelihood and make your group decisions that would only help us maintain our traditional fishery on the mouth of the mighty Yukon River.

If you have comments or questions please feel free to email me with them. I hope to be there in Fairbanks and deliver this in person.

I also appreciate what each one of you does for the benefit of all our fisheries species in and around Alaska. I want to thank you for that work, even though at times it seems like a thankless job, keep up the work and there is always a tomorrow for which we can all do our part in making sure we do what is best for the fisheries resources of Alaska.

John H. Lamont
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RC7

Lower Kobuk Advisory Committee Meeting
Tuesday, December 1, 5:30 pm, by teleconference
Draft minutes, one page

AC members present: Larry Westlake, Sr, in Kiana
Bill Zibell, Ben Sampson, Bobby Wells and Verne Cleveland, in Noorvik
Upper Kobuk AC was unable to participate because of a funeral in Ambler.

DFG staff in Kotzebue: Jim Dau, Charlotte Westing, Susan Bucknell

Underway about 4:45 p.m.

Charlotte reviewed the Board of Game actions.
Jim Dau said he wants input on the new pilot orientation for Unit 23. Larry asked the reasons the BOG went to 2 caribou a year for non-residents.

Statewide ~~BOF~~ BOG proposal 41 *(formerly proposal 34, definition of edible meat, wasted meat).*
Jim said it's a question of the potential for wasted meat weighed against traditional hunting practice to leave a sick animal in the field.
People discussed the current salvage laws. Jim Dau said that the Western Arctic Caribou Herd working group is meeting in Anchorage next week, they may discuss salvage.
Bobby asked if there are diseases that affect a whole animal? Jim said caribou can have pneumonia for a long time - the lungs stink, they're extremely skinny.
Bobby asked if ACs have input to the caribou working group. Jim said the WACH usually will make a recommendation, then run it by the ACs and others.
Bobby asked for an update on the Point Hope case.
Larry said proposal 41 could provide a loophole to get rid of spoiled meat on a hunt. He said if meat is not edible, require the bad parts be brought in to be tested. Jim said he'd like to get the samples. Amend the proposal to be just for caribou, maybe. Leave the antlers if you leave the meat.
Bobby asked about the pilot orientation. Susan will get copy of materials out to AC members when there's something to review.

BOF Proposal 68 *Expand hook and line use for subsistence from Wales to Point Hope.*
People felt they wanted to discuss this with the Upper Kobuk and Noatak/Kivalina advisory committees, because those areas are more affected by sport fishing.
Decided Monday, January 11, to try a joint teleconference with those other two committees, to discuss proposal 68.

Adjourn

Kotzebue Fish and Game Advisory Committee Meeting
Tuesday, January 12, at 7:00 p.m.
Northwest Arctic Borough Assembly Chambers.

Draft minutes, 4 pages

Meeting called to order approximately 7:15 p.m.
Quorum established with Pete Schaeffer, Pierre Lonewolf, Alex Whiting, Victor Karmun and Allen Upicksoun. Excused: John Goodwin travelling to a meeting, Mike Kramer at Red Dog.
DFG staff: Charlotte Westing, Jim Dau, Jim Magdanz, Susan Bucknell. Brandon Scanlon by phone from Fairbanks, Jim Menard by phone from Nome.
Brandon Saito, USFWS, Tom Okleasik, Northwest Arctic Borough and Cyrus Harris, Maniilaq Traditional Foods Program.

Fisheries
Proposal 68 Carries 5/0
Jim Magdanz reviewed the department comments. Jim Menard described the situation in Norton Sound, with the northern area having adopted rod and reel for subsistence a few years back, and southern Norton Sound proposing it this year, but excluding the Unalakleet drainage.
Alex said that people do use rod and reel for subsistence and it should be legal.
Pete asked why Unalakleet would want to opt out. Menard said there's a lodge and a lot of sport fishing traffic flying in.
Alex said people who fly in to fish would have a sportfish license anyway; remove the administrative hassle for people local people by recognizing the fishery for what it is.
Menard said the concern was that people would load up, so sport fish bag limits were applied.
Alex said applying sport fish bag limits for a subsistence fishery is a concession by the people who are fishing as a subsistence activity, but acceptable to counter the risk of people abusing the opportunity.

Tom Okleasik said that Unalakleet River has a really big king salmon run, that was probably the concern down there.

Wildlife

Jim Dau asked for specific ideas for the pilot orientation. He said it will be primarily through the Internet, but has to be in printable form also.

Alex suggested Jim draft a skeleton document to circulate for people to fill in suggestions. Pierre said he will email Jim his suggestions.

Alex asked about what kind of requirements the park service or the Selawik Refuge have. Brandon Saito said 2,000 feet is suggested over the refuge.

Pierre mentioned one time he and Victor counted six planes in an hour at 500 feet or less, from where they were hunting.

Allen said the commercial limit is 500 feet. Eric Lorring said it's a 500 foot bubble in all directions.

Tom Okleasik said he'd like the orientation to include the borough permitting regs. Also the North Slope Borough permitting regs, as part of Unit 23 is in the North Slope Borough. Many of the complaints the borough gets are about people operating in areas they're not supposed to be in. He said they had reports of same day airborne caribou taken on the Dall Creek airstrip.

There was discussion of hunting on, from or across a landing strip; Eric Lorring said that sounds citable.

People discussed the size of numbers of aircraft. Alex said putting big numbers on aircraft, and getting the pilot orientation, can be a good thing for a pilot to show goodwill and avoid blame if other planes are causing problems.

More discussion. Jim will circulate a draft pilot orientation by March, and get something online by August, maybe even July, for sheep hunting season.

Eric Lorring said we need better maps to show the complex land ownership.

Charlotte Westing reviewed wildlife proposals.

Proposal 35 and 36 Failed 0/5
Charlotte said the tooth data really helps the department monitor the bear population. Alex said it's not a burden for those leaving the region to go to F&G for sealing. Pierre agreed.

Proposal 38 Failed 0/5
Slippery slope...

Proposal 39 Failed 0/5

Proposal 40 Failed 0/5

Proposal 41 Passed as amended, 5/0
There was much discussion. Alex said he supports the concept of the department addressing the issue of diseased meat, to clarify the definition of edible meat since everybody knows that occasionally diseased meat occurs and nobody eats it.
Tom Okleasik said the borough is very concerned, and totally opposes 41 unless it's amended. He said if meat is left because of disease, antlers must be left also.
Alex said the definition of edible meat should reflect reality and what people would actually eat.
JIm Dau reviewed four department ideas to amend the proposal:
Alex said that sounded like a good definition, he would support those amendments. Tom said he's still very concerned about the trophy aspect, not addressed in the department amendment.
Amended to include four points from the department comments;
-disease means transmissible to people
-only leave diseased parts, bring in the rest
-apply only to caribou, and only in 23 and 26A
-hunter is required to report to DPS within 48 hours
-- and also that antlers can't be taken if the meat is left (this was included as an amendment in response to the NWAB' s concern that trophy hunters would abuse this in order to not salvage meat from the field).

Proposal 42 No Action

Proposal 43 Fails 0/5

Proposal 47 Fails 0/5

Proposed BOG schedule changes
People discussed using emergency closures and agenda change requests, if the BOG goes to a three-year cycle. Pete said that he was disappointed the BOG raised the non-resident bag limit before the results of last summer's caribou count was available. Pete said every advisory committee in this region opposed the change in the bag limit. The one-caribou limit was working well to reduce user conflict. It would have been good to see if the herd is declining or stable or what, before making any change. The feeling in some areas of the region is that the herd was very spread out, and didn't go to the usual places.

Action item: Committee moved to draft a letter to the Alaska Board of Game about these concerns.

Next meeting: For advisory committee elections, and to discuss the NPS caribou collaring project. Probably mid-March.

Charlotte brought up a hunter education project, using interested people in the community to address care of meat, hunter ethics, firearm safety, water safety, hypothermia and first aid. They want to have six stations, rotate eighth graders through them, April 15th at the high school. There will be a meeting soon to line out teachers for each group, then the groups can work out the details for their presentations.

Adjourn about 9:15pm

Northern Norton Sound Advisory Committee Meeting
Monday, November 23, 2009, 2:00 p.m.
Kawerak New Board Room, Nome

Approved minutes, 5 pages

Roy Ashenfelter, Charles Lean, Adem Boeckman, Robert Madden, Jr., Daniel Stang, Charlie Saccheus, Tom Gray, Jack Fagerstrom, William Jones by phone from Shishmaref.
DFG: Jim Menard, Scott Kent, Letty Hughes, Peter Bente, Susan Bucknell, Brendon Scanlon, Sports Fish–online from Fairbanks.
Members of the Public (MOP): Julie Raymond–Yakoubian, Tim Smith, Ken Hughes III from Teller, Laureli Kineen of KNOM Radio, Loretta Bullard (later).

Chairman Ashenfelter called the meeting to order about 2:00 p.m.

Two items were added to the agenda: Review of BOG actions, and BOF Proposal 116, Area M bycatch.

Letty Hughes reviewed actions of the Board of Game at the Nome meeting.
Tom Gray said the committee has to make sure their previous comments on edible meat and salvage requirements get to the statewide BOG.
Adem wondered why the board opened the brown bear season year round for Barrow but wouldn't extend 22C by a month. He said our AC represents about 100 years of game use in this area and some members are frustrated at not being heard. There was more discussion of BOG issues. Adem said that trophy destruction takes gas money away from subsistence users. He suggested if they're concerned with bears in 22C, why not set a quota based on harvest over the last ten years.
There was discussion that the statewide meeting is the right meeting for a letter to the board about the resident hunting license requirements.

Fisheries
Jim Menard presented information on the past season, and the proposed management plan. Charles Saccheus asked about monitoring around Elim. People discussed possible effects on a river of removing a lot of the returning pink salmon. Charlie Lean said in a strong pink year you couldn't notice the difference when commercial fishing stops. In an off year you can, and subsistence fishing can be noticeably affected by commercial fish harvest. Pinks compete with chums for spawning areas, so more pinks equal less chum. More pinks make more silvers; they feed on each other. Trout benefit from more pinks.

Proposal 54 *Open Nome river to catch and release of grayling* Moved by Lean /seconded by Saccheus.

Brendan Scanlon reviewed sport fish data. Adem said that grayling are down and we shouldn't support 54. Add more stress on a limited grayling stock doesn' t make sense. Plus subsistence fishers not able to catch grayling which would make the fishery very imbalanced. Brendan said recruitment seems to be low. He said there's not much rearing habitat.
Failed 1/8

Proposal 55 *Align sport fish with commercial/subsistence boundaries in Northwestern area* No action; seen as a housekeeping proposal.

Proposal 70 *Allow snagging for non-salmon species in fresh water in Nome and Port Clarence* Moved by Fagerstrom /seconded by Adem
There was discussion of current regulations which are not in sync with historical and traditional catching of fresh water fish. The Native people of the region enjoy eating fresh fish that are very abundant during the fall migration of white fish; other species such as suckers, saffron cod, Arctic cod, rainbow smelt and burbot are an excellent food source. Snagging will not increase the amount of fish taken from the rivers, however will improve management between ADF&G and subsistence fishers.
Carried 9/0

Proposal 71 *Allow seining for salmon in Nome Subdistrict* Moved by Madden /seconded by Fagerstrom
People noted that seining do not kill the fish like gill nets, fish caught in a seine can be released unharmed, in fact much safer than catch and release. For example; you could seine for pinks, or reds on the Pilgrim, and let other species go. This coming year is an excellent example with the expected abundance of pinks; if proposal 71 is approved subsistence fishers will be able to catch all the pinks they want while releasing unharmed the chum caught in the seine. Seining in the rivers is done by all Fishery Biologist studying all fresh water fish, because it is the best method for catching fish without causing harm. A very important component of seining is that BOF or ADF&G control seine harvest; that could include timing and bag limits for all species caught. Charlie Lean was concerned that requiring seining would cause significantly later subsistence openings, thereby missing the prime part of the run. He does hope that the managers will hear the AC's wish that seining be allowed ASAP because we do have more faith in the subsistence public releasing unintended catches.
Carries 7/2

Proposal 73 *Open a week earlier for commercial catching of red salmon in the Port Clarence District* Moved by Fagerstrom /seconded by Saccheus

Charlie Lean abstained because of his position with NSEDC.
Ken, Member of public (MOP) from Teller, said he's in favor, presuming they have enough fish; it would decrease bycatch of chum and allow for a more suitable product of red salmon for sale. Tim (MOP) agrees; there are enough protections in place.
Carries 6/2/1

Proposal 74 *Expand boundaries for Norton Sound Subdistrict 3*
Move by Fagerstrom /second by Madden This proposal would move the western boundary further west and eastern boundary further east to allow more areas to target or avoid certain species. The local fishers understand where to go if given the opportunity in the expanded area.
Carries 9/0

Proposal 75 no action

Proposal 76 *Allow purse seine to harvest pinks in Norton Sound* Move by Lean/ Second by Madden
Adem local commercial fisherman said in even years millions of pinks could be taken without harming anything. Seining produces better quality fish than gill nets. Seining catches males and females equally. Gillnets let the small females slip out, resulting in a catch of lower value overall.
Charlie said he supports this to increase opportunity for Norton Sound gillnet permit holders. He's opposed if this makes it a separate permit.
Tim Smith (MOP) said large runs of pink salmon in small rivers is not good for the chum. Seining would be an effective way of reducing the pinks.
Tom Gray asked about marketablility. Charlie Lean said pink prices are determined by roe per cent. The lower limit of gill net mesh size is not small enough in even years. 4" is about right in odd years. About 45% females is ideal. The gill nets are catching about 25% females, so the price is low. Our pinks are pretty small. Running them through the pollock fillet machines you need about a million pounds to be economically feasible; seining would enable that.
Menard; This would still let people use gill nets. People discussed what allowable harvests could be. Menard said their biggest pink take was a little under one million.
Adem said he's not trying to start a new fishery, just increase opportunity.
Tom Gray said if it impacts subsistence fishing, people will be screaming, because we are limited by lack of chum and another resource limitation to subsistence users should not be supported by the BOF. If BOF supports purse seining, please have tools in place to immediately shut down the fishery if subsistence users report they are not catching fish for their needs.

Carries 9/0

Proposal 77 *Allow purse and beach seine in Norton Sound–Port Clarence*
Moved by Stang/seconded by Fagerstrom, with an amendment for beach seines only.
Tim Smith (MOP) said purse seines might not work out, you need the vessels. But beach seines might. If you get red numbers up again in Port Clarence, you could prevent overharvest of chums while pursuing reds.
Kenny Hughes (MOP) said he doesn't want to trade in his gill net permit, but he'd love the opportunity to seine reds and not harm chums.
Carries 7/0/1

Proposal 78 *Allow closed pounding for herring spawn–on–kelp in Norton Sound*
Moved by Fagerstrom /seconded by Stang
Discussion included; previous open pounding, how to make it more successful plus the added opportunity with closed pound herring span–on–kelp to be obtained from a healthy stock which is barely utilized. The market opportunity would expand if there was a closed and open pound for herring spawn on kelp.
Carries 8/0

Proposal 79 *Allow closed pounding for herring spawn–on–kelp in Port Clarence* Carries with an amendment; To allow open pounding only in Port Clarence.
Moved by Fagerstrom /seconded by Gray
Charlie Lean said the NSEDC board is concerned over mixed species bycatch in the herring. Ken (MOP) said it didn't seem likely to benefit any residents of Brevig Mission or Teller area. Tim Smith (MOP) said it would have to be an NSEDC project.
Charlie Lean moved to amend Proposal 79 to just deal with Port Clarence area, and for open pound only.
Carries 8/0

Proposal 80 *Amend sport fishing bag limits for chum in Norton Sound* Moved by Fagerstrom /seconded by Stang
Jim Menard said that hook and line is legal subsistence gear, so this only affects a non–resident or someone who doesn't want to get a subsistence fishing permit. Subsistence fishing is allowed where sport fishing is allowed. Scott Kent said this makes more opportunity, chum could be retained in more areas, with not much more take.
Jack said if it allows a guide to take clients after chum, he's opposed. The Nome Subdistrict is in a Tier II fishery for chum, which severely limits subsistence

fishers in timing; we're allowed to catch chum generally two to three weeks after chum have arrived, and chum bag limits have been detrimental to subsistence practices.
Fails 0/8

Proposal 116 *Reinstate the 8.3 percent allocation of the pre-season Bristol Bay sockeye salmon to Area M.* Lean moved and Gray seconded to amend 116 with a cap of 400,000 chum salmon in Area M fishery.
Lean said over 700,000 chum were taken in Area M in 2009. Fortyfive per cent of those were bound for western Alaska. Area M takes more chum than trawl bycatch does. Area M numbers are creeping up again. There should be effort to target fishing to avoid chum bycatch. We need more chums for escapement and commercial fishing in this area. Tim Smith (MOP) said we need a comprehensive approach on bycatch or this region will never have any fish. Jim Menard ADF&G Fish Biologist, reviewed the history of Area M chum caps.
Loretta (MOP) said that Mike Sloan is developing a position with a cap of 350,000-400,000. Loretta said we see our salmon going down, down, down and not much is being done about it. Saccheus remembered catching chum at Kwiniuk that were tagged at False Pass. The BOF instituted windows which did away with the cap. Then they did away with windows and there is no restrictions on the amount of chum Area M can catch.
Lean said it was a pretty poor chum year in Northern Norton Sound and well below average in the Y-K, yet we see above average harvest in Area M; we need to say something.
Roy said he will draft a statement to be circulated for AC comments, to be read into the record at the AYK BOF.
Carried as amended, 8/0

Tom Gray asked about sockeye in the Pilgrim. Jim Menard said they expect a crash next year. People discussed Pilgrim sockeye, fertilizing Pilgrim Lake. Loretta (MOP) pointed to extremely low returns of coho and kings also, said the whole river is crashing. There was discussion of research, how to address the crash on the Pilgrim River, why the whole river crashed. Jim Menard said there's funding issues, and there are many variables, in the lake, the river, the ocean. ADF&G does not have any plans, staff or resources to address a river that is nearly crashing in all its stocks. Our extremely limited hope is that the BOF and ADF&G change its plans to address the needs of the Northern Norton Sound by approving a plan with proper funding and resources to improve fish stocks in our area.

Adjourn, 6:05 p.m.

Tuesday, January 19 at 2:00 p.m.
by teleconference

Draft Minutes, 2 pages

By phone from Buckland: Percy Ballot, Eunice Hadley and Delbert Thomas, Sr.
By phone from Selawik: George Sheldon and pretty soon, Clyde Ramoth
Kotzebue DFG staff: Charlotte Westing, Susan Bucknell
By phone from Fairbanks DFG: Brendon Scanlon

Charlotte reviewed the pilot orientation being drafted, and asked for information to include from their region. Percy said we don't want wasted meat. Hunters should give it away, if they don't want it, but keep it in edible condition. Or dry it.
Good idea to send maps out to the IRAs for communities to identify areas of concern. For Buckland it's where they can boat to. They can't get further up the river by boat late in the fall, so it's mostly closer above the village that's an area of concern. And below the village.

BOG Statewide Proposals
35 and 36 - No action
Percy said we just take bears for meat or if they're terrorizing a camp.
(Clyde arrived at this point.)

38 Fails 0/5 Moved by Clyde, seconded by Eunice
Percy wondered if village IRAs would be elegible as non-profits to receive funds, but didn't want to open up sales of gall bladders - if it's legalized there might be more wanton waste. Clyde agreed, we don't want to make any excuse for anyone to cut out gallbladders.

39 and 40 Failed 0/5 Moved by Clyde, seconded by George
People asked about making crafts; Charlotte said it's already legal to sell things you make, just not trophies.

41 Passes as amended 5/0
Charlotte said that now only bloodshot meat can be left as inedible. Proposal 43 seeks to include diseased meat. Other ACs are concerned about that being used as an excuse for wasting meat. She reviewed the amendments of the Kotzebue AC:
-disease means transmissible to humans
-leave only diseased parts, bring in the rest
-apply only for caribou, only in Units 23 and 26A
-require hunter to report to DPS within 48 hours
-no trophy salvage if meat is left
Moved by Clyde, seconded by Eunice, to pass with those amendments.

42 No action

43 Failed 0/5 Moved by Clyde, seconded by Eunice
Percy said it's clear to oppose this one.

47 Fails 0/5 Moved by Clyde, seconded by Eunice
Charlotte introduced the proposal. Clyde asked if owls are taken for food or for cultural use? Percy said some of their elders used to eat them, not too many left that do that. He asked if owl populations are okay. If there's no problem, committee wants to leave this the same, keep owls available for the few who use them.

Board of Fisheries Proposal 68 Passed as amended, to apply sport fish bag limits.
Brendon Scanlon reviewed the proposal. He said that in northern Norton Sound a free permit is required and sport fish bag limits apply, but not on the Kuskokwim. Proposal 68 would include the Selawik, Buckland, Kobuk and Noatak rivers, and be open to all Alaska residents.
Brendon said the department is neutral, but would recommend daily sport fish bag limits.
Clyde said on the Selawik 95% of us rod and reel sometimes, but it's food for the table and the freezer, it's not sport fishing. He'd worry about the numbers of fish taken, and about waste that could attract black bears. He could support as long as we have law enforcement so there's not problems. Moved by Clyde, seconded by Eunice

Percy asked for clarity on the non-resident bag limit for caribou. Charlotte said it went from one to two, and some ACs are drafting a letter to the BOG to express their concerns about that.
Percy said caribou are dwindling, we should write a letter also. Discussed that it was Proposal 26 passed at the November BOG meeting. Percy said he'll discuss it with the IRA and will draft a letter for Ron to sign, or the whole committee to sign. Something simple, others can add to it.
Clyde will get with Percy with additions.

Next meeting, election of officers.

Percy thanked everybody for working to keep the resources healthy.

Upper Kobuk and Noatak/Kivalina AC Joint teleconference meeting
Thursday, January 14th, 2010, 6:00 p.m.
Draft minutes, 2 pages

Upper Kobuk AC: Marvin Joe Cleveland and Frank Downey in Ambler; Glenn Douglas and Warren Douglas in Shungnak. (Long distance phone service down for Kobuk, so Elmer and Alex excused.) Louie Commack called in later.
Noatak/Kivalina AC: Janet Mills, Eli Mitchell, Melford Booth, Enoch Mitchell in Noatak. Joe Swan from Kivalina, joined by Enoch Adams, Jr. and Reppie Barr.
DFG staff: Susan Bucknell, James Magdanz, Jim Dau, and Charlotte Westing in Kotzebue; Jim Menard by phone from Nome.
Department of Public Safety: Eric Lorring

Fisheries
BOF Proposal 68 Carried unanimously
Jim Magdanz explained the proposal.
Frank Downey said he strongly supports it because on the upper Kobuk they consider rod and reel as a subsistence method. They don't do catch-and-release, people are fishing for food to eat fresh or dry or put in the freezer. Every fish is used. Prices are so high for fuel, it's efficient to fish from the bank. Many people don't have boats to set nets anyway, and the price of nets is high too.

Glenn Douglas said he agrees 100 per cent, they do the same thing in Shungnak.

Reppie Barr said in summer Kivalina people take home a lot of fish with rod and reel. A lot of people don't have boats.

Eli Mitchell said we strongly support this also. Particularly since Noatak doesn't get barge service, everything is flown in and the price of fuel and everything is very high.

Frank Downey said they rod and reel in the spring for sheefish when it's too warm to hang the sheefish to dry. Hardly for grayling at all, and later on they use nets for salmon and whitefish.

Jim Menard explained that the department is neutral. Rod and reel is legal in northern Norton Sound, with sport fish bag limits. If it becomes legal subsistence gear, all Alaska residents will qualify. It works well in northern Norton Sound. Southern Norton Sound put in a proposal similar to this one, but excepting Unalakleet River. The department would expect sport fish bag limits to apply if the board passes this.

Joe Swan said rod and reel is easier for him; it takes a lot of people to seine. He finds it hard to believe you can be penalized for using rod and reel for subsistence. His daughter was cited for that.
Joe said in June you can't really use nets because there's 24-hour daylight, the river is crystal clear, (unless it rains) and fish don't hit the nets.

Frank Downey will travel to the BOF meeting for Upper Kobuk, and Noatak/Kivalina will select someone.

Wildlife
Jim Dau discussed the pilot orientation. Frank Downey said it would be better to sit down together with a map to discuss it.
Frank said it's pretty hard to hunt up river when a small plane is starting to circle and scaring your game away.
Discussion of sending out maps to communities to specify areas of concern. Maps will go to the IRAs in villages.
There was discussion of what activities are legal on the Wulik and Kivalina Rivers, and about controlled use areas.
enoch Mitchell said that with the low bull count, he's concerned about the 2 caribou limit for nonresidents. Jlm Dau said there was no problem witht he bull/cow ratio last time they counted but a lot of people have mentioned that, so they'll look next fall.
Joe Swan asked about Kivalina getting a permit to get a muskox for Thanksgiving, and Charlotte said there is no potluck provision for muskox.

Proposal 41 No action
Jim said there's a hole in the regulations re sick animals. He's been in the region 20 years and always heard that people were taught to leave a sick animal. But that can get you cited.
Enoch asked about rabies in caribou. Jim said there's been a couple documented cases, in reindeer or caribou. It's not legal to cull a sick animal.
Eric Lorring encouraged people to bring in meat, just cut out any bad parts. Jim agreed, and to let F&G or Eric know; he's really like to see a sample, or take a picture, let them know.

Proposal 47 No action
There was some discussion of snowy owl population and subsistence use.

Jim Dau reminded people he wants caribou jaws, and he can donate gas to Search and Rescue or a culture camp, for example, in exchange.

Joe asked for Reppie Barr and Enoch Adams, Jr. to be added to the committee.

Southern Northern Sound AC Meeting
Thursday, November 19, 2009, by teleconference
7:00 p.m.
Approved minutes, three pages

Present by phone:
Koyuk: Frank Kavairlook and alternate Wally Otten
Myron Savetilik, Shaktoolik
Paul Johnson, Art Ivanoff, Jeff Erickson; Unalakleet
Milton Cheemuk, St. Michael
Peter Martin, Sr., Stebbins
Also attending in Unalakleet: Smitty Johnson, Wes Jones of NSEDC
Attending at the Gambell IRA: Eddie Ungott, Ivar Campbell, Michael James, Sheena Angi, Melvin Apassingok, Kim Antoghame
DFG staff; Jim Menard, CF, Nome; Susan Bucknell, Boards Support, Kotzebue.

Chairman Myron Savetilik called the meeting to order sometime after 7:00 p.m.
Agenda was approved, moving Proposal 69 to the top, for Gambell's participation.

Minutes were approved with the request to clarify that at the October 13th meeting the committee had take action to definately support the Unalakleet weir project.

BOF Proposals
Proposal 69, to expand hook and line use for subsistence in Norton Sound
Passed 7/0 Gambell wasn't ready to weigh in on this yet.
People pointed out that the proposal incorrectly listed Stebbins as "Stephans" and that it's 5 AAC 01.170 (h), not (b).
Wes introduced the proposal and said he'd worked on it with Frank in Koyuk.
Jim Menard said Subsistence Division is taking the lead on this proposal. Department comments aren't final yet, but he thinks Commfish and Subsistence will be neutral; he's not sure about Sport Fish.
He said that in Northern Norton Sound the department expanded out the subsistence salmon permit requirements to include rod and reel for subsistence.
Does SLI want to be included in this?
There was discussion and clarification of current regulation.
Wally Otten said that rod and reel lets people be more precise in their take than gill nets, so is a conservation measure. He said a lot of local people want this.
Paul agreed it's a good management tool to control subsistence catch. With a net you sometimes don't have that control.
People from Gambell weren't sure about the proposal yet. Paul invited Gambell to join the SNSAC. Frank and others also welcomed them.
There was more discussion about the proposal. Jim Menard said the regulation could be written either to include Saint Lawrence Island or leave it out.

Ivar Campbell questioned looking at Proposal 69 as a conservation measure; with the commercial salmon fishery and bottom trawlers cleaning up, why talk about restricting subsistence take? Why not restrict those other users instead?
There was some discussion and Wes Jones gave Ivar his number and invited him to call him any time for more about that.

Back to agenda;
Jim Menard presented information on the past season, and the proposed management plan.

Proposal 55 Approved 7/0
There was some discussion of boundaries. Moved by Jeff(?), seconded by Paul.

Proposal 72 Approved 7/0
Moved by Art, seconded by Paul. Menard said the department wants feedback from Shaktoolik and Unalakleet on the action plan for stocks of concern. Do people have or would they buy a 7" net? When we hold off on chums and pinks to protect king runs, should we put a date on that in regulation?
Art said it's good to increase management tools, but it seems subsistence is again bearing the brunt of conservation measures.
Jeff said it might give subsistence a bigger window, by limiting mesh size. He doubts there's a 7" mesh in town - typical king gear here is 8 1/4 to 7 3/4. A 7" net might let us get some of the smaller males.
Paul Johnson said he's leery of a set date with things changing the way they are, and the sea ice.
There was more discussion of proposal 72 and the managment plan

Proposals 76 and 77 Failed 0/7
There were questions about whether new permits would be created, or just allow gill net permit holders to use seines. Menard said that he doesn't see it as restructuring. He explained that the department sets time, area and gear, so the department could allow seine gear. People had questions about handling bycatch from pink seining. Jim Menard said other areas say 20" or smaller, sell it; 20-28", take it home. Bigger than that, back in the water. We could have a regulation or make a stipulation like we do for subsistence. A big fish will stand out, and you can't be in possession.
Paul pointed out that in southern Norton Sound it's not really accurate to say that pinks are largely underutilized.
Art asked if there's even a market for pinks. Wes said that while the department doesn't see this as a restructuring request, the BOF requested a Restructuring Proposal form from the proposer. That form asks for information about markets, how processors would be affected. If it went to restructuring that would be a different picture.

Proposal 78 Approved 7/0
Paul said he'd done open pounding. He supports this, there's potential, the herring are underused.
There was discussion of methods, mortality.
Proposal 78 was reconsidered at the January 15 AC meeting in Koyuk, at the request of Clarence Towarak and Paul Johnson. Discussion in January 15, 2010 SNSAC minutes.

Proposal 79 No action
SNSAC didn't want to act on Port Clarence district.

Proposal 116 Passed as amended 7/0
Committee discussed Area M chum data. Art moved amending Proposal 116 to limit the interception of chum salmon with a hard cap of 30 thousand, coho also at 30 thousand. He said there's a need to know how many of these salmon are destined to our river systems, and it's important ot know the impact. It's important for escapement goals, and subsistence and commercial users here.
Paul said we have boundaries in southern Norton Sound set up to protect other stocks, like Yukon River kings. It's not consistent for the state to not have boundaries in other areas. Sixty per cent of the chum caught in Area M are bound for AYK, so this measure is needed. Paul mentioned a boundary at Cape Denbigh to protect Kotzebue chums.

Art said he'd like to go to the Alaska Peninsula/Aleutian Islands BOF meeting to present SNS concerns. February 2-6, 2010. Susan will request AC travel to that.
Paul said it appears that small money fisheries are held to a standard that doesn't apply to the big money fisheries. It doesn't make sense to hold one part of the state to certain standards and other areas to other standards when it comes to interception. We're not allowed to intercept Yukon River kings south of Unalakleet, or Kotzebue chums north of Denbigh.
Jeff asked how the Board of Fisheries responds to this kind of discussion.
Jim Menard reviewed the history of Area M chum caps and time frames.
Wes said that everybody focused on trawl bycatch; now that's gone down and Area M is up - it's important to look at both of them together. At the NPFMC bycatch meeting, Area M was never mentioned. It's important to look at the cumulative impact.
Menard commented that Area M is a huge area, with 250 rivers, a lot of fish, and some bycatch.
Art said he feels a conservative approach is necessary.
Proposal 116 was reconsidered at the January 15 AC meeting in Koyuk, at the request of Art Ivanoff and Paul Johnson. Discussion in January 15, 2010 SNSAC minutes.

End of BOF proposals.

Discussion of third party reimbursement funds for AC travel. Susan said we need to have good oversight and timely planning and approval.

Discussed the AYK BOF in Fairbanks January 26 to 31, 2010. Paul and Myron will go.

Myron suggested that the next meeting be in another village, during the day. Committee decided on Koyuk in mid-January.

Adjourn at 9:30

Southern Norton Sound
Fish and Game Advisory Committee Meeting
Friday, January 15, Koyuk IRA Building
7:00 p.m.

Draft Minutes, two pages

Quorum confirmed with Myron Savetilik, Leo, Charles, Sr., Frank Kavairlook, Art Ivanoff and Allen Atchek in Koyuk, and Jeff Erickson by phone from Unalakleet.
Clarence and Paul excused, busy with dog races. Milton excused, he's recuperating.
Also present in Koyuk; Lola Hannon, Morris Nassuk.
DFG staff: Susan Bucknell by phone from Kotzebue.

Meeting called to order shortly after 7:00 p.m.
Agenda approved, minutes of last meeting approved.

Reconsider committee actions on BOF proposals:

Proposal 78, Unanimous opposition to Proposal 78, herring pounding. Reconsideration requested by Clarence and Paul. Jeff said he's a herring pounder too, and he's talked to Clarence about this. Clarence has experience with pounding in Togiak as well as Norton Sound. Jeff described open and closed pounding. He said getting as many fish as possible into your pound, they can die from lack of oxygen and crowding, and they sink. Clarence has seen at Togiak. That's okay in open water, but in a spawning area there's a lot of oil, it makes a sheen on the wild kelp beds, and the kelp is not attractive to the next wave of herring, or the eggs won't stick to the kelp, or something. Jeff said we really want to conserve our wild kelp. People really like to eat the spawn on wild kelp for subsistence, and maybe there could be a commercial harvest sometime. Really don't want to harm the wild kelp. That's why Clarence wants the committee to withdraw support of Proposal 78, and Jeff agrees with that, and Paul told him he does also.

Moved by Frank, seconded by Jeff, to withdraw support of Proposal 78. Passed unanimously.

Proposal 116, amended with a chum cap of 400,000 chum
Reconsideration requested by Art and Paul.
Art reviewed that the committee amended this in November to add a hard cap on chum bycatch. He suggested changing the committee's cap to 400,000, to be in line with Kawerak and Northern Norton Sound AC recommendations. Supported unanimously.

Art brought up letters to Senators Murkowski and Begich about adding seats to NPFMC. Art said the Council has 15 seats/11 voting seats. The letter requests an Alaska Native representative who is not associated with the CDQ groups or the pollack industry. Art said the 2009 AFN convention endorsed a similar idea.

Art said the Native Village of Unalakleet has requested tribal consultations with NMFS regarding salmon bycatch and the Northern Bering Sea Research Area. They are planning a meeting in mid-February in Unalakleet with the agency. They have funds to bring in eight people from the other villages. Art hoped that the IRAs can help with per diem.

Travel to AYK BOF, Myron and Paul, Frank as alternate.
Travel to AP/AI BOF, Art and Frank.

Next meeting, mid-March, to rehash the BOF meetings, hold election of officers, and discuss Art's letters.

Adjourned around 8:00 p.m.

Algaaciq Tribal Government
200 Paukan Avenue
P.O. Box 48
St. Mary's, Alaska 99658
Phone (907) 438-2932/2933
Fax (907) 438-2227
E-mail algaaciq@yahoo.com

RESOLUTION 10-02

A RESOLUTION OPPOSING CERTAIN PROPOSALS PRESENTED TO THE BOARD OF FISH FOR THE STATE OF ALASKA

WHEREAS, the Algaaciq Tribal Council is the federally recognized tribal governing body for the Algaaciq Tribal Government located in St. Mary's on the Lower Yukon Delta, and;

WHEREAS, the survival of our culture and economy has, for generations, depended entirely on the subsistence and commercial harvest of the migrating salmon, particularly the King Salmon (Chinook) and Chum Salmon, and;

WHEREAS, the management of the salmon runs by the State of Alaska's Fish and Game Department and the regulations adopted by the Board of Fish for the State of Alaska has devastated the Lower Yukon Delta's economy and plunged many of our tribal members into deep poverty and extreme hardships, and;

WHEREAS, the Board of Fish continues to receive proposals from the Eastern Interior and Fairbanks Regional Advisory Councils that aim to place a majority of the burden of "conservation" measures on the Lower Yukon Delta which will destroy the Lower Yukon subsistence and commercial fisheries causing further undue hardships and burdens, and;

WHEREAS, the proposals submitted by said advisory councils are unfair, discriminatory, constitutionally questionable, and lack merit as "conservation measures" and are intended only to increase the commercial fishing opportunities of a few individuals in the interior area at further expense of the people of the Lower Yukon Delta, and;

NOW THEREFORE BE IT RESOLVED, that the Tribal Council for the Algaaciq Tribal Government, by this Resolution, do hereby submit their written testimony on behalf of their tribal members in **OPPOSITION** to the following proposals submitted to the Board of Fish:

- **Proposal 86** – Allow set gillnets to be "tied up" during closures.-**OPPOSE**. This regulation would be unenforceable and only serves to show that it is the intention of these proposals to further restrict fishing on the Lower Yukon Delta and relax fishing methods and opportunities in the Interior regions.
- **Proposal 87**-Review Yukon River King Salmon Management Plan. –**OPPOSE.** It is not the current management plan that is the problem, but the in-season management itself. The 2009 season proved this to be true when the people in the Lower Yukon told the ADF&G management team that there were plenty of fish passing and that there were problems with the sonar in Pilot Station. Invest in the in-season management tools and personnel instead of changing regulations to cover for the

management's failures and weaknesses. We believe that the current commercial harvest guidelines meet the intent of the State of Alaska's Constitution.

- **Proposal 88**- Prohibit driftnet fishing.-**OPPOSE**. The State of Alaska has already banned every native method of harvesting fish except by drift and set net. This would be devastating and prevent us from gathering our subsistence needs. The argument regarding escapement, unfairness, and fish size presented by the sponsors actually points the finger at them as the problem. Fishing in our area, which is the Y1 and Y2 districts, is severely restricted as it is when compared to the upriver and interior districts. Upwards of 60,000 plus king salmon of ALL SIZES are allowed to pass untouched. In the upper river areas, nets and fish wheels are allowed to operate over a longer period of time which can be anywhere from 4 days to a whole week at a time. Any "screening" of fish size, if it does occur, does not occur in the Y1 and Y2 fishing districts.
- **Proposal 89**- Restrict 6" mesh gillnets to 35 mesh deep.-**OPPOSE**. This will cause undue hardship due to the increase in fuel and oil for our outboards needed to catch our subsistence needs. Also see reasons under Proposal 88. Smaller king salmon, if that is the case, is NOT a result of fishing activities in the Lower Yukon Delta because a substantial amount of fish of ALL SIZES are allowed to pass.
- **Proposal 90**- Restrict gillnet mesh sizes to 6".-**OPPOSE**. See reasons under Proposal 88 and 89. Smaller king salmon, if that is the case, is NOT a result of the fishing activities in the Lower Yukon Delta because a substantial amount of fish of ALL SIZES are allowed to pass. We also take issue with who gathers the data cited regarding fish size. The fact that a particular interest group gathers the data makes it questionable. Yukon River Drainage Fisheries Association has sponsored trips in the past, which were attended by fishermen from our region. They have said that, in their conversations with others from the interior, there has been no substantial decrease in fish size except for perhaps one or two bad years. This again reiterates our position that the State needs to invest more in management tools and personnel.
- **Proposal 91**- Limit commercial king salmon harvest during chum directed fisheries.-**OPPOSE.** We believe that in-season management is currently the best method that is being used. The salmon returns have so far been proven to be unpredictable by ADF&G. Whether or not a decline in salmon returns over a few years has any significant biological meaning over a longer time period is open to question and should not be used as a reason to prevent us from having the opportunity to take advantage of the economic benefits that a king salmon harvest brings to our region – a region that has been impoverished this past decade by unfair fishing restrictions.
- **Proposal 92**-Prohibit sale of king salmon during non-king directed fisheries.-**OPPOSE.** Same reasons as under Proposal 91. For the Sate to argue that we in the Lower Yukon Delta region should not be allowed to reap the economic benefits that our natural resources provides because a questionable conservation claim is made would be contrary to may of the stances that it has already taken in other areas such as the Cook Inlet belugas and the Southeast Timber Industry.
- **Proposal 93**- Prohibit retention of kings during chum directed main stem fisheries.-**OPPOSE.** Same reasons as Proposals 91 and 92.
- **Proposal 94**- Require windows schedule during lower river commercial fisheries.-**OPPOSE.**
- **Proposals 95, 96 and 97**- Reallocation of commercial harvest of king salmon, summer chum salmon, and fall chum salmon (proposal numbers in that order) increasing upper districts commercial harvest.-**OPPOSED TO ALL THREE PROPOSALS.** These last three proposals further restricting the Lower Yukon

Fisheries summarizes the real intent of all the proposals above that advocate conservation. It never was about conservation, but reallocation of commercial salmon harvest to benefit a few commercial fishermen in the Upper Yukon districts at a huge economic and humanitarian expense to the people of the Lower Yukon Delta. The fact is that the value of all the salmon is at their greatest when they first enter the Yukon Delta. Using the State of Alaska's own Constitution as a guide, which requires that Alaska's natural resources be utilized to their maximum benefit, the present allocation of all the salmon for commercial fisheries is about as fair as it can get because the benefits derived from the harvest of the salmon are maximized. Any changes in allocation that shifts greater numbers further up the river diminishes the overall benefits of the harvest as a whole simply because the salmon deteriorates physically as it migrates further up the river and, wherefore, its value decreases. This remains true whether there is a strong return or a weak return.

- Proposal 99- Open Andreafsky River to commercial fishing. **OPPOSE**. Even if this proposal was seriously considered, it is not feasible. The fact is, commercial fishing on terminal rivers produce lower quality fish and diminishes the overall value of this natural resource.

BE IT FURTHER RESOLVED, that the Algaaciq Tribal Government urges the Board of Fish to reject these proposals. We see no merit on these proposals submitted by said advisory councils who argue for greater restrictions in salmon harvests and fishing gear on the Lower Yukon in the name of "conservation" and then propose that they be allocated more fish for their own commercial fisheries. We have regularly asked that the bycatch of Yukon salmon be industrial fishing fleets in the Bering Sea and in the Area M fisheries be reduced, yet we are told that such measures would devastate their industry and businesses and cause financial hardships for many. What discriminates the people of the Lower Yukon Delta from having their only economy, the fishing economy, protected by the State of Alaska as it has with these two other areas? The Yukon salmon are at their most valuable and beneficial to the State when they are harvested at the Yukon Delta yet we are not allowed the benefits that a harvest would bring as the State has allowed other areas to reap the benefits of their natural resources. The existing management practices and emergency regulations have devastated businesses, caused financial hardships, and created humanitarian crisis for the people in the Lower Yukon Delta. We see these proposals as being unfair, discriminatory, constitutionally questionable, and lack merit as "conservation measures" and are intended only to increase the commercial fishing opportunities of a few individuals in the interior area at great expense to the people of the Lower Yukon Delta and to the State of Alaska. We hope the Board of Fish sees the same.

BE IT FURTHER RESOLVED, that the Algaaciq Tribal Government expresses its grave concern regarding the decision of the Chairman of the Board of Fish to hold the meeting and hearings in Fairbanks instead of Anchorage. We believe that since most of the proposals that affect our managers have had over the fishing season, will have undue influence from them. Also, the cost of traveling to Fairbanks from our area is prohibitive for many individuals, organizations, and businesses and therefore denies us the equal opportunity to testify in person and, with the ease that those who have submitted the above proposals have in traveling to Fairbanks, that the people from the Lower Yukon will be under-represented. We call on our state representatives, our governor, and the Federal Subsistence Board to express their concerns on this matter and take necessary actions to make the hearings fair and balanced.

CERTIFICATION

PASSED AND APPROVED BY A DULY CONSTITUTED QUORUM OF THE ALGAACIQ TRIBAL COUNCIL ON THIS 13th DAY OF January, 2010 IN SAINT MARY'S, ALASKA, BY A VOTE OF 4 IN FAVOR, Ø OPPOSING AND Ø ABSTAINING.

ATTESTED:

Norbert Beans, President

Thelma Johnson, Secretary

P014

RECEIVED
JAN 15 2010
BOARDS

JOINT RESOLUTION NO. 10-02

A JOINT RESOLUTION AFFIRMING OUR POSITIONS ON THE ALASKA STATE BOARD OF FISHERIES PROPOSALS FOR THE A-Y-K REGION.

WHEREAS, the Alakanuk Traditional Council (ATC), Alakanuk Native Corporation (ANC), and the Alakanuk City Council (ACC) executed a Memorandum of Agreement to recognize areas of mutual concern and support, and to establish a framework for cooperative relations and communication for the benefit of the community of Alakanuk as a whole and it is the desire of the three entities to cooperate in matters inherent in a private corporation to-government-to-government relationship; and

WHEREAS, the ATC has seven members, ANC has nine members and the ACC has a seven member board of elected officials empowered to act for and on behalf of their matters in adopting resolutions; and

WHEREAS, the three entities meet regularly on a monthly basis, along with other key committees/councils of our village; and

WHEREAS, the entities works closely with AVCP and other Tribes and regional native organizations in the AVCP Region in maintaining and protecting our Subsistence Way of Life and our commercial fisheries; and

WHEREAS, communities in Western Alaska are reliant upon both the subsistence and commercial salmon fisheries as they are very much intertwined; and

NOW THEREFORE BE IT RESOLVED THAT the Alakanuk Traditional Council, Alakanuk Native Corporation and the Alakanuk City Council, determined to protect our Subsistence Way of Life and/or our commercial fisheries, hereby vote in the following manner on the Alaska Board of Fisheries proposals:

In Support of:

Proposal Numbers: 81, 82, 100

In Opposition of:

Proposals Numbers: 83, 84, 85, 86, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 99

No Action on:

Proposal Numbers: 66, 67, 87, 98

ADOPTED THIS 12th day of January, 2010 at Alakanuk, Alaska at which a duly constituted quorum of council members were present.

Benjamin B. Phillip, President

Alakanuk Traditional Council

Attested by: Mary M. Ayunerak

Mary Ayunerak

Martin Harry, President

Alakanuk Native Corporation

Attested by: Isidore Shelton

Isidore Shelton

Bill Lamont, Mayor

Alakanuk City Council

Attested by: Susana Stinnett

Susana Stinnett

RC 15

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BOARDS

Pink Seining

Proposal #76 – Restructuring Proposal Form.

1) What regulatory area, fishery, and gear type does this restructuring Proposal affect?
Norton Sound salmon set gillnet fishery.

2) Please thoroughly explain Your proposal.
   a. Will this proposal require initial harvester qualification? If so how would it work?

   The intent is that current permit holders would be made eligible to use seines to harvest pink salmon. They are already qualified to use set and drift gillnets.

   b. Are there new harvesting allocations?
   No.
   c. What means, methods, and permitted fishing gear are proposed?

3) Set gillnets only may be operated, except that in the Norton Sound District seines may be operated as specified in 5AAC -04.332 seine specifications and operation when special pink salmon openings are established by emergency order.

4) 5AAC 04.332 Seine Specifications and Operation. (a) Purse seines and beach seines may not be more than 250 fathoms in length and 325 meshes in depth.

5) (b) a vessel may have no more than one legal seine net on board.

   d. Is a change in vessel length proposed?

   No, but a purse seine would require a larger boat. Since Norton Sound salmon fishermen may double up to run two sets of gillnets from one boat some fisherman may have no boat.

   e. Are the transferability of permits or harvest privileges affected?

   Should seining become lucrative then the price of Norton Sound permits would become expensive and may become out of reach for some new entrants to the fishery.

   f. Is there a defined role for processors?

   No. Increased tendering may be required.

   g. Will this proposal be a permanent change to regulation?

   Yes.

   h. If adopted will your proposal require a change in monitoring and oversight by ADF&G?

ADF&G already monitors salmon abundance through the season and announces openings as run strength allows. Should participation during years of poor return increase then ADF&G would be required to make judgments of fleet efficiency as it might impact the resource and render management decisions, much as they do currently.

i. Will vertical integration (eg. harvesting and/or processing) or consolidation occur? Will limits be imposed?

Do to the cost of equipping a seine operation and the need for larger crews it is possible that several gillnet crews could combine forces to conduct a seine operation. No limits are proposed.

j. How do you propose to monitor and evaluate the restructured fishery?

The current pink salmon fishery in Norton Sound is of negligible importance. Harvests are very small, participation only occurs on some years. Yet, on even years harvestable surplus can be measured in millions of fish. Markets have been lost due to lack of harvesting capacity. If this proposal is successful then not only will the seine fishers find profitability, but the gillnetters will too.

k. Is there a conservation motivation behind the proposal?

No

l. What practical challenges need to be overcome to implementing your proposal, and how do you propose overcoming them?

A market for pink salmon must be found and it must be economically scaled to overcome the freight costs so that fishermen find it profitable to harvest pink salmon. Commitments must be made by the fishermen as well because team work will be required to overcome the scale of harvest required. There will be years when these commitments are not practical.

RC 16

Specify a date in *Subdistricts 2 and 3 of the Norton Sound District Salmon Management Plan* after which a pink salmon directed commercial fishery may be allowed.

5 AAC 04.390. Subdistricts 2 and 3 of the Norton Sound District Salmon Management Plan (b)

(2) in the commercial pink salmon fishery, the fishery may occur only if subsistence needs are expected to be met and chum salmon escapement goals achieved; **or after July 6 in Subdistrict 3 and after July 14 in Subdistrict 2, if it is determined there is a harvestable surplus of pink salmon and that a directed pink salmon commercial fishery will not have a significant impact on escapement or subsistence use of chum salmon;**

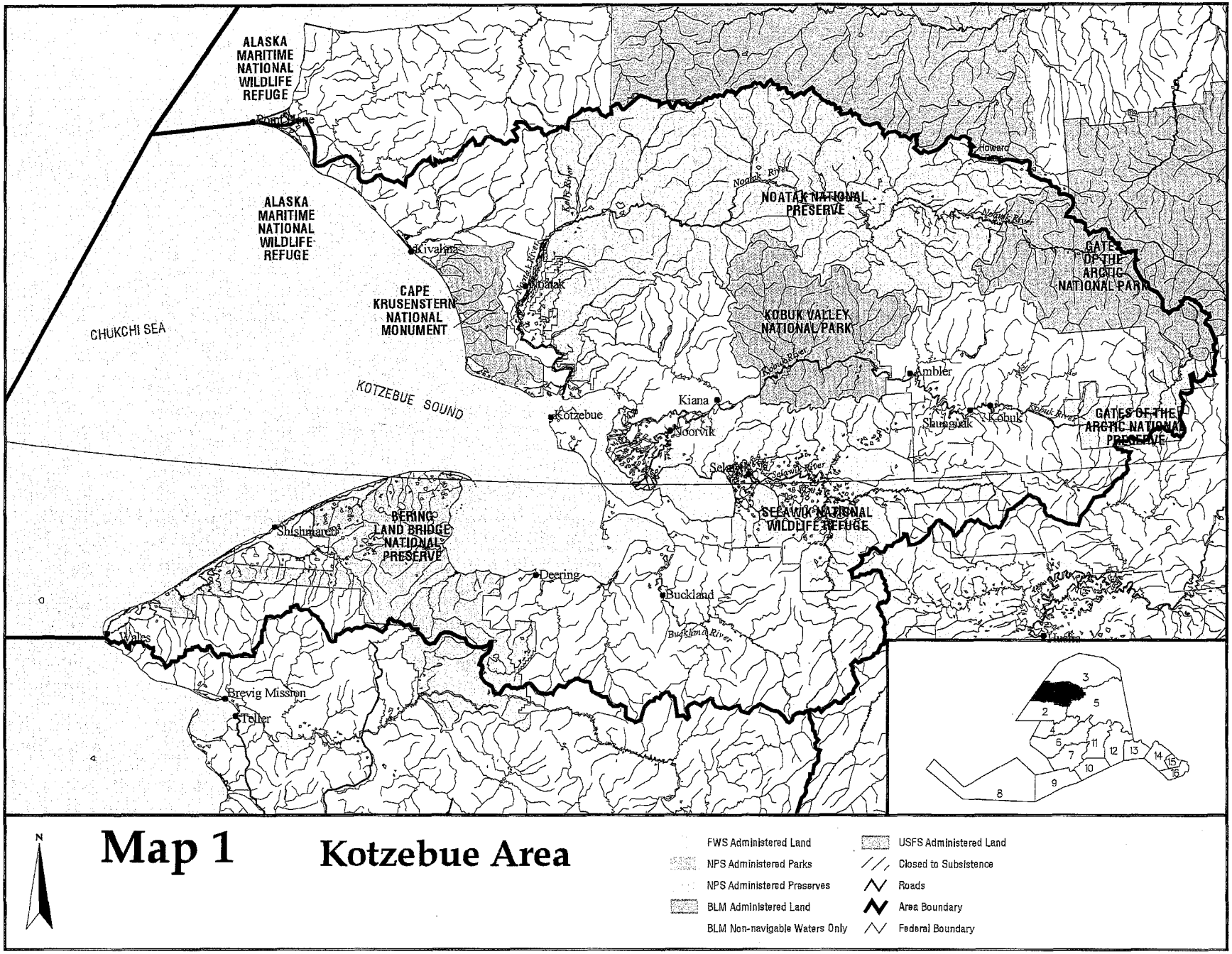
RC 17

Specify a date in *Subdistricts 5 and 6 of the Norton Sound District Salmon Management Plan* after which a pink and/or chum salmon directed commercial fishery may be allowed.

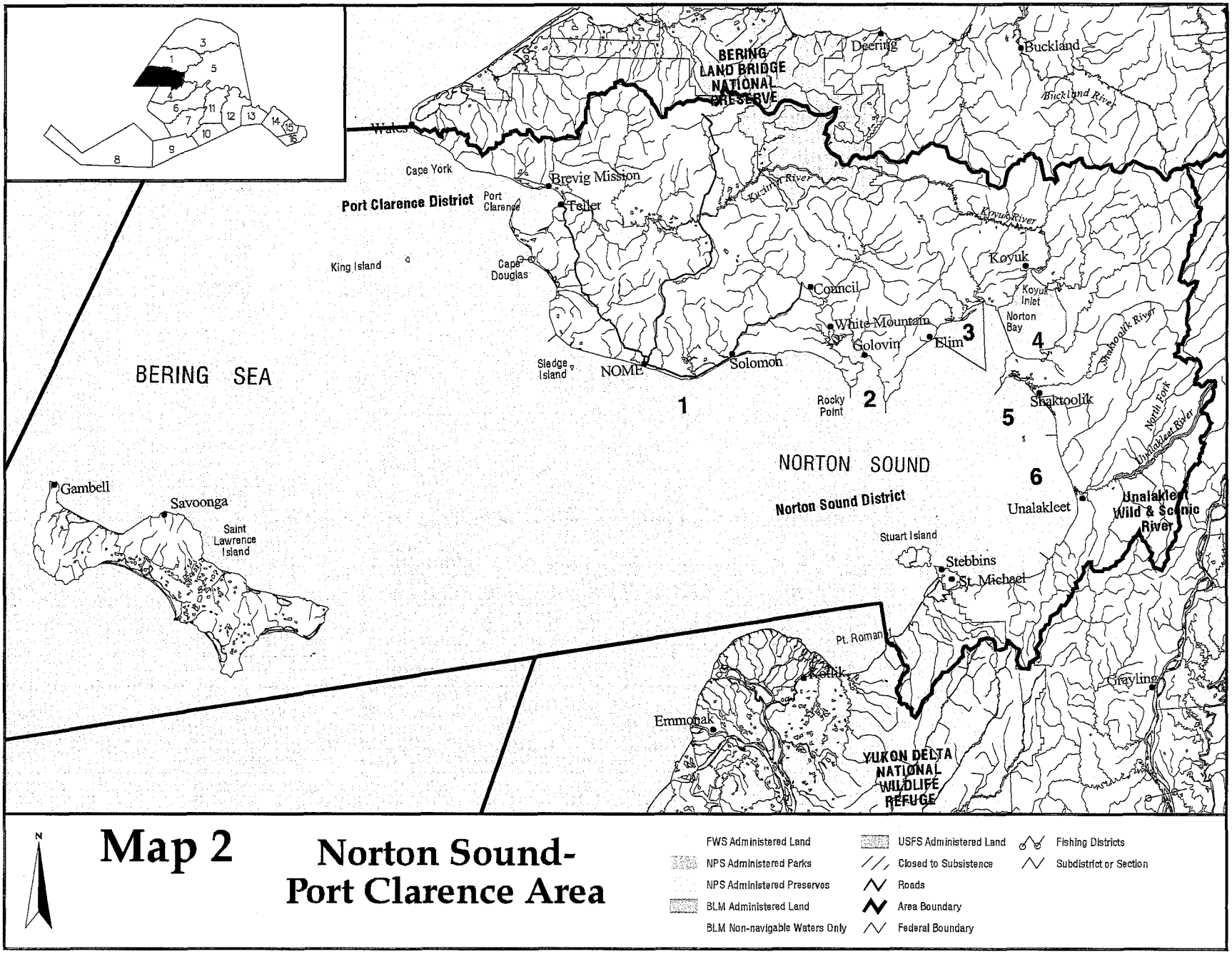
5 AAC 04.395. Subdistricts 5 and 6 of the Norton Sound District and Unalakleet River King Salmon Management Plan.

(h) In the commercial pink and chum salmon fishery in Subdistricts 5 and 6, the fishery may occur only if it is determined there is a harvestable surplus of pink or chum salmon and that a directed pink or chum salmon commercial fishery will not have a significant impact on escapement or subsistence use of king salmon; and no earlier than July 1 if either gillnet mesh-size or subsistence fishing time are restricted in the king salmon subsistence fishery.

RC 18

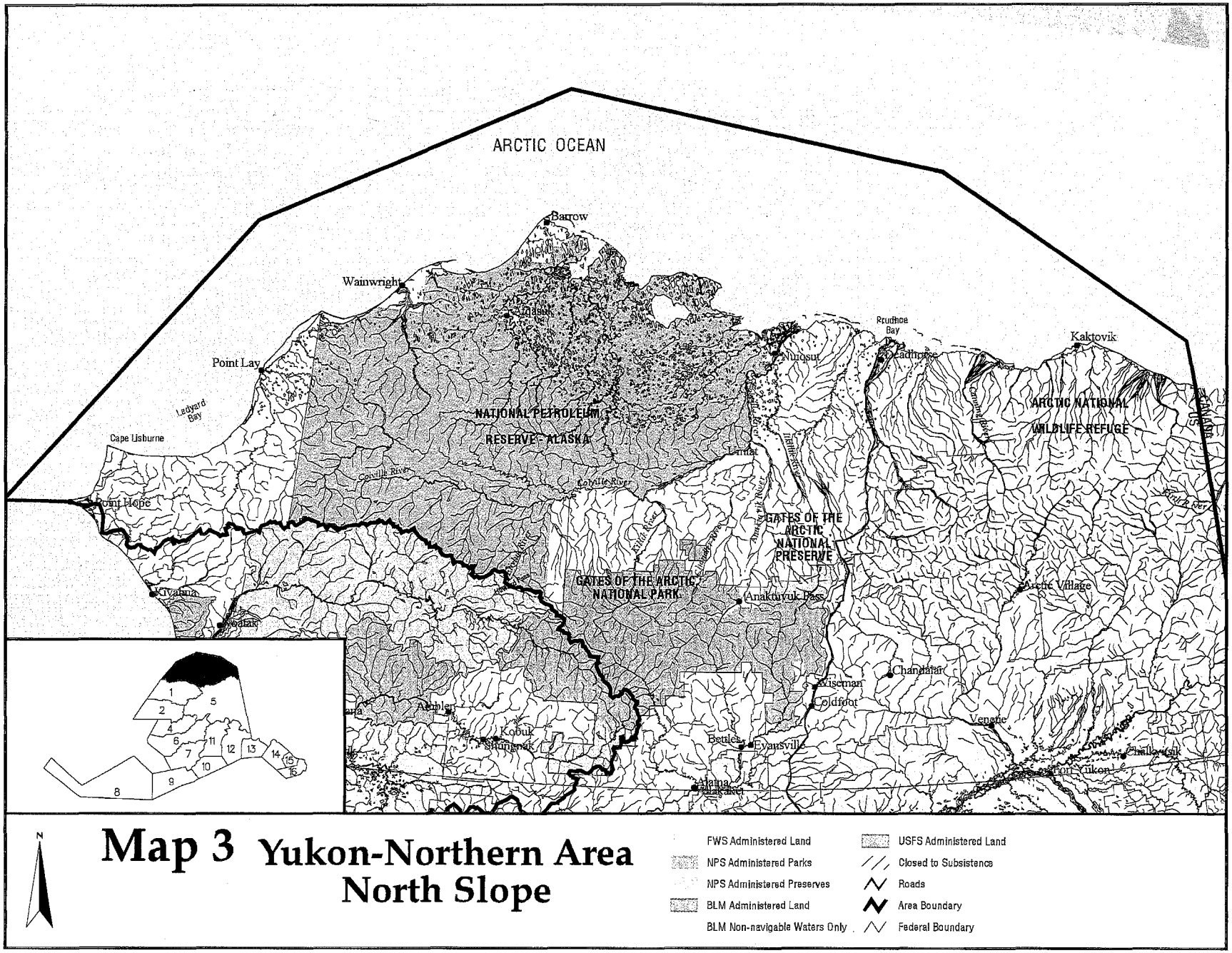


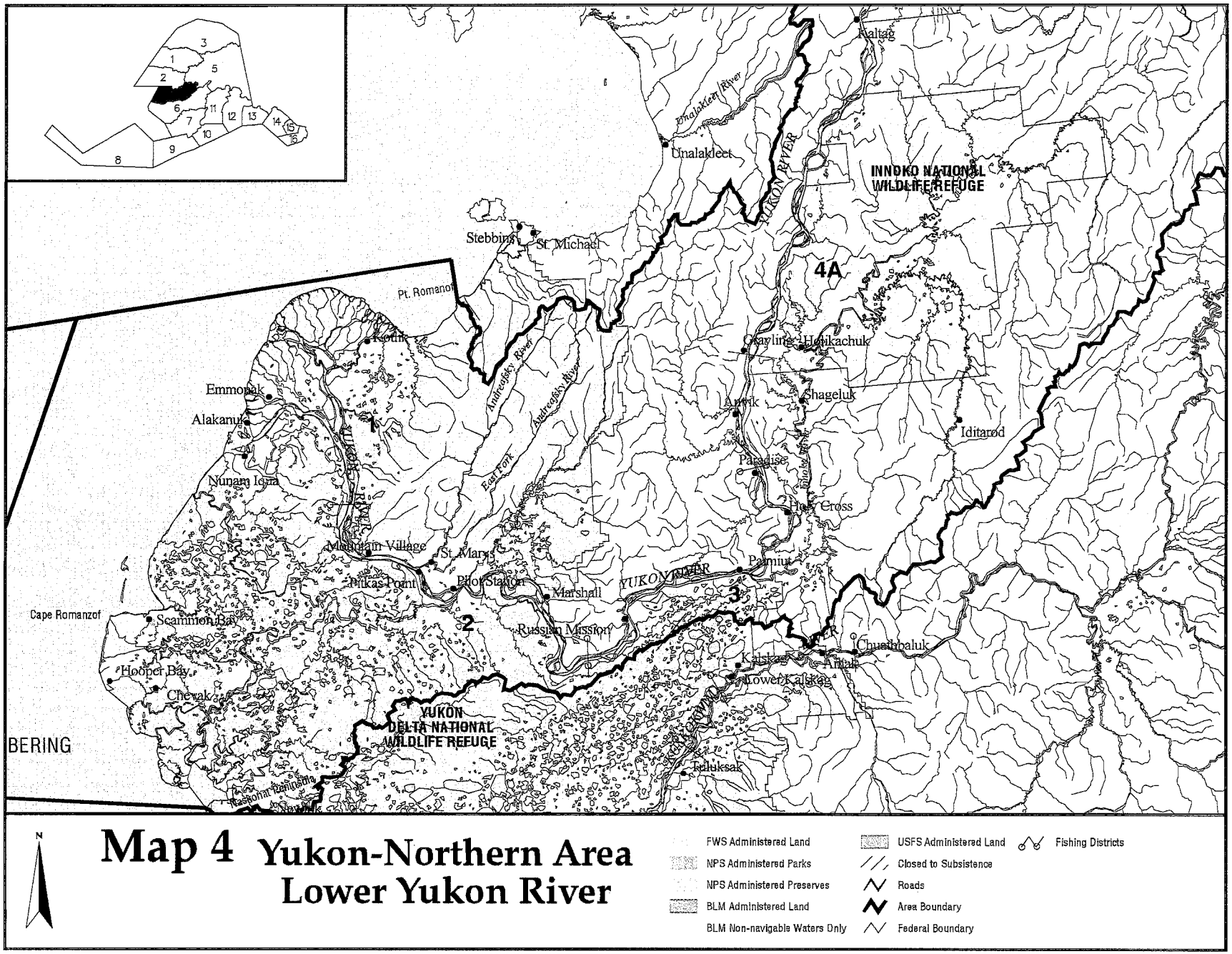
Kotzebue Area



Norton Sound-Port Clarence Area

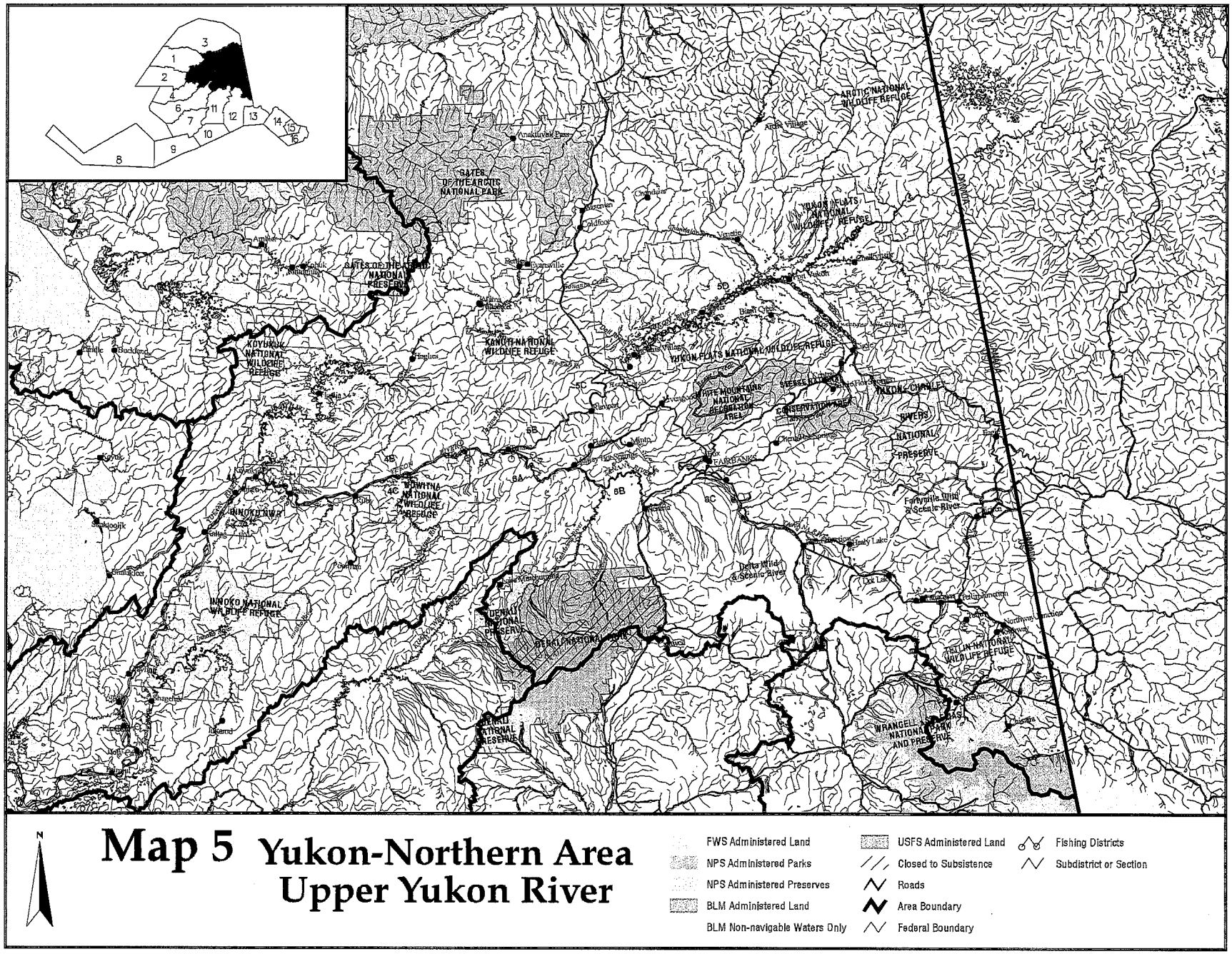
ɔn-Northern Area





Yukon-Northern Area

Yukon-Northern Area



RC 19

Mr. Chairman and members of the Alaska Board of Fisheries,

My name is Alexie Walters, Sr. and I am a member of the Mountain Village Fisheries Working Group. We meet together when important issues arise regarding subsistence / commercial fishing.

Please put yourselves in our shoes and think of how the subsistence way of life is important and critical to our survival, especially in remote Alaska. If any outside agencies were to prevent and restrict you from participating or harvesting in the way you acquire food or life essentials then maybe you would understand our point of view, a little better.

I, along with rest of the Mountain Workgroup, cannot support proposals 88 thru 97 because we feel they are unfair to the people of Lower Yukon region, especially those in Districts Y1-Y3.

We believe the best resolution to this situation would be to put more restrictions on the Fishing Fleets in the Bering Sea, which would ultimately allow for a larger escapement into the Yukon River.

We feel proposals 88 thru 97 would benefit only a few residents, especially those residing above District Y3. This would in turn generate further financial hardships in the Lower Yukon region which may force the State of Alaska to declare another economic disaster.

Alexie Walters, Sr. January 26, 2010

PC 20

City of Alakanuk
P.O. Box 167
Alakanuk, AK 99554

Friday, January 15, 2010

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

RE: Proposals.

Dear Mr. Chairman:

Thank you sir for giving me this opportunity to speak to you. We, from the City of Alakanuk are very happy to be here in person to testify. I am here to give my testimony regarding the AYK Board of Fisheries Proposals. All the residents of our community received information regarding these proposals. Meetings were held, and a unanimous opposing declaration was enunciated.

These proposals, if adopted, will have a very detrimental, serious, harmful, unfavorable, negative implication, destructive insinuation, pessimistic repercussion, and damaging consequences. All these will affect both Commercial and Subsistence fishing. The damaging consequence will greatly diminish our effectiveness in entangling fish and yearn furthermore critical inference on our transaction of fish to the fish buyers.

All our people who fish commercially or fish for subsistence, absolutely comprehend the motive of these considerations.

We are most adamantly, steadfastly, unwaveringly, obdurately, unyieldingly resisting proposals 83, 84, 85, 86, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97 and 99. These will request to regulate and impede our nets, ban the transaction of, or custody of minor nature intercepted king salmon in non-king directed fishing, trying to obtain limitations on all our fishing periods to a particular phase of measurement, and requesting to modify our broad draining king, summer and fall chum fish marketable crop.

We are supporting proposals 81, 82 and 100. We took no action on proposals 66, 67,87 and 98.

Sincerely,

Michael John James
City Administrator

RC 21

RE: Proposals for A-Y-K Region Comments

Dear Mr. Chairman, Members of the Board and Support Staff:

First of all I'd like to thank you for this opportunity to testify before you on proposals that are in the AYK Region. My name is Isidore Shelton, life long resident of Alakanuk. I am currently a board member for the Alakanuk Native Corporation.

Majority of these proposals that are aimed toward the lower Yukon River, if adopted, will have a serious negative implications to the fisheries, both commercial and subsistence users. These negative implications will no doubt decrease our efficiency in catching salmon and will also have a serious consequences on our sale of salmon to fish buyers, if passed by the Board. In order to continue our subsistence way of life, we need to have commercial fishing, as there are no other economic base to sustain our way of life.

Subsistence users would like to harvest the first run of Chinook and summer salmon to avoid catching small amounts over time, like how windows are currently in place. Our elders have taught us to catch only what our needs are, and not over harvest resources in our area. This has been going on since time immemorial.

As a subsistence user, I depend mostly on drift net fishing to catch my fish during the summer months. At times when the weather is bad, then I look for a set net area, in most times I have to wait a turn, sometimes that takes a long time. In most times, I'd have to wait until the next opportunity to fish, which in most cases the salmon have passed. In our area, we fish with the incoming tides. This is one of the reason I've commented earlier that we'd like to fish the first run of salmon.

Over the past several years, the commercial and subsistence fishing has been dwindling to a point where we do not have enough to sustain us through the winter months. One example of that is last winter, where outside organizations had to fly in food. Again, last summer when majority of users did not catch their needs. I feel that we are paying for someone's mistake with the resources we depend on. Commercial fishing on the lower Yukon is going down to nothing. Now, one of the proposals is to take away our drift net fishing. Days, hours and restrictions has already jeopardized our subsistence way of living. It has caused tremendous hardship already.

We are part of a group that meet on a monthly basis to give support for one another on issues that are of concern to our people and village. We have met in a joint meeting and have considered the following proposals:

- <u>In support of proposal numbers:</u> 81, 82, 100
- <u>In opposition of proposal numbers:</u> 83, 84, 85, 86, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 99
- <u>Took no action on proposal numbers:</u> 66, 67, 87, 98

I ask that you take consideration on how we voted on these proposals to better your knowledge on how we feel about these proposals that may affect us, should they be adopted for the A-Y-K Region.

Respectfully,

Isidore Shelton

RC22

Fish and Game

With the growing issue of traditional and customary uses on the Yukon River, we as users must bind together to show what effects of outside governing has on our way of life.

When we talk about traditional and costmary use we are talking about the way of life that has been demonstrated for centuries. Not how were going to make a living or profit from this new market. There is an enormous demand for Yukon fish from all over the world. But this is not a traditional practice, this is a supply and demand issue and I demand a solution that shows favor for tradition.

Living by the Yukon River I have been told that I can't fish for my family. That the 10 fish I caught is all I need, this is 10% of what my family needs. Then you hear that down river villages are getting 100% of their traditional and cultural needs. You as the State say equal opportunity for all Alaskans. Where are our equal rights in the interior to get our traditional and cultural needs? Why are we getting closed off from the fish just when the salmon get here.

Through high commercial use our fish have been depleted to the point that affects the traditional and cultural way of life. By closing the fishing window to all you have proven that the commercial salmon industry was the affecting matter in the low counts of escapement. Not the environment or global warming. Commercial fishing stopped on Chinook and all of a sudden escapements are good. That shows the effects of our society on its need for supply and demand. We need to focus on our resources as a State not as business or so called commerce industry. We don't commercial hunt our caribou even though there are tens of thousands. We don't make a living on food that is considered traditional and customary. There is no need for mistakes from our government, but there is a need to listen to the people of the land.

Where is the time to show proper care and preparation of fishing to our next generation? By shutting down fishing at different intervals are having traditional and cultural effects that are rippling though generations. They're going to lose this education on traditional and customary uses. We all prepare our fish in the way we where taught. You can't be shown any of this education in school. It has to be done in Fish Camp wear your shown how to cut and preserve fresh fish. By shutting down fishing and not letting traditional and customary users get their catch. Affect not only our winter food source, but also the traditional knowledge of fish preparation in the youth. Two or three days is not enough time, so don't let your children lose their way of life.

By law traditional and customary users rank over any business and commercial user. We're not saying stop but let the people that have been fishing for thousands of generations get there fish for their families. We have shown what effects of supply and demand have on the fish runs. Let's support the people that need the fish not for gain but for food.

By Clayton Tackett
Gichyaa Zhee Gwichin Tribal Government

RC 23

Information for PROPOSALS 73, 75, 77

Figure 1. Returns of sockeye Salmon to the Pilgrim River. Escapement and harvest data from the Alaska Department of Fish & Game.

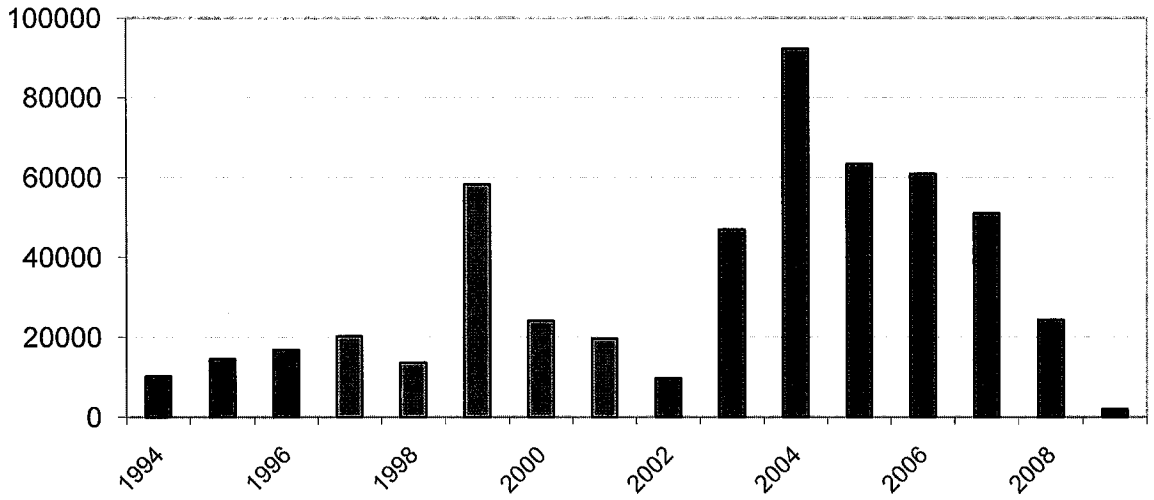
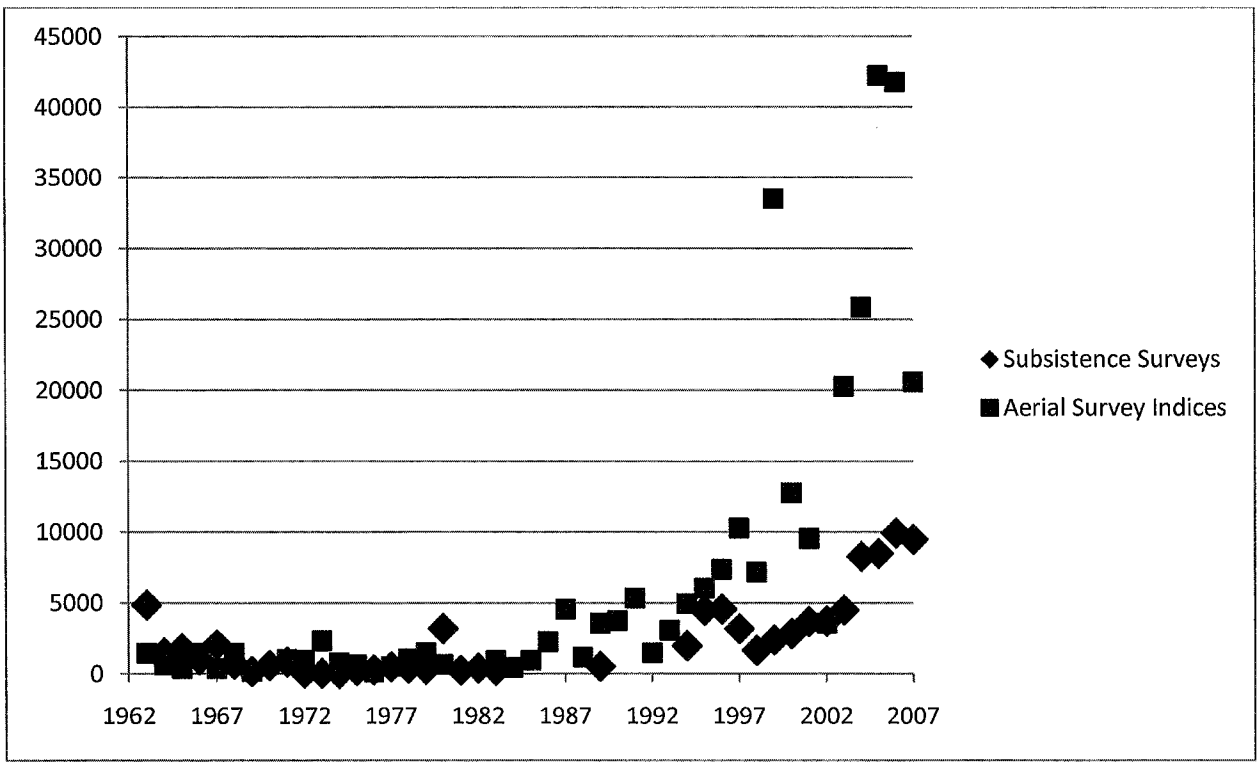


Figure 2. Long-term indices of sockeye salmon returns to the Pilgrim River: subsistence surveys (blue diamonds) and aerial surveys (red squares). 1963-2007. Data are from the Alaska Department of Fish & Game.

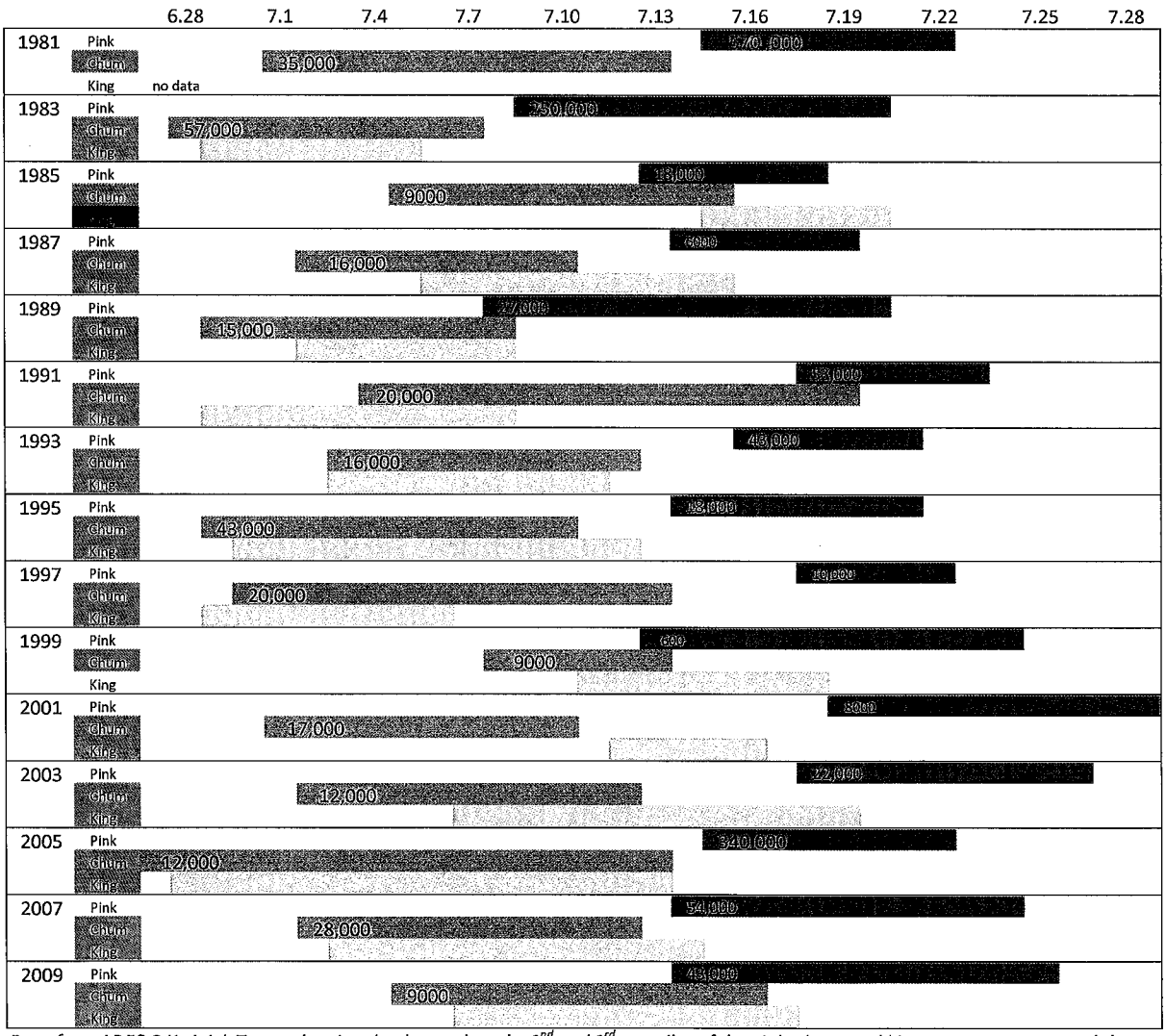


Norton Sound Economic Development Corporation, P.O. Box 358, Nome, AK 99762

RC24

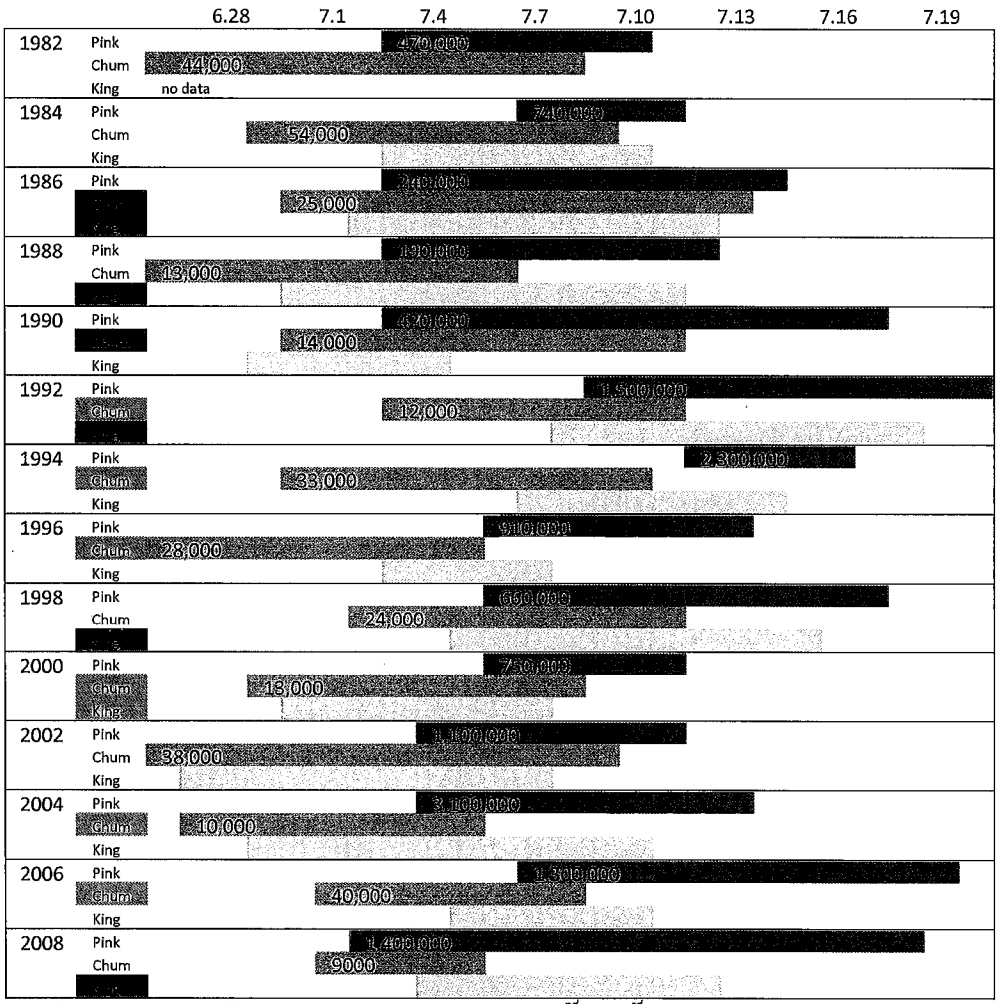
Proposals 76 and 77 would allow for purse seining of pink salmon in Norton Sound. The proposals are the same except that Proposal 77 includes Pt. Clarence and Proposal 76 does not. If purse seining is allowed, would there be significant by-catch of chum and king salmon?

The following two graphics are based on data collected from the Kwiniuk counting tower, which has been operating since the early 60's and counting pink salmon since 1981. This is data from the Alaska Department of Fish & Game. Pink runs in odd years are almost always smaller and later than pink runs in even years. Dates (from late June into July) are across the top of each graphic. The bars in each graphic represent the dates that the 2nd and 3rd quartiles of pinks (pink color), chums (purple color), and kings (orange color) passed the counting tower.



Data from ADF&G Kwiniuk Tower showing the dates when the 2nd and 3rd quartiles of the pink, chum, and king escapements passed the counting tower. Dates are across the top of the graphic and the size of the pink and chum escapement are shown on the bars. Odd years.

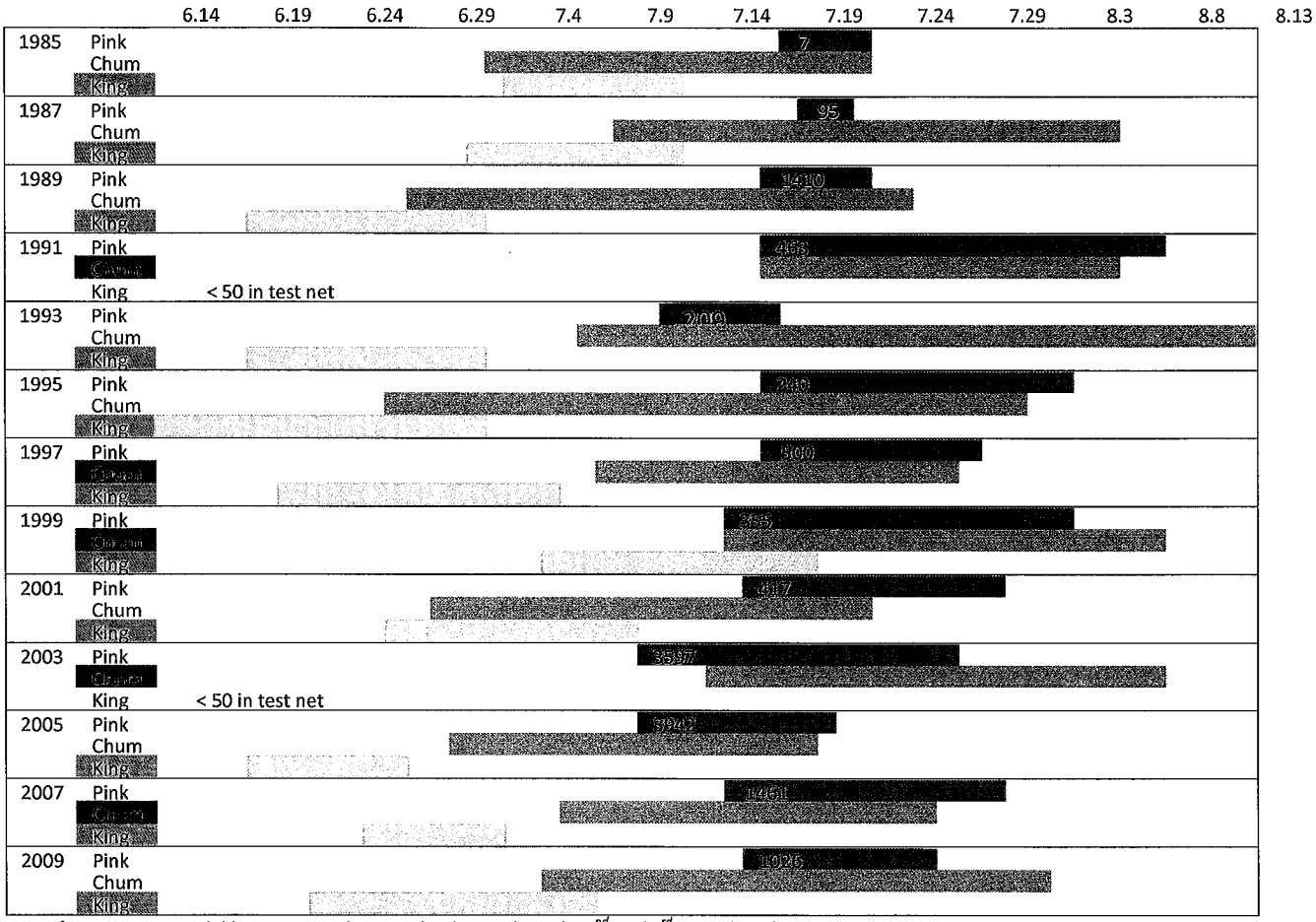
During odd years, there is little overlap between the pink run and the runs of chum and king salmon. During two of the past 15 odd years (1985 and 1999) there would have been a risk of seining a significant number of king salmon during a pink salmon fishery. Both of those years were years with relatively small pink salmon runs. We have highlighted the risk level of by-catch during a pink fishery to indicate low (green), medium (yellow), and high (red) levels of risk.



Data from ADF&G Kwiniuk Tower showing the dates when the 2nd and 3rd quartiles of the pink, chum, and king escapements passed the counting tower. Dates are across the top of the graphic and the size of the pink and chum escapement are shown on the bars. Even years.

During even years, there is often quite a bit of overlap between the pink run and the chum and king runs. In five of the last 14 even years, the pink run has been almost simultaneous with the king run (1986, 1988, 1992, 1998, and 2008). The pink run is generally later than the chum run, but in two years (1986 and 1990), significant numbers of chum may have been caught in a pink seine fishery. However, in even years, the numbers of pinks are so great that very large quantities of pinks could be harvested with very little bycatch.

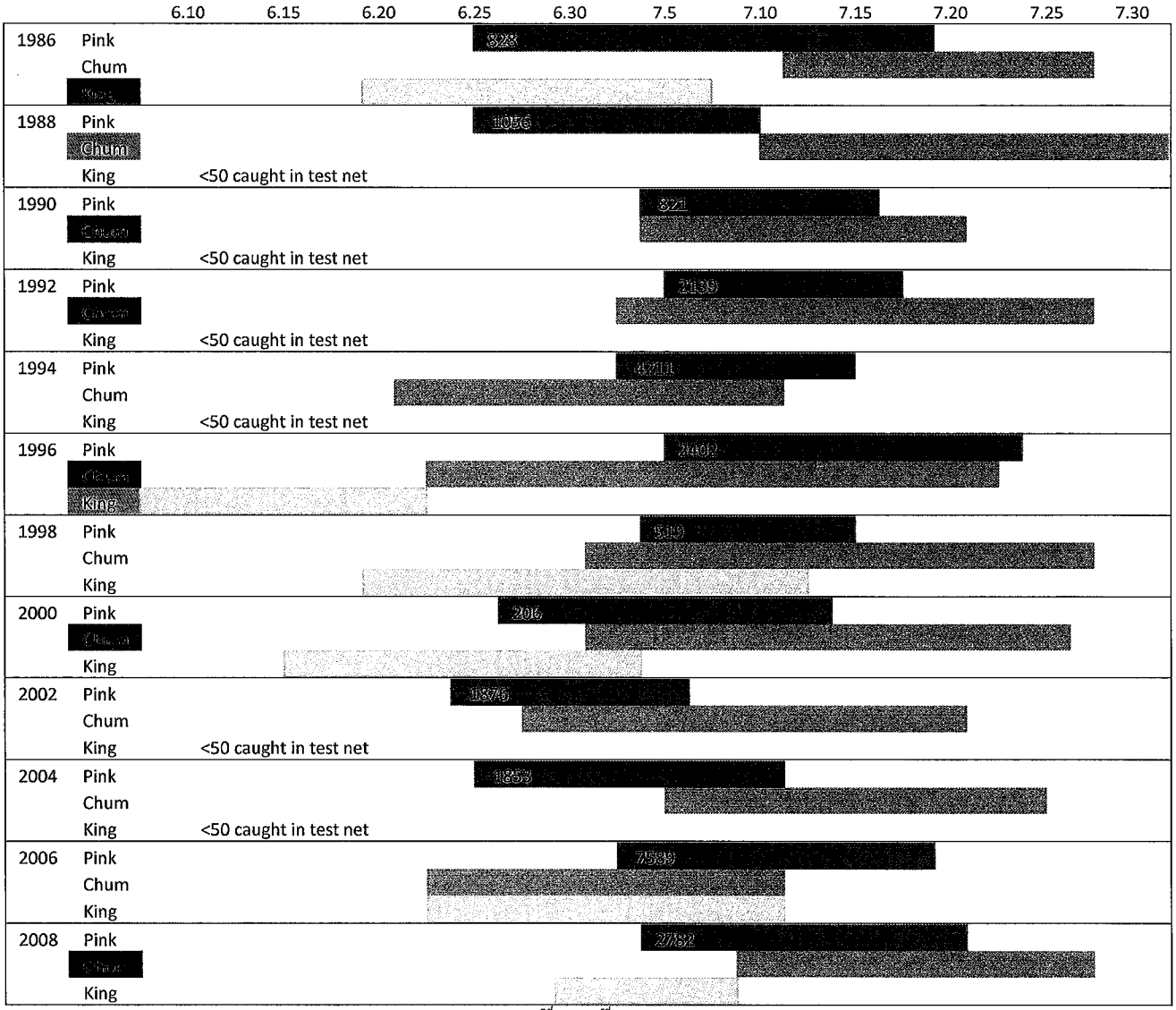
The following two graphs are similar to the above graphs, but they are using data from the Unalakleet test net (Alaska Department of Fish & Game).



Data from ADF&G Unalakleet test net showing the dates when the 2nd and 3rd quartiles of the pink, chum, and king were caught in the net. Dates are across the top of the graphic and the numbers of pinks caught are shown on the bars. Odd years.

During odd years, the pink run often overlaps substantially with the chum run. Over the past 13 odd years, the king run has always been well before the pink run.

During even years, there was quite a bit of overlap of the pink run with the chum run. About half the time, the pink run came in ahead of the chum run (5 of the last 12 years); but there were three years (1994, 1996, and 2006) when the pink run came in after the chum run. Generally, the king run was earlier than the pink run with some overlap between the end of the king run and the start of the pink run. In only one year (1986) was the overlap a substantial portion of the king run.



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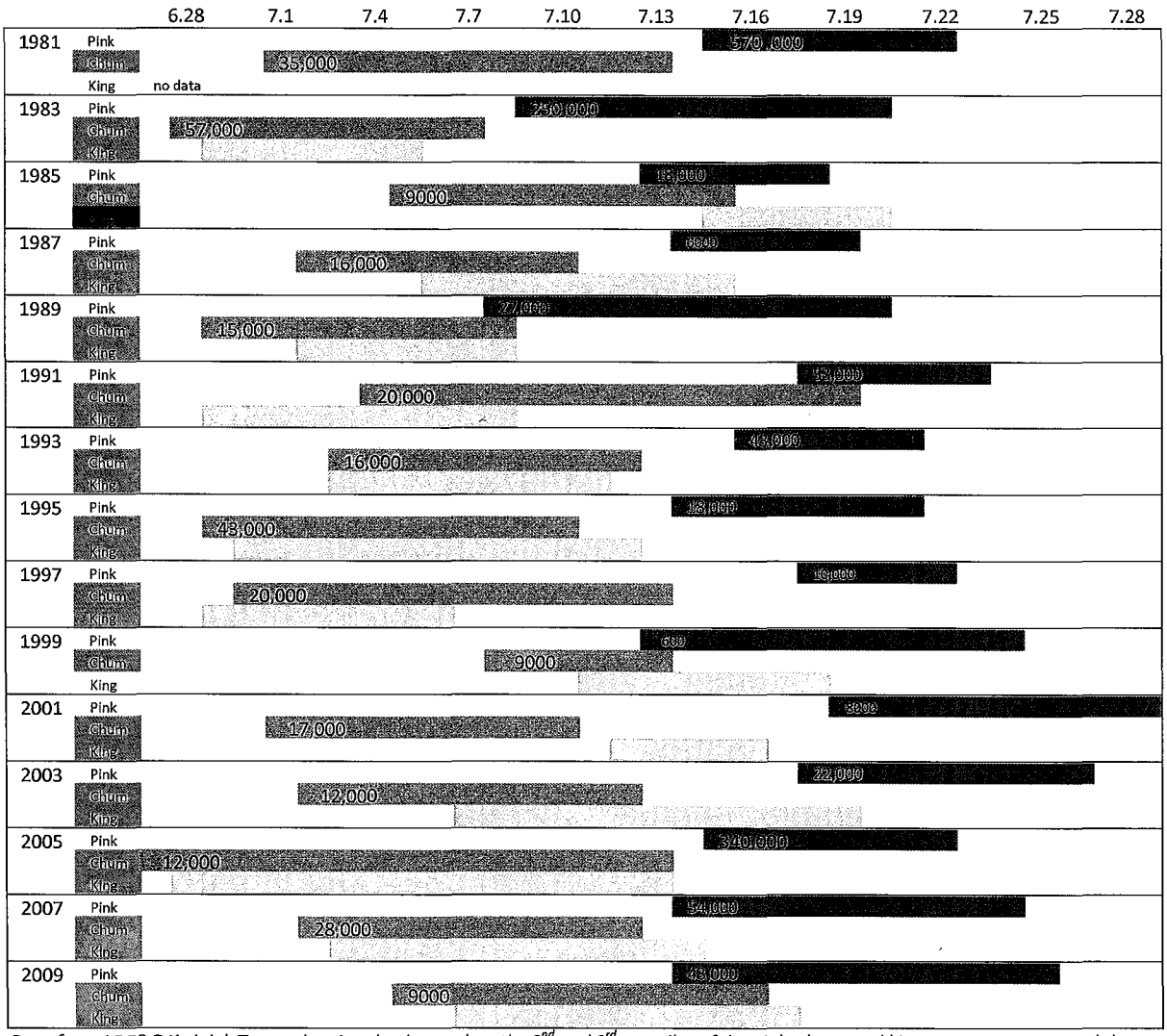
Proposals 76 and 77 would allow for purse seining of pink salmon in Norton Sound. The proposals are the same except that Proposal 77 includes Pt. Clarence and Proposal 76 does not. If purse seining is allowed, would there be significant by-catch of chum and king salmon?

The following two graphics are based on data collected from the Kwiniuk counting tower, which has been operating since the early 60's and counting pink salmon since 1981. This is data from the Alaska Department of Fish & Game. Pink runs in odd years are almost always smaller and later than pink runs in even years. Dates (from late June into July) are across the top of each graphic. The bars in each graphic represent the dates that the 2nd and 3rd quartiles of pinks (pink color), chums (purple color), and kings (orange color) passed the counting tower.



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RC 25

Norton Sound Management Maps

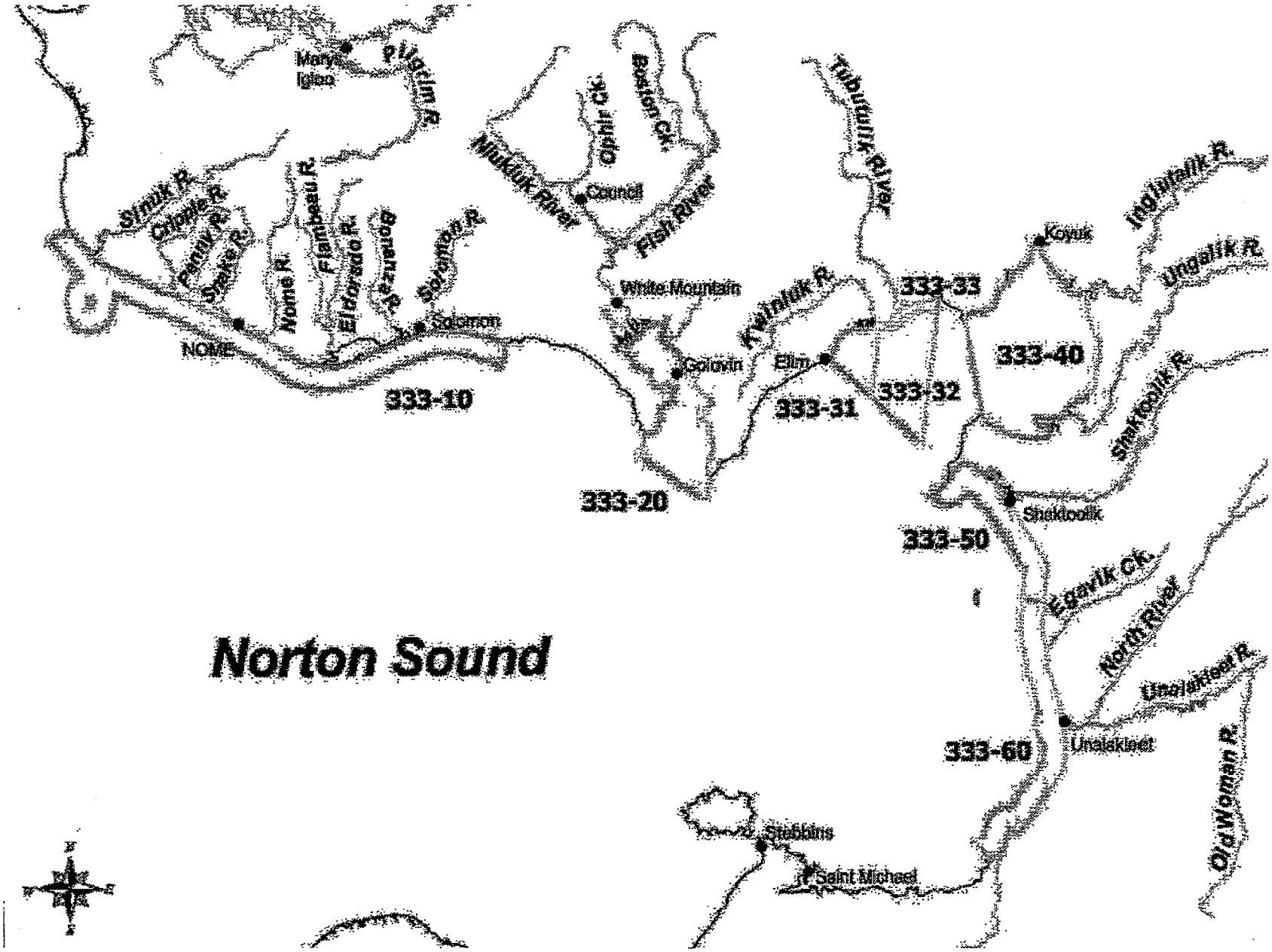
for Board of Fisheries Meeting

January 26-31, 2010

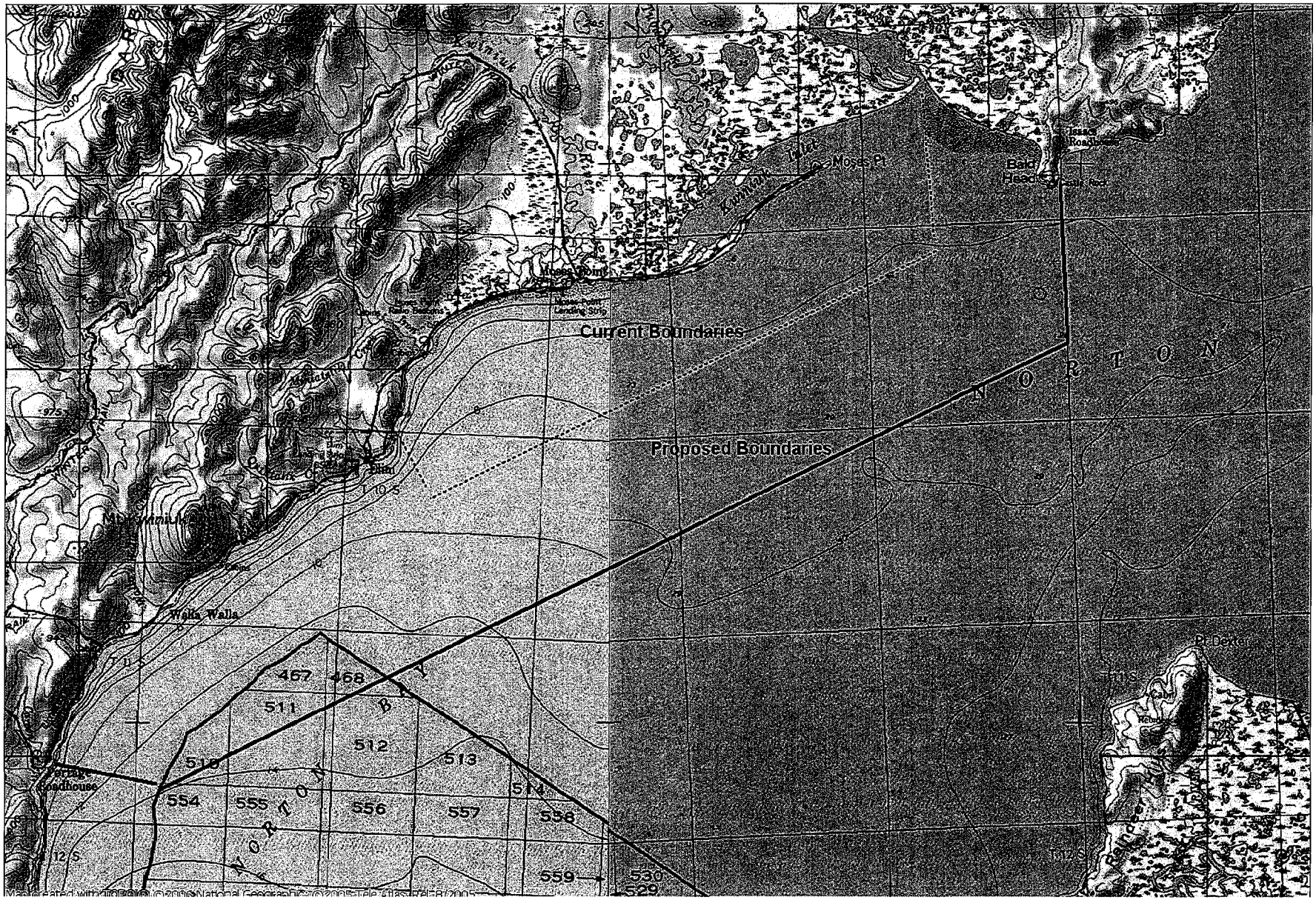
Related to general fishery management and Proposal 74

Norton Sound Economic Development Corporation, P.O. Box 358, Nome, AK 99762

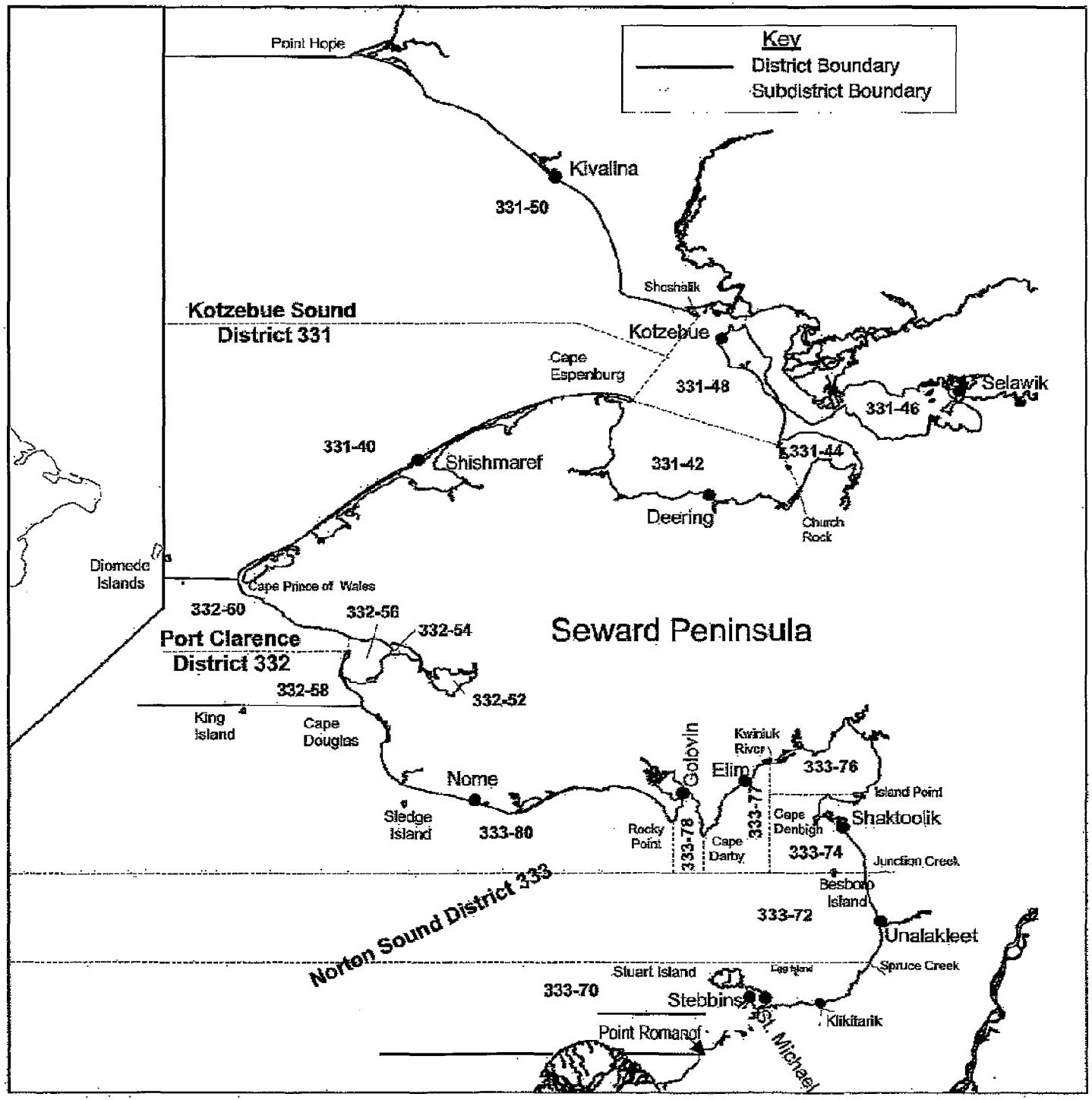
Norton Sound commercial fishing subdistricts and statistical areas.

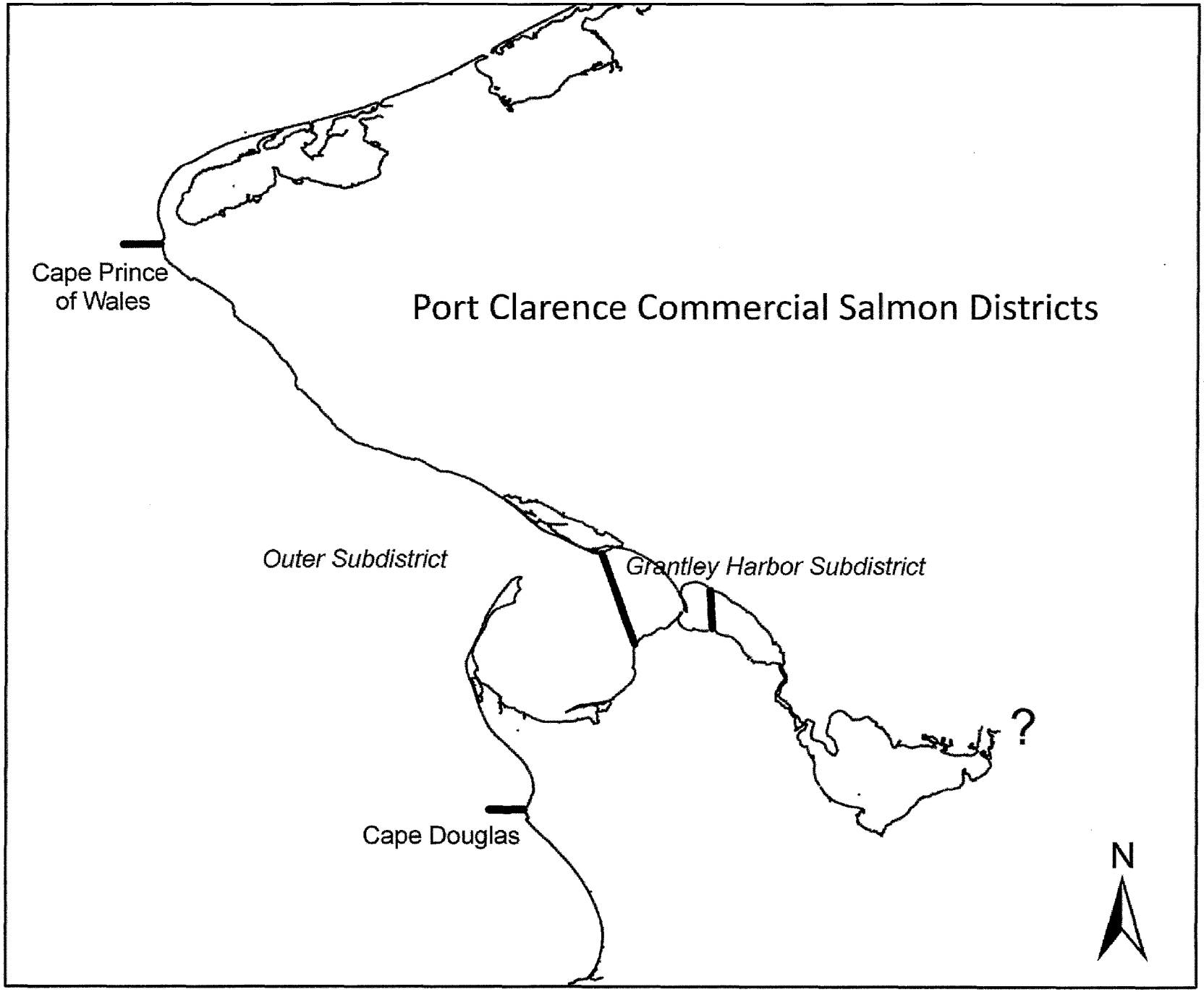


Current and proposed commercial fishing boundary for Subdistrict 3, Moses Point. (Proposal 74)



Commercial herring districts and statistical areas of Norton Sound, Port Clarence, and Kotzebue Sound.




Port Clarence Commercial Salmon Districts
Cape Prince of Wales
Outer Subdistrict
Grantley Harbor Subdistrict
?
Cape Douglas
N

RC 26

Harry O. Wilde
Mountain Village, Alaska

January 23, 2010

Mr. Chairman and members of State Board of Fisheries

My name is Harry Wilde. I am a member of the Mountain Village Fisheries working group.

I support Proposal 87.
I support the recommended change in the subsistence fishing schedule to allow subsistence fishing 7 days per week in the Innoko River Drainage and I oppose any other changes to the Yukon River King salmon Management plan.

I oppose Proposal 88.
I oppose the allocation of this proposal. This proposal will allocate more fish to upriver Districts.

I oppose Proposal 89.
This proposal will allocate more fish to upper river districts. The lower and middle Yukon subsistence fisherman and women will have greatly affected by adopting this proposal.

I oppose Proposal 90.
If I support proposal 90 I would allocate more fish to up river and many lower and middle Yukon River subsistence fishers would be greatly affected.

I oppose Proposal 91.
If this proposal should pass it would affect all fishers, all the way up the Yukon River until the Canadian cap is reached.

I oppose Proposal 92.
This proposal would prohibit the sale of King salmon during non-king openings. – Directed commercial fisheries and mandate that King salmon harvested be used for subsistence, no matter how large the King Salmon run is.

I oppose Proposal 93.
In years when the King Salmon run is strong, we have been selling the incidental caught King Salmon in the past. The amount received for selling them is used for subsistence purposes and hunting for our family.

Harry Wilde Harry O Wilde Sr

G.A.S.H Teleconference 1/25/2010

RC 27

Present
Gabe Nicholi-Grayling
Ken Chase-Anvik
Cliff Hickson-Anvik
Peter Walker-Holy Cross
LeRoy Peters-Holy Cross

Missing
Harry Maillelle-Grayling
Arnold Hamilton (alt)- Shageluk
Roger Hamilton-Shageluk Alt.
Richard Peters-Shageluk Alt.
Kathy Chase-Holy Cross

Quorum met, meeting called to Order at 5:15 pm

It was decided to proceed without Shageluk, since they are not overly concerned with fishing issues and none were at home

Proposal 81
Support
Housekeeping by the Dept. The EO isn't necessary if we just remove that hurdle for the Department

Proposal 82
Support
One member concerned with enforcement of this proposal, but supportive

Proposal 83
Oppose
People depend on this fishery all over the river. This just seems like one more thing to have to do, and if you are not in compliance, you can and will be fined. It is not necessary for people who live in these areas to keep such extensive records. People in our area are in general pretty conservative with fish taking.

Proposal 84
Support
This will help reduce congestion and makes complete sense

Proposal 85
Support
This is very similar to proposal 84, and we support it for the same reasons

Proposal 86
Oppose
There are just too many cons to support this proposal- such as enforcement, chance of loosing nets and ghost fishing down the river

Proposal 87
Support
We need to stay up with the times, and keep our fingers on the pulse of the river, and since that pulse is changing, we support this proposal

Proposal 88
Oppose
Many of the people that put in this proposal live upriver, where fish wheels are easily used. Where we live on the river, there are no good places to use a fish wheel, so this form of fishing is commonly used. This proposal would put hardship on the people who live in this area and who cannot use, by nature of the river, fish wheels, and depend on gill nets

Proposal 89
Oppose
This would put hardship on the people that use different sized mesh. In these lean fishing times, we would not want to see such restrictive fishing gear. We are use to the nets we currently use, and having to switch would create hardship with learning to fish with a different sized net where we are familiar with our current ones.

Proposal 90
Oppose
Same reasoning as Proposal 89

Proposal 91
Oppose
This could be very bad if there was a pulse of kings during the chum opener. Normally we don't want to keep the kings we catch anyway- we don't catch any main stem kings. They are worn out by the time we see them.

Proposal 92
No Comment
Lots of discussion, ultimately it was decided not to comment. There is a gentelmen's agreement in place- there might be a problem with enforcement that would need to be addressed.

Proposal 93
Oppose
With one member voting to take no action due to fish wheel fishing. This is a waste of fish to throw dead fish back in the river.

Proposal 94
Oppose
The windows aren't thrown out the window

Proposal 95
No Comment
There were mixed feelings about this proposal, which 2 opposed, and 3 voted to not comment on- it might be a good idea for the long term, but for the short term, maybe not. This will ultimately translates into gains for subsistence with more fish coming up the river. Not many people upriver commercial fish, there are no buyers on the river until you get to Tanana, and no one to fly them out.

Proposal 96
No Comment-
Same reasoning as Proposal 95
Proposal 97
No Comment
There are no Fall chum commercial fisheries in our area

Proposal 98
Oppose
That close to the mouth, no one knows where the fish are ultimately headed- it could be a different river. If this proposal is to pass, Yukon River fishermen might harvest non-Yukon River fish.

Proposal 99
Oppose
There was much discussion on this proposal, with 2 members voting for no comment, saying that the local fishermen in the area should decide, and 3 voting for opposition. Since the river isn't open, it can stay that way.

Fm Virgil Umphenour Fairbanks A/C

RC 98

PROPOSAL 180 - 5 AAC 05.331. GILLNET SPECIFICATIONS AND OPERATIONS.
Amend this section to provide the following:

Beginning January 1, 1998, return to the 60 mesh in depth restriction for king salmon gear in Districts 1, 2 & 3.

5 AAC 01.331. GILLNET SPECIFICATIONS AND OPERATIONS.

(f) *In Districts 4, 5 and 6,* ~~Gillnets~~

(1) *gillnets* with greater than six-inch mesh may not be more than 60 meshes in depth;

(2) ~~Gillnets~~ *gillnets* with six-inch or smaller mesh may not be more than 70 meshes in depth. ~~Beginning January 1, 1996, this subsection applies only in Districts 4 – 6~~;

(g) ~~Beginning January 1, 1996, in~~ *In* Districts ~~1 – 3~~ *1, 2 and 3*

(1) gillnets with greater than six-inch mesh may not be more than ~~45~~ *60* meshes in depth;

(2) gillnets with six-inch or smaller mesh may not be more than ~~50~~ *70* meshes in depth.

Editorial comment: This proposal includes the proposed increase in mesh size for chum salmon gear to 70 meshes in depth which is being proposed in a different proposal.

PROBLEM: In 1996 a regulation went into effect that shortened the depth of chinook salmon (king) gear from 60 mesh to 45 mesh. This regulation has unnecessarily reduced the effectiveness of the fishermen's gear. This is particularly true for fishermen fishing in deeper waters.

WHAT WILL HAPPEN IF NOTHING IS DONE? Lower Yukon fishermen will continue to be unnecessarily burdened by this regulation. If the department wishes to control king salmon harvests it should do so primarily by regulating the length and frequency of the periods not by restricting gear. Restricting the length of the period also has the added benefit of improving salmon quality.

WHO IS LIKELY TO BENEFIT? Fishermen - because their efficiency will be restored. Processors will benefit because quality will improve because the same amount of fish could be landed in less time.

WHO IS LIKELY TO SUFFER? No one.

OTHER SOLUTIONS CONSIDERED? None considered.

PROPOSED BY: Lower Yukon Fish and Game Advisory Committee (I-97-F-010)

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PROPOSALS #179 - #180, PAGES #120 - 121. INCREASE DEPTH OF COMMERCIAL GILLNETS IN THE LOWER YUKON: 5 AAC 05.331. GILLNET SPECIFICATIONS AND OPERATIONS.

WHAT WOULD THE PROPOSALS DO? Proposal 179 would increase the depth of gillnets with six-inch or smaller mesh from 50 to 70 meshes in Districts 1, 2 and 3; and proposal 180 would increase the depth of gillnets with six-inch or smaller mesh from 50 to 70 meshes and increase the depth of gillnets with greater than six-inch mesh from 45 to 60 meshes in Districts 1, 2 and 3.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 05.331. GILLNET SPECIFICATIONS AND OPERATIONS. (g) in Districts 1, 2 and 3 (1) gillnets with greater than six-inch mesh may not be more than 45 meshes in depth; (2) gillnets with six-inch or smaller mesh may not be more than 50 meshes in depth;

WHAT WOULD BE THE EFFECT IF THE PROPOSALS ARE ADOPTED? There would likely be an increase in commercial fishing efficiency. Deeper gillnets will also target larger, predominantly female king salmon which travel in deeper water. If fishing efficiency increases, the duration of commercial fishing periods may have to be reduced or over-harvest of individual salmon stocks may occur.

BACKGROUND: Prior to the 1988 season, there was no restriction on depth of gillnets. In 1987, the board adopted a regulation in which, gillnets with greater than six-inch mesh size could not be more than 60 meshes in depth and gillnets with six-inch or smaller mesh size could not be more than 70 meshes in depth. Local fishers brought this issue before the board because a non-local fisherman was using a 90 mesh deep king net.

The board adopted the current regulations in November 1994 and the regulations have been in effect beginning in 1996. The commercial salmon fishery has become much more efficient in recent years. Although commercial fishing periods have been reduced in duration, catch per unit effort has increased. In order to spread out the harvest and provide better protection to individual stocks, it was necessary to reduce the efficiency of the fleet. One of the recent trends was increasing usage of deeper gillnets.

The results of gear surveys conducted in District 1 in 1983 and in District 2 in 1985 indicated the depth of gillnets by mesh size used in those years. For large mesh gillnets, in District 1, the deepest net used was 45 meshes, the majority were 25 to 40 meshes deep and in District 2, the deepest net used was 50 meshes, the majority were 35 to 45 meshes deep. For small mesh gillnets, in District 1, the deepest net used was 45 meshes, the majority ranged from 25 to 40 meshes deep and in District 2, the deepest net used was 60 meshes, the majority ranged from 35 to 40 meshes deep.

DEPARTMENT COMMENTS: The staff opposes these proposals. The decrease in the depth of gillnets reduces efficiency to some extent and assists in spreading out the harvest.

RC 29

Does Not Exist

RC30

Raphael Jimmy
Mountain Village, AK. 99632

My name is Raphael Jimmy, I was born in Nunam Iqua 1924 and raised in Nunam Iqua and I oppose all the proposals for the Lower Yukon Area.

In those days since I was born I ate fish. When I got a wife and kids, everyone ate fish and even now we still eat fish. We can't go without it, also we never throw the fish, we use everything, the fish heads, we put them under the ground and eat them at a later time after then get aged, also fish eggs, we dry them and eat them.

My father took care of us the same way I take care of my family, main food was salmon.

When I was young the Elders would know if there was going to be a lot of fish in the River just by the weather during the winter season, when the South Wind blow and then turn to west they would say they know a lot of fish will come in the Yukon River and Kuskokwim River, the would be very happy.

When I first start seeing fish caught in the nets, they would give a good fight and jump very high, and sometimes break the string. Right now since 1987 I have seen the differences in the fish when they get caught, when I have my net in the water for ½ hour on a calm day when fish get caught it five a little fight and in that ½ hour my net in the water the king salmon dies.

RC 31

Fishery-Induced Adaptation: Potential Consequences of Long-Term Selection for Large Chinook Salmon

Jeffrey F. Bromaghin*
Fisheries and Ecological Services
U.S. Fish and Wildlife Service
Anchorage, Alaska
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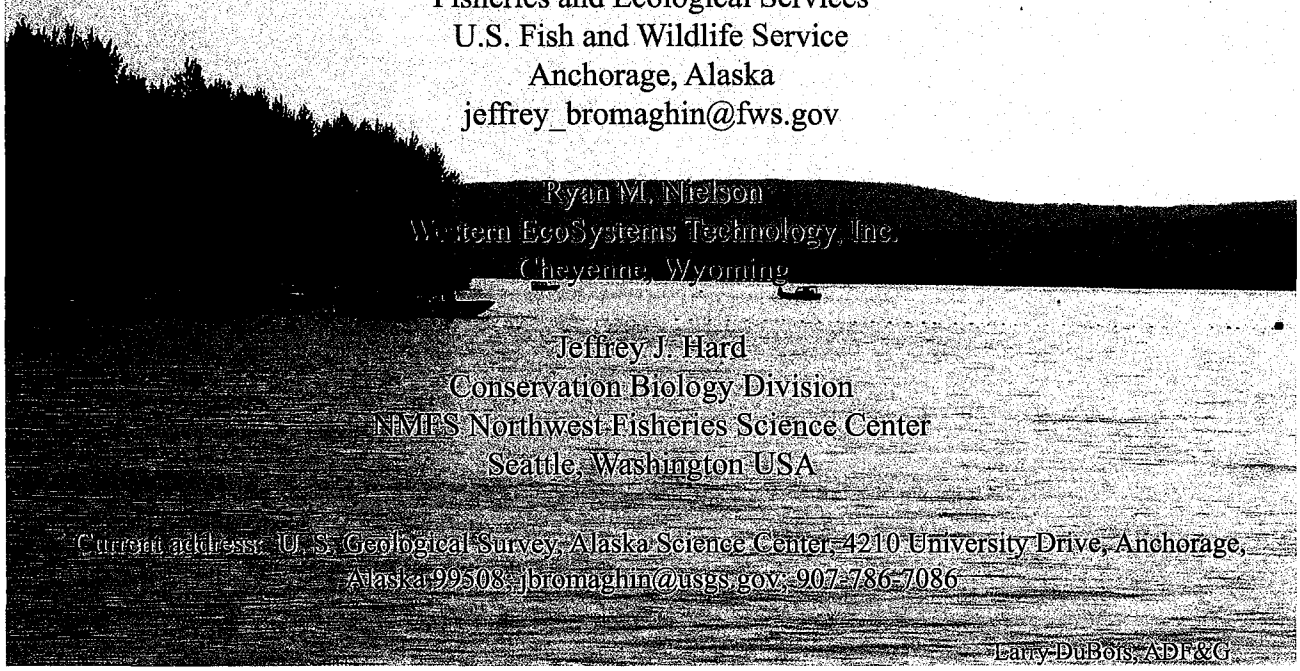
Ryan M. Nielson
Western EcoSystems Technology, Inc.
Cheyenne, Wyoming

Jeffrey J. Hard
Conservation Biology Division
NMFS Northwest Fisheries Science Center
Seattle, Washington USA

Current address: U. S. Geological Survey, Alaska Science Center, 4210 University Drive, Anchorage, Alaska 99508, jbromaghin@usgs.gov, 907-786-7086



Concern for Fishery-Induced Adaptation

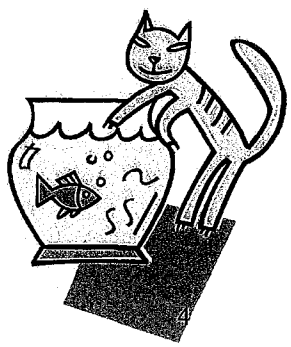
- Allendorf & Hard. 2009. Human-induced evolution caused by unnatural selection through harvest of wild animals. Proc. Nat. Acad. Sci. 106:9987-9994.
- Dunlop et al. 2009. Toward Darwinian fisheries management. Evol. App. 2:245-259.
- Enberg et al. 2009. Implications of fisheries-induced evolution for stock rebuilding and recovery. Evol. App. 2:394-414.
- Hutchings. 2009. Avoidance of fisheries-induced evolution: Management implications for catch selectivity and limit reference points. Evol. App. 2:394-414.
- Jørgensen et al. 2009. Size-selective fishing gear and life history evolution in the northeast Arctic cod. Evol. App. 2:356-370.
- Kendall et al. 2009. Quantifying six decades of fishery selection for size and age at maturity in sockeye salmon. Evol. App. 2:523-536.
- Kuparinen et al. 2009. Growth-history perspective on the decreasing age and size at maturation of exploited Atlantic salmon. Mar. Ecol. Prog. Ser. 376:245-252.
- Nusslé et al. 2009. Fishery-induced selection on an alpine whitefish: Quantifying genetic and environmental effects on individual growth rate. Evol. App. 2:200-208.
- Paterson & Chapman. 2009. Fishing down and fishing hard: Ecological change in the Nile perch of Lake Nabugabo, Uganda. Ecol. Fresh. Fish 18:380-394.
- Sharpe & Hendry. 2009. Life history change in commercially exploited fish stocks: An analysis of trends across studies. Evol. App. 2:260-275.

Evidence for Fishery-Induced Adaptation

- Many studies document downward trends in demographics
  - Especially in marine fisheries when exploitation rates are high and gear is size-selective
  - Cannot establish cause
- Other studies find little evidence of adaptation
  - Hilborn & Minte-Vera. 2008. Fisheries-induced changes in growth rates in marine fisheries: Are they significant? Bull. Mar. Sci. 83: 95–105
- No conclusive proof, but substantial theoretical and empirical evidence
  - Hard et al. 2008. Evolutionary consequences of fishing and their implications for salmon. Evol. App. 1:388-408

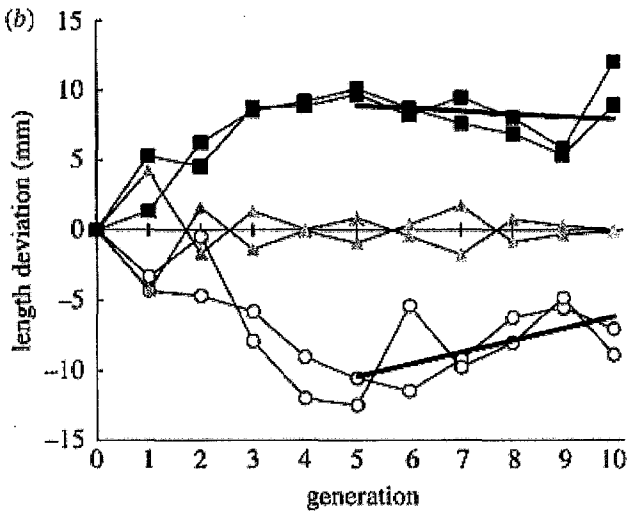
Conover's Tank Experiments

- Conover et al. (2009) summarize an experiment in selective harvest using Atlantic silverside
- Had 3 harvest regimes for first 5 years:
  - Harvested largest 90%
  - Harvested smallest 90%
  - Harvested 90% uniformly across size
- After 5 years, harvested at 90% with no size selectivity



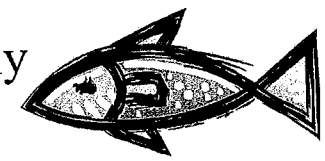
Conover's Results

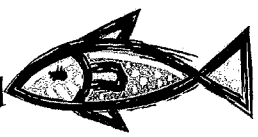
- Control group:
  - Size remained stable
- Smallest fish harvested:
  - Size increased and did not decline after selectivity eliminated
- Largest fish harvested:
  - Size declined, but started to recover after selectivity eliminated
  - Estimated recovery time was 12 generations
- Controlled experimental evidence



Fishery-Induced Adaptation in Pacific Salmon?

- Information on Pacific salmon is slowly accumulating
- Changes in body morphology
  - Trends in weight, length, shape
  - Increase in length after marine fishing halted
- Life-history strategies
  - Changes to run-timing
  - Reduced age at maturation
- Heritability of traits documented
  - Body size, shape, flesh color
  - Age at maturation, propensity to jack
  - Return rate (survival), homing ability

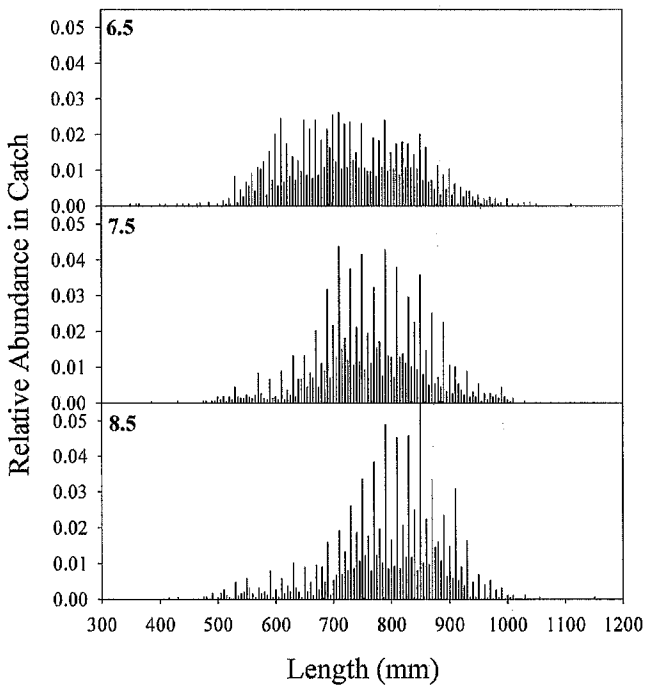




Gillnet Selectivity

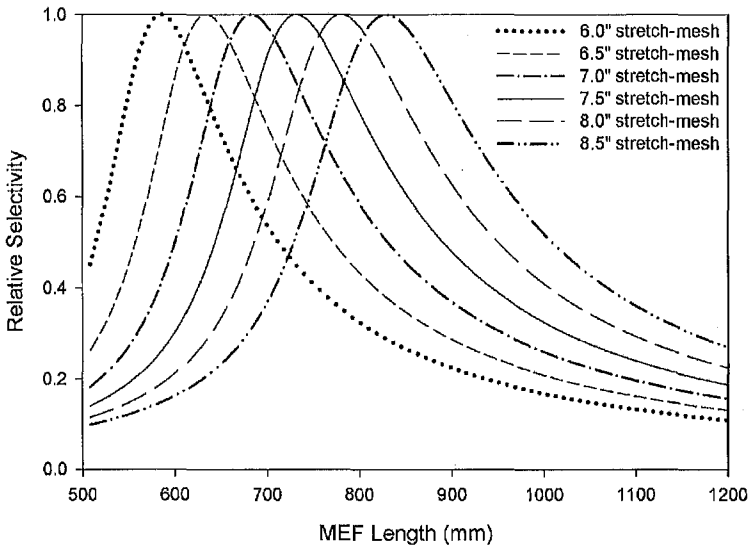
- Catches in selective gear depend on:
  - The selectivity of the gear
  - The size distribution of fish present
  - The exploitation rate
- Most gillnets are effective for a broad range of sizes
- There are long-term trends in catch composition

Chinook Salmon Catch by Mesh Yukon River - Pilot Station Sonar



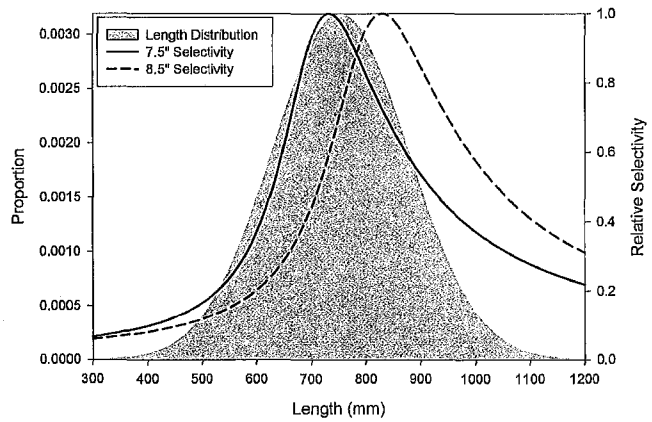
Gillnet Selectivity Estimates

- Estimates of gillnet selectivity for Yukon River Chinook salmon (Bromaghin 2005).



Effect of Gillnet Selection

- A 7.5" gillnet targets a smaller and more abundant component of a typical run than a 8.5" gillnet



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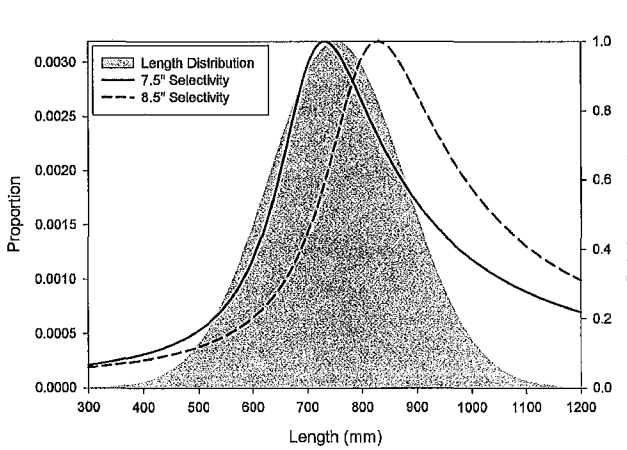
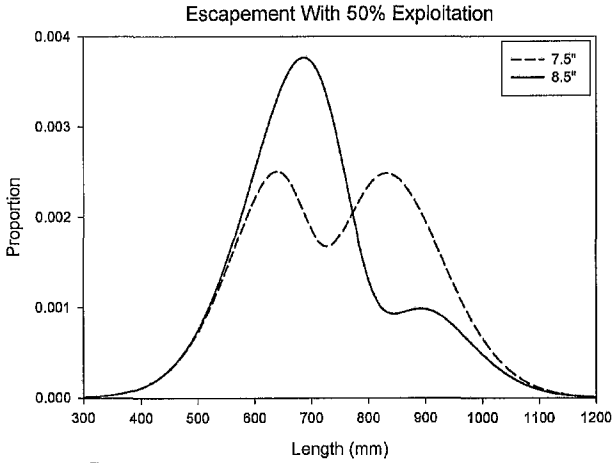
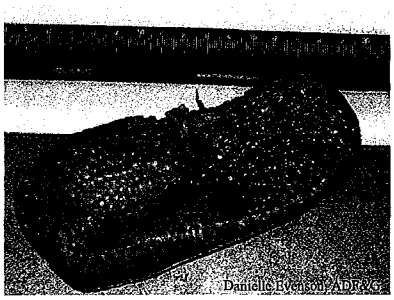
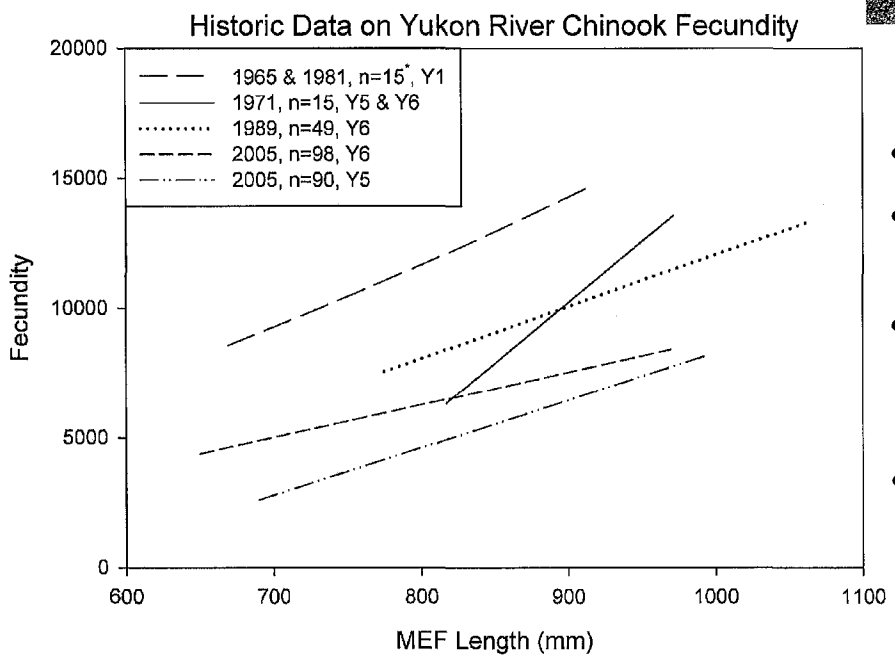




- Selective harvest with size-selective gear can substantially alter the composition of escapements

Chinook Salmon Fecundity & Size

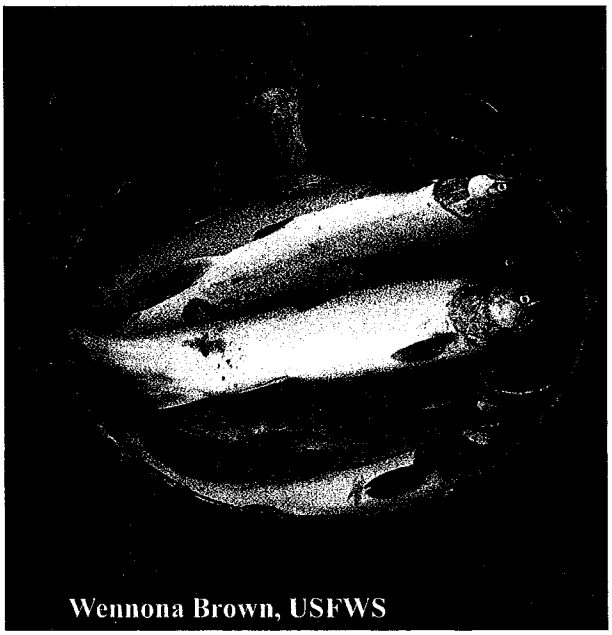




- Weidner (1972)
- Healey and Heard, (1984)
- Skaugstad and McCracken (1991)
- Jasper and Evenson (2006)

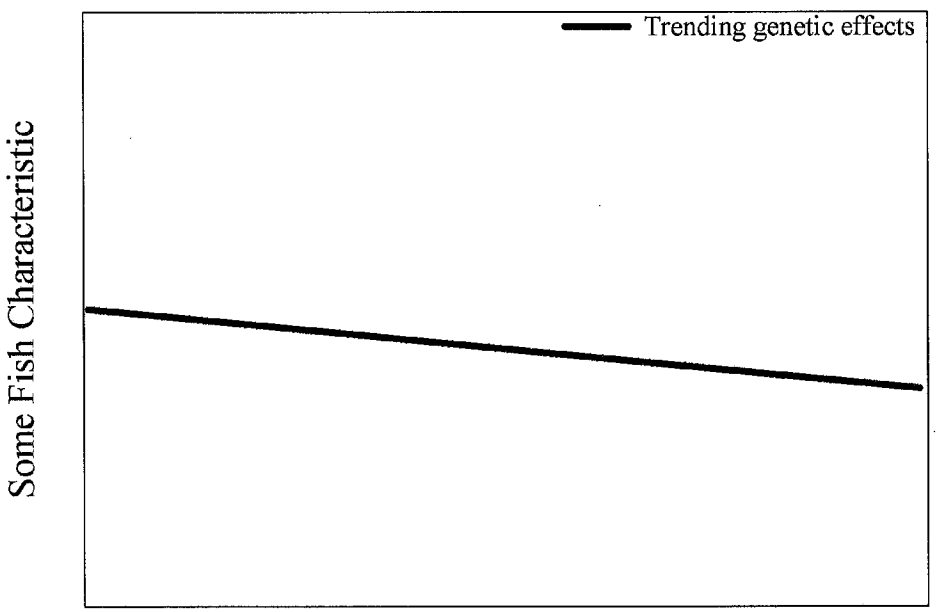
Chinook Salmon Simulation

- Bromaghin et al. (2008) investigated the genetic consequences of the long-term harvest of large fish

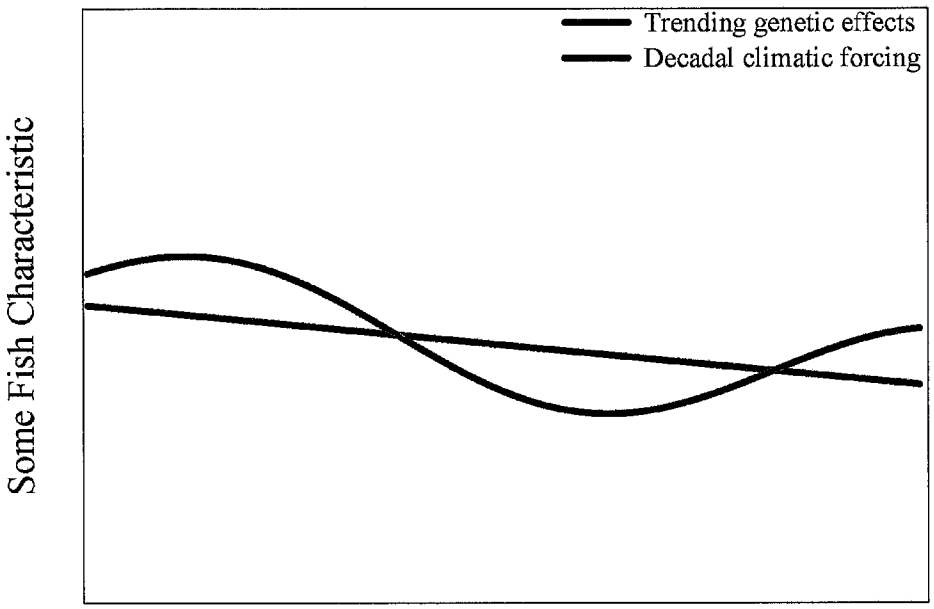


- Is selective harvest of large fish likely to alter important characteristics of Chinook salmon?
- If yes:
  - What aspects of a fishery are most likely to cause adaptation?
  - Can fishery-induced adaptation be reversed?

Conceptualization of Genetic Effects



Conceptualization of Genetic Effects



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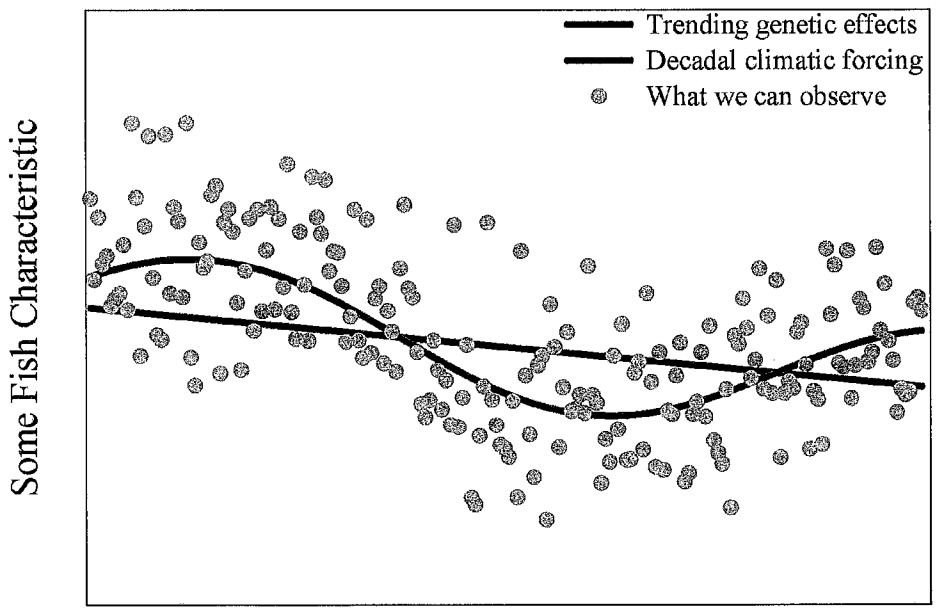
Conceptualization of Genetic Effects



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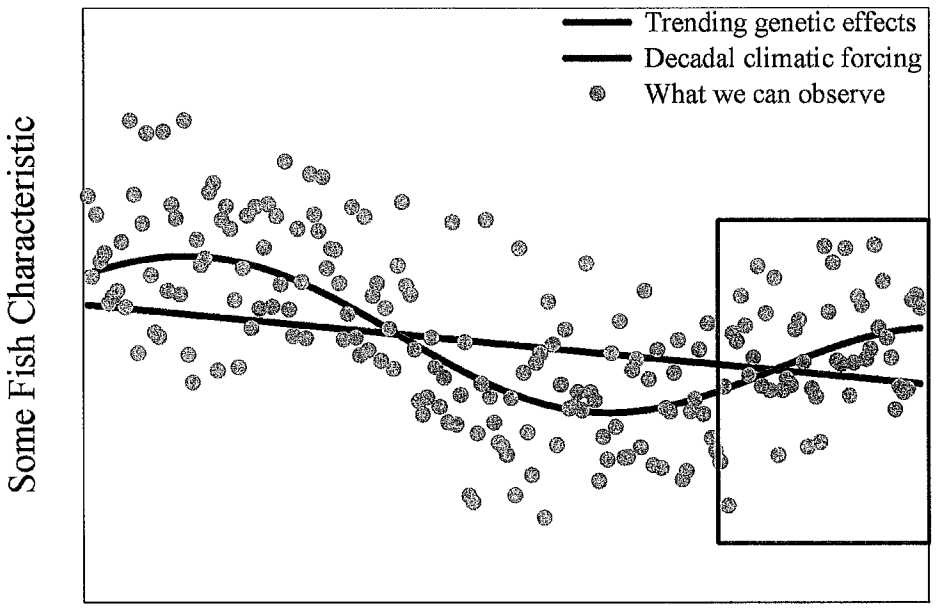
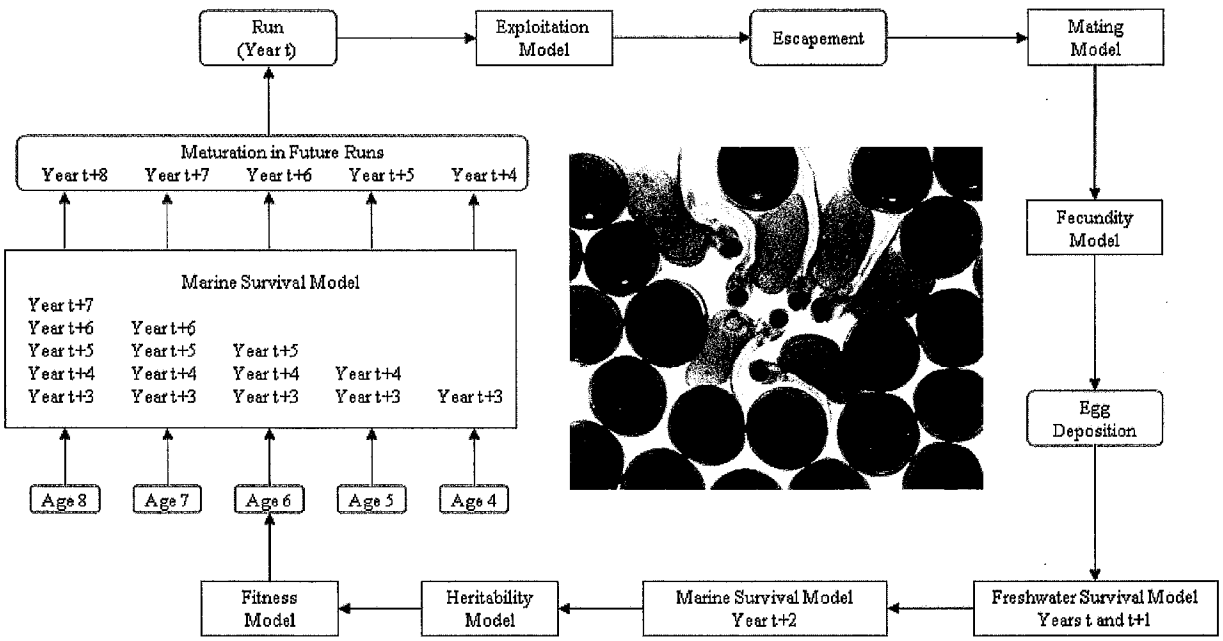
Conceptualization of Genetic Effects



Model Structure



Initial Simulations

- 26 scenarios simulated, each for 200 years
  - 24 combinations of 4 productivity/harvest variables (table below)
  - 2 no-harvest "controls", one for each productivity level
  - 250 replicates per scenario
- Equilibrium abundance: 10,000 adults
- All initial simulations used 8.5" gillnet

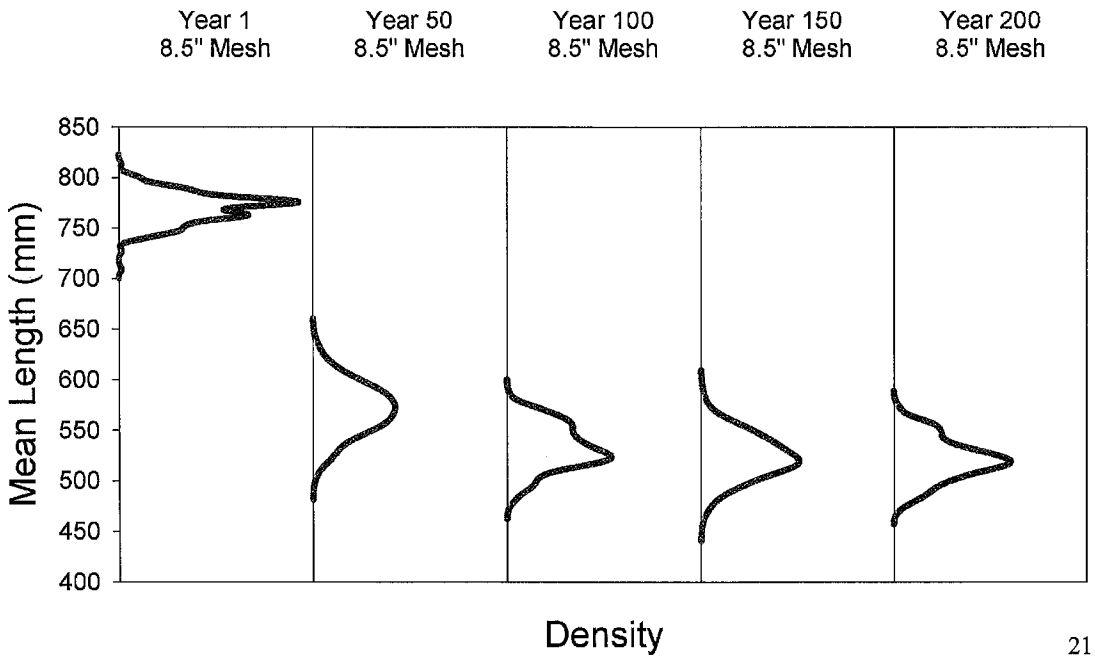
Productivity (Ricker α)	Exploitation Parameter (γ)	Management Precision	Escapement Goal (k*Smsy)
Low (1.5)	Low (0.50)	Low (30%)	Low (k=0.5)
High (2.25)	High (0.85)	High (15%)	Medium (k=1.0)
			High (k=1.5)

Initial Simulation Results

- Simulation 21
  - Exploitation - high
  - Escapement goal – low
  - Results typical of most simulations
- Simulation 26
  - Exploitation - low
  - Escapement goal – high

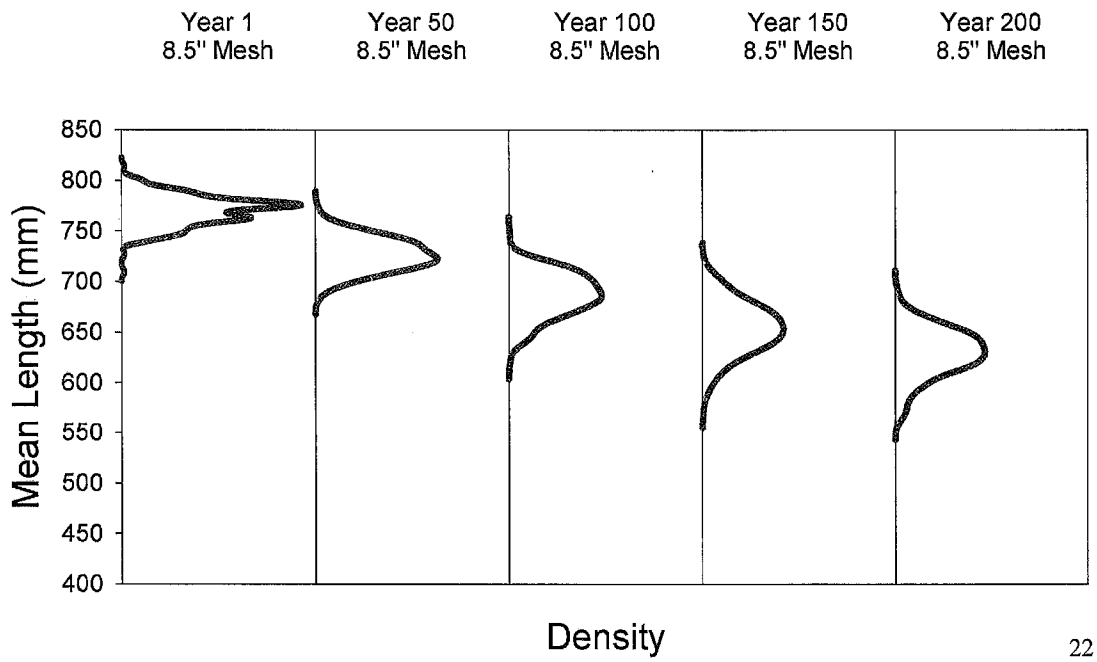
Initial Simulations

- Simulation 21 – high exploitation, low escapement goal



Initial Simulations

- Simulation 26 – low exploitation, high escapement goal

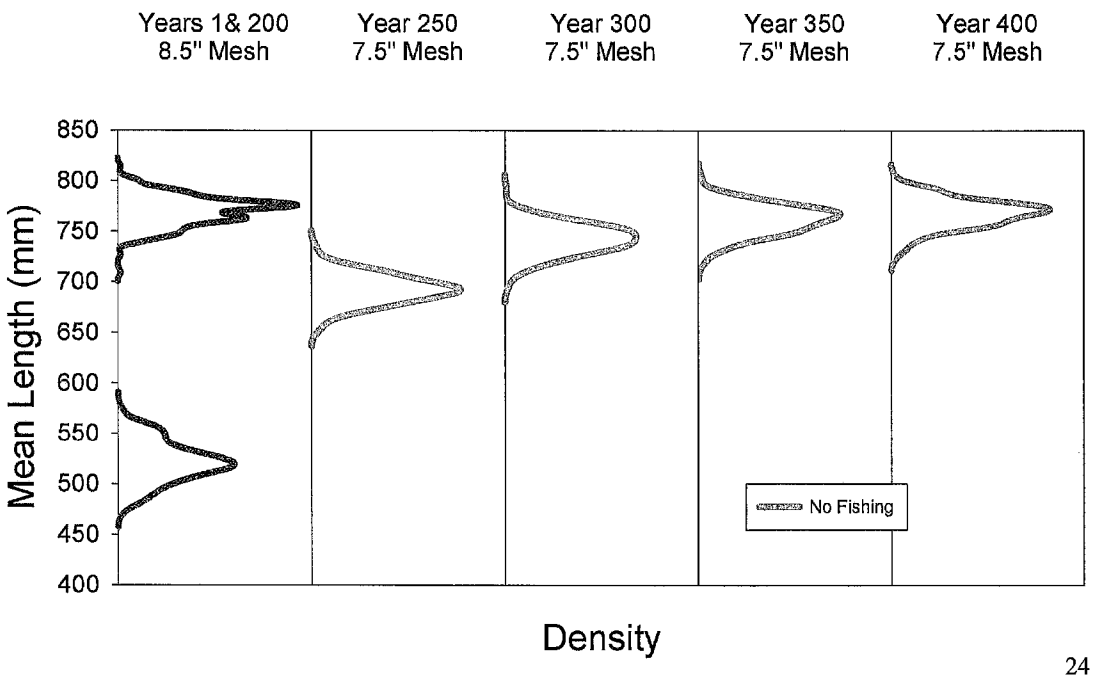


Alternative Fishing Simulations

- Question: How easily can populations recover?
- Changed management to find out
  - One case in which fishing was stopped completely
  - Mesh size reduced from 8.5" to 7.5"
  - Exploitation parameter:
    - Used original value (low or high)
    - High values also change to low
  - Increased escapement goal in increments of $0.5(S_{MSY})$
- Simulated population dynamics additional 200 years

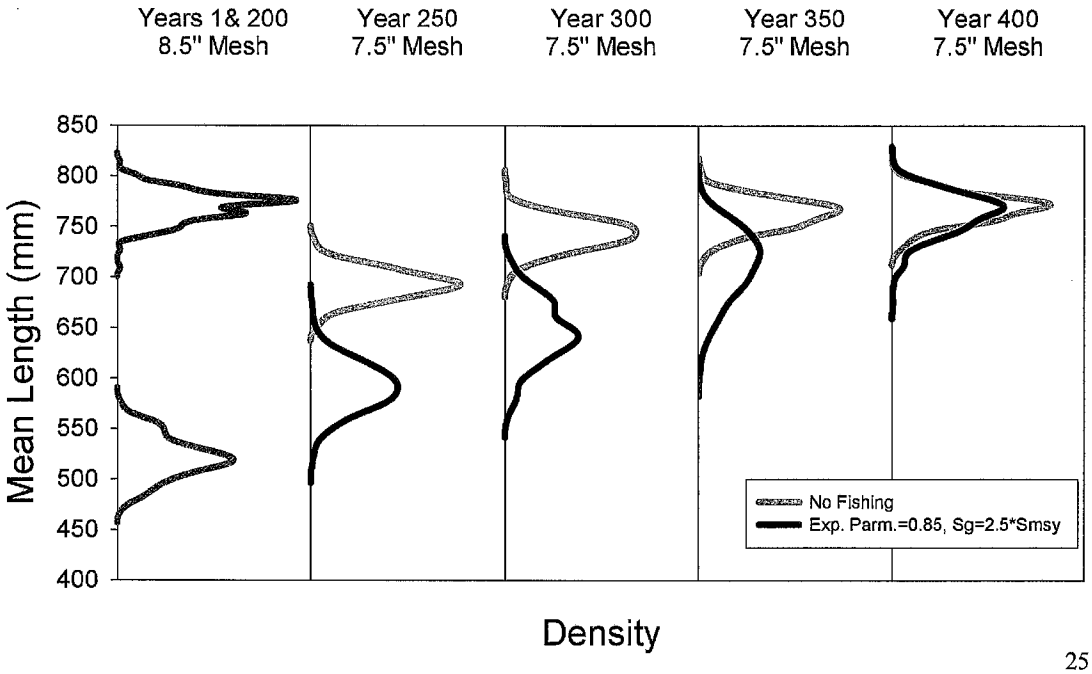
Alternative Fishing Simulations

- Simulation 21 – high exploitation, low escapement goal



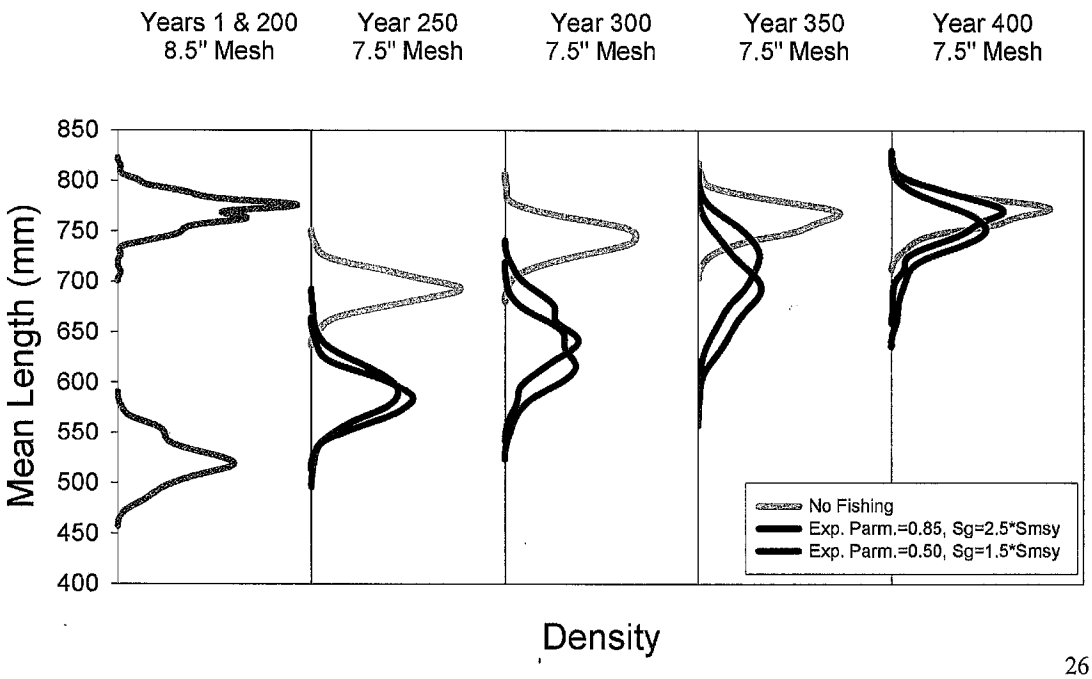
Alternative Fishing Simulations

- Simulation 21 – high exploitation, low escapement goal



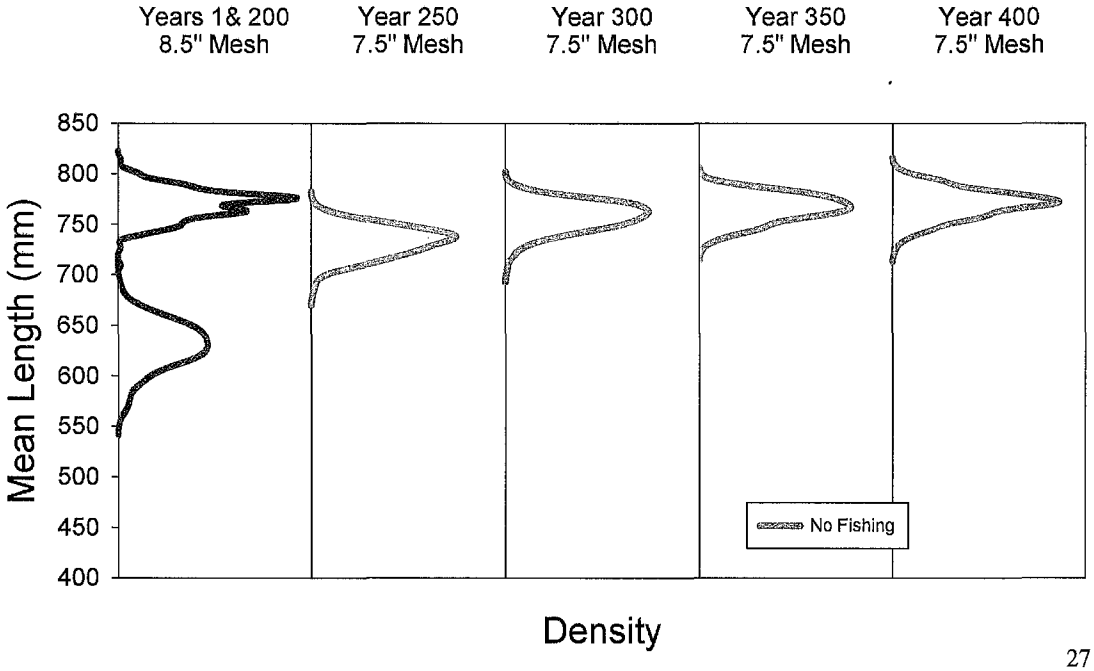
Alternative Fishing Simulations

- Simulation 21 – high exploitation, low escapement goal



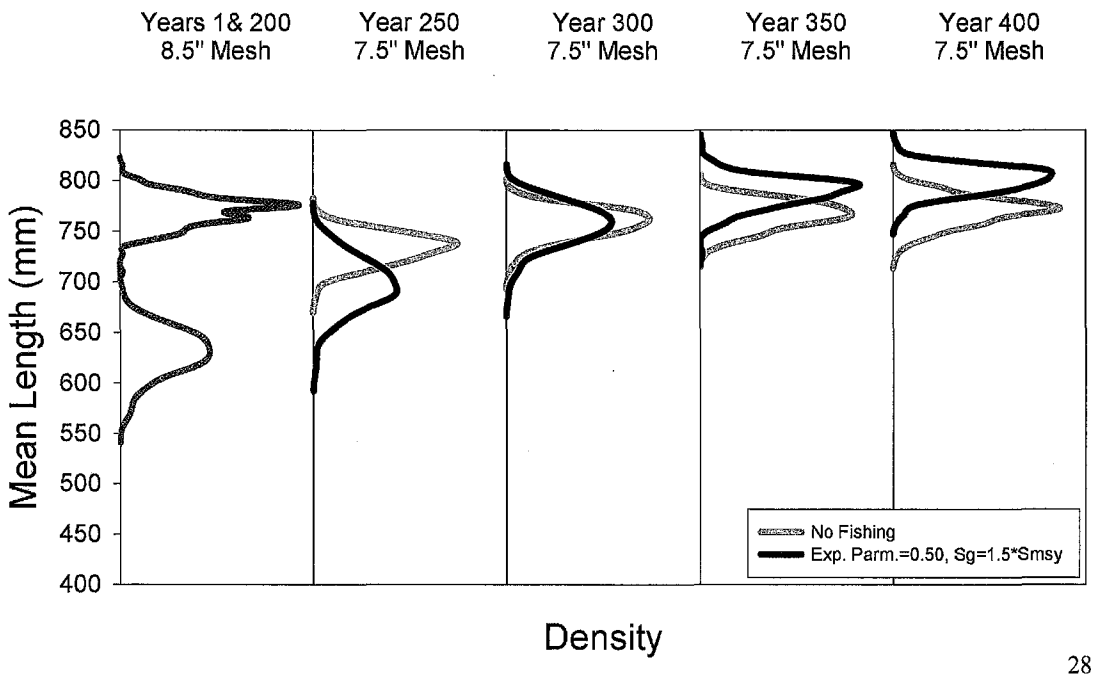
Alternative Fishing Simulations

- Simulation 26 – low exploitation, high escapement goal



Alternative Fishing Simulations

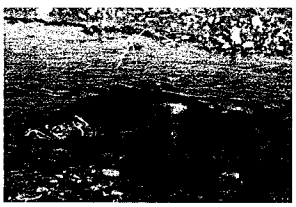
- Simulation 26 – low exploitation, high escapement goal



Summary of Results

- Fishery altered the population in all scenarios
- The escapement goal and the exploitation parameter had most influence
- Increasing escapement goals, reducing harvest on small to medium runs, and reducing mesh size were most effective when jointly implemented
- If the population stabilized at reduced levels (large fish essentially gone), severe fishery restrictions were required to reverse prior declines

Conclusions



- Prolonged selection for large fish seems likely to alter important characteristics of a population
  - Magnitude of change cannot be predicted accurately
- Large escapements seem to provide resilience
- Individual-based models have potential
  - Model structure needs additional development
- Manuscript currently under review
- USFWS Fisheries Technical Report 100 available at: http://alaska.fws.gov/fisheries/fish/reports.htm

Acknowledgments

- Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative (AYKSSI Project #607).
- Karen Gillis, AYKSSI & BSFA
- Danielle Evenson, Gene Sandone, Larry Dubois, and Toshihide Hamazaki, ADF&G
- Dave Hankin, Humboldt State Univ.
- Brian Riddell, David Patterson, and Michael Bradford, Canada DFO
- Lyman McDonald, WEST, Inc.
- Rod Simmons, Russ Holder, and Jeff Olsen, USFWS

RC 32

2007 Arctic Yukon Kuskokwim Sustainable Salmon Initiative Project Product[1]

Retrospective Analysis of AYK Chinook Salmon Growth

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June 2007

[1] Project products of AYK Sustainable Salmon Initiative-sponsored research are made available to the Initiatives Partners and the public in the interest of rapid dissemination of information that may be useful in salmon management, research, or administration. Sponsorship of the project by the AYK SSI does not necessarily imply that the findings or conclusions are endorsed by the AYK SSI. Do not cite findings without permission of the author.

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Summary

Harvests of Yukon and Kuskokwim Chinook salmon declined significantly during 1998-2002 in response to fewer returning salmon. Factors affecting the decline in Chinook salmon abundance are largely unknown. Growth of salmon in freshwater and the ocean is generally thought to influence salmon survival, therefore we examined historical Chinook salmon catch trends and developed growth indices of age-1.3 and age-1.4 Yukon and Kuskokwim Chinook salmon during each year and life stage in freshwater and the ocean, 1964-2004, using measurements of salmon scale growth. Availability of Yukon scales was greater than that of Kuskokwim scales during 1964-2004.

Harvests of Yukon and Kuskokwim Chinook salmon rapidly increased in the mid-1970s, then rapidly declined in the late 1990s, apparently in response to the 1976/77 ocean regime shift and the 1997/98 El Nino event. Runs of Nushagak District Chinook salmon (Bristol Bay) also appeared to have been affected by these events in addition to the 1989 regime shift. The rapid responses of Chinook salmon abundance to climate change suggest late life stages were primarily affected, at least initially. Therefore, we searched for Chinook salmon growth patterns that might be related to changes in climate.

Comparisons of annual Chinook salmon scale growth patterns with abundance trends and with environmental factors such as the regime shifts were complicated by the high dependency of growth on previous-year growth. Long-term trends in growth were described but further analyses are needed to statistically remove the influence of prior growth before meaningful relationships can be developed between annual growth and abundance.

The unique finding of growth dependency on previous-year growth was consistent among Yukon and Kuskokwim Chinook salmon (ages 1.3 and 1.4) during all life stages except for the homeward migration. For example, growth during the first year at sea was highly correlated with growth in freshwater, and growth during the second year at sea was dependent on growth during the first year at sea. This pattern may reflect the importance to Chinook salmon of large prey, such as forage fishes and squid, and the greater ability of larger Chinook salmon to capture larger prey and grow faster. This pattern was not observed in Bristol Bay sockeye salmon and most western Alaska chum salmon.

We tested the hypothesis that Chinook salmon growth was influenced by the strong alternating-year abundances of Asian pink salmon in the Bering Sea. Adult length of Yukon Chinook salmon tended to alternate from year-to-year, especially age-1.3 salmon that were larger during odd-numbered years. Chinook salmon growth during the second year at sea (SW2) was consistently greater during odd-numbered years for both age-1.3 and age-1.4 Chinook salmon returning to the Yukon and Kuskokwim rivers. This finding is opposite of the expected finding if pink salmon, which are less abundant in even years and more abundant in odd years, were directly competing with Chinook salmon. Chum salmon are known to be much more abundant in the Bering Sea during even-numbered years, but their diet overlap with Chinook salmon is approximately 30% and competition with Chinook salmon is less likely. We do not yet know what factors are driving the

alternating-year pattern in Chinook salmon growth but it is conceivable that pink salmon consumed prey that were one year younger than the same prey species consumed by Chinook salmon.

Adult female Chinook salmon (age-1.3 and age-1.4) were significantly longer than male salmon. Greater growth of age-1.3 female Chinook salmon began in freshwater (Yukon) or during the second year at sea (Kuskokwim), then continued during each remaining life stage. In contrast, growth of age-1.4 female Chinook salmon did not become significantly greater until the last year at sea (SW4) and during the homeward migration. The finding of greater female growth is opposite of that for sockeye and chum salmon in which male salmon are longer than female salmon at a given age. This finding suggests that growth may be especially important to the reproductive potential of female Chinook salmon because larger fish tend to produce larger and more numerous eggs.

Growth of age-1.3 Chinook salmon began to exceed that of age-1.4 salmon during freshwater (Yukon) or during the first year at sea (Kuskokwim). Growth of age-1.3 Chinook salmon was significantly greater than that of age-1.4 Chinook salmon during each subsequent life stage except for spring plus growth (FWPL). On average, growth of age-1.3 salmon was 11% (Kuskokwim) to 17% (Yukon) greater than that of age-1.4 salmon growth. These data highlight the complexity when examining growth of salmon at sea.

The unique findings of this investigation (prior year growth dependency, alternating-year growth during SW2, sexual dimorphism during early life, and differential growth of age-1.3 versus age-1.4 salmon early in life) provide new information about Arctic-Yukon-Kuskokwim (AYK) Chinook salmon and the life history strategy of Chinook salmon in general. Additional effort is needed to explore relationships between Chinook salmon growth and abundance and environmental conditions while accounting for strong dependency of growth on previous-year growth.

Introduction

The Yukon and Kuskokwim rivers encompass nearly 40% of Alaska and both rivers support relatively large runs of Chinook salmon. People living within these river basins depend on salmon for subsistence, commercial fishing, culture, and sportfishing. However, poor returns of chinook salmon to the Yukon and Kuskokwim rivers led to severe restrictions on salmon harvests from approximately 1998 to 2002 (Fig. 1; Bue and Hayes 2006, Whitmore et al. 2005). Chinook salmon runs to the nearby Nushagak District (Bristol Bay) also declined beginning in 1999. Factors causing the poor salmon returns are largely unknown (AYK SSI 2006).

Salmon growth is believed to be an important factor influencing survival in both freshwater and marine environments (Juanes 1994, Beamish and Mahnken 2001, Ruggerone et al. 2007). In this investigation, we created a time series of Yukon and Kuskokwim Chinook salmon growth indices, based on scale growth from the early 1960s through 2004. We examined the following hypotheses:

1) The decline of Yukon and Kuskokwim Chinook salmon abundance was associated with less growth in freshwater and/or in the ocean,

2) Growth of Chinook salmon was associated with major ocean-climate events such as the 1976/77 and 1989 regime shifts and the 1997 El Nino event,

3) Growth of Chinook salmon at sea exhibited an alternating-year pattern that was inversely related to Asian pink salmon abundance,

4) Growth of Yukon and Kuskokwim Chinook salmon was correlated,

5) Growth during each life stage was independent of previous growth, and

6) Length-at-age of male and female salmon was similar.

The investigation relied upon measurements of Chinook salmon scales collected by Alaska Department of Fish and Game (ADFG). Scale radii are known to be correlated with salmon body size (Clutter and Whitesel 1956, Henderson and Cass 1991, Fukuwaka and Kaeriyama 1997).

Methods

Scale Collection and Measurements

Adult Chinook salmon scales from the Yukon and Kuskokwim rivers were obtained from the Alaska Department of Fish and Game (ADFG) archive in Anchorage, Alaska. Scales have been collected annually for quantifying age composition since 1965 (Yukon River) or 1964 (Kuskokwim River). In the Yukon River, scales were selected for measurement only when they were from Chinook salmon captured with 8.5 inch set gillnets

(commercial or test fisheries) located in the lower river near Flat Island, Big Eddy and/or Emmonak. These locations are within a relatively small area of the lower river. Fewer scales were available in the Kuskokwim River and we could not be highly selective when choosing scales for measurement. In most years, Kuskokwim Chinook salmon scales were selected from Chinook salmon captured in commercial and/or test fisheries near Bethel. Mesh size was either 5.5-6 inch or 8-8.5 inch mesh. In some years, the Kuskokwim fishery was greatly reduced, therefore scales were also selected from fish sampled at weirs located on the tributaries. Analyses were conducted to determine whether a correction factor was needed to standardize measurements collected from scales using different mesh size and/or location (see below). In both rivers, scales were primarily collected from early June to early July in an attempt to consistently select fish from the same stocks.

The goal was to measure 50 scales from each of the two dominant age groups (ages 1.3 and 1.4)[2] of both the Yukon and Kuskokwim Chinook salmon stocks. Scales were selected for measurement only when: 1) we agreed with the age determination previously made by ADFG, 2) the scale shape indicated the scale was removed from the preferred area (Koo 1962), and 3) circuli and annuli were clearly defined and not affected by scale regeneration or significant resorption along the measurement axis.

Scale measurements followed procedures described by Davis et al. (1990) and Hagen et al. (2001). After selecting a scale for measurement, the scale was scanned from a microfiche reader and stored as a high resolution digital file. High resolution (3352 x 4425 pixels) allowed the entire scale to be viewed and provided enough pixels between narrow circuli to ensure accurate measurements of circuli spacing. The digital image was loaded in Optimas 6.5 image processing software to collect measurement data using a customized program. The scale image was displayed on a digital LCD flat panel tablet and the scale measurement axis was defined as the longest axis extending from the scale focus. Distance (mm) between circuli was measured within each growth zone (i.e. from the scale focus to the outer edge of the first freshwater annulus (FW1), spring plus growth zone (FWPL), each annual ocean growth zone (SW1, SW2, SW3, SW4), and from the last ocean annulus to the edge of the scale (SWPL)). Data associated with the scale such as date of collection, location, sex, fish length, and capture method were included in the dataset.

Development of Standardized Scale Growth Datasets

Unequal numbers of male and female Chinook salmon scales were available for measurement in most years. Female Chinook salmon were much less common among age-1.3 salmon, whereas male Chinook salmon were less common among age-1.4 Chinook salmon, owing to differences in age at maturation. Male and female Chinook salmon may experience different growth rates, especially in the ocean. Therefore, scale

[2] Age was designated by European notation, i.e. the number of winters spent in freshwater before going to sea, 1 winter = age-1.X, followed by the number of winters spent at sea, three winters = age-X.3 or four winters = age-X.4.

growth indices were developed that equally weighted male and female scale growth during each year while utilizing all available scale measurement data:

Annual mean growth (Z) = $[n_M (\text{Growth } Z_M) + n_F (\text{Growth } Z_F)] / [n_M + n_F]$,

where n_M and n_F are sample sizes of male and female salmon, and Growth Z_M and Growth Z_F are normalized mean growth of male and female salmon, respectively. Normalized growth is the number of standard deviations above or below the long-term mean.

Yukon Chinook salmon scales (1,990 digitized scales) were consistently sampled in the same location and with the same gear type, therefore no further adjustments were necessary. However, digitized Kuskokwim Chinook salmon scales were selected from fisheries near Bethel (91% of total scales) using two mesh sizes (5.5-6.0 inch and 8.0-8.5 inch mesh). Approximately 35% of these fish were collected 5.5-6.0 inch mesh, 29% with 8.0-8.5 inch mesh, and 36% with unknown mesh size. During 1986, 1993, 1997 and 2001, additional scales were selected from Chinook salmon sampled at weirs located on four Kuskokwim tributaries (Kwethluk R., Kogrukluk R., George R., Tuluksak R.), representing 9% of the 2,329 digitized scales from the Kuskokwim River (Tables 1 and 2).

ANOVA tests were conducted to determine if mesh size and/or weir samples influenced adult Kuskokwim Chinook salmon length and/or scale annuli measurements. If significant differences occurred, then a correction factor could be applied in order to standardize scale measurements. Two tests were conducted to evaluate the effect of mesh size on scale measurements: 1) all years when one or more mesh sizes were known, and 2) only years when both mesh sizes were available (much smaller sample sizes). Age-1.3 and age-1.4 scales were analyzed separately. ANOVAs indicated adult Chinook salmon length-at-age was significantly greater when sampled by 8.0-8.5 inch mesh gillnets, as expected ($P < 0.05$). Significant differences were also detected for SW3, SW2 (age-1.3 only), and FW1 (age-1.3 only) life stages. Significant growth differences were not detected for FWPL, SW1, SW4 and SWPL life stages of age-1.3 and age-1.4 Chinook salmon. Adjustments were applied to life stage scale measurements of Kuskokwim Chinook salmon when tests indicated consistent statistical differences, as shown in Table 3.

ANOVA tests did not detect significant differences between scale measurements and lengths of Chinook salmon captured with 8-8.5 inch mesh versus gillnets of unknown mesh size ($P > 0.05$), except adult length was significantly greater among fish collected with 8-8.5 inch mesh ($P < 0.05$). A correction factor of 1.057 was applied to lengths of age-1.3 Chinook salmon captured with unknown mesh sizes.

ANOVA tests did not detect significant differences between Kuskokwim Chinook salmon scale measurements sampled at weirs versus 8-8.5 mesh gillnets ($P > 0.05$) when fish from both gears were available in the same year. However, tests were primarily conducted on male salmon (sample size limitations) and relatively few samples were available for these tests (weak statistical power). Thus, no adjustments were made to fish

sampled at weirs. These ANOVAs relied upon George River and Kogrukluk weirs because sufficient paired samples were not available for other weirs.

Some Yukon and Kuskokwim Chinook salmon had an abnormal focus that reduced the number of circuli in the freshwater zone. Statistical tests indicated freshwater growth associated with the abnormal focus was not significantly different from normal scale growth in Kuskokwim Chinook salmon ($df = 1, 213$; $F = 2.835$; $P = 0.094$), but it was slightly greater in Yukon Chinook salmon ($df = 1, 1588$; $F = 4.049$; $P = 0.044$). Slightly greater freshwater growth of Yukon abnormal focus scales was opposite the trend of Kuskokwim scales. No effect was observed in adjacent life stages. Fish having an abnormal focus were excluded from statistical analyses.

Results and Discussion

Annual Growth Trends by Life Stage

Freshwater scale growth (FW1 and FWPL) of age-1.3 and age-1.4 Yukon Chinook salmon tended to be relatively high from the 1960s through early 1970s, intermediate from the mid 1970s through early 1980s, then typically below average after 1984 until rebounding in 1999 or 2000 (Figs. 2, 3, 4, 5). Mean annual growth was typically within two standard deviations of the long-term mean. During the first year at sea (SW1), Yukon Chinook salmon growth was variable but tended to be intermediate prior to the mid-1970s, high during and immediately after the 1976/77 regime shift, and below average after the 1989 regime shift. Growth during the second, third, and fourth year at sea tended to be below average from the mid-1980s through the 1990s, then scale growth increased during the early 2000s. In contrast, scale growth during the homeward migration, which can be influenced by scale resorption, tended to be below average prior the mid-1970s and variable thereafter. Adult length of measured age-1.3 Chinook salmon did not show a long-term pattern, whereas length of age-1.4 Chinook salmon tended to reflect growth during each year at sea (Figs. 4 and 5).

The ability to detect trends in Kuskokwim Chinook salmon scale growth was influenced by the lack of scales during the late 1960s and early 1970s (Table 1) and possibly by adjustments made to standardize life-stage growth associated with Chinook salmon captured with small versus large mesh gillnets (Table 3). Growth of age-1.3 and age-1.4 Chinook salmon during freshwater and each year at sea tended to be below average from the mid-1970s to the late 1980s, then above average in the 1990s (Figs. 6 and 7). These patterns shifted to earlier years when growth was examined by brood year (Figs. 8 and 9). Freshwater growth was exceptionally high during the late 1990s. Scale growth during the homeward migration, which is influenced by scale resorption, tended to be average to below average after the mid-1970s to early 1990s, above average until 2001, then markedly below average in 2002-2004. Adult length of age-1.3 salmon was variable throughout the series but tended to be somewhat above average during return years 1995 to 1999 (i.e., brood years 1990 to 1994), then low in more recent years (Fig. 8). Adult length of age-1.4 salmon was variable but tended to be below average after return year 1990 (Fig. 9).

Comparison of Age-1.3 and Age-1.4 Chinook Salmon Growth

Growth of age-1.3 and age-1.4 Chinook salmon during each life stage were compared using correlation analysis. Among Yukon Chinook salmon originating from the same cohort, significant positive correlations were observed during FW1, FWPL, SW2, and SW3 life stages, although some correlations were not high (Table 4). Among Kuskokwim Chinook salmon, significant positive correlations were observed during FW1, FWPL, SW3, SWPL, and adult length. SW1 growth was least correlated among both Yukon and Kuskokwim Chinook salmon. Growth of younger life stages of age-1.3 Chinook salmon tended to be more correlated with growth of older age-1.4 life stages during the same year of rearing in the ocean than with growth of younger age-1.4 life stages.

Comparison of Yukon and Kuskokwim Chinook Salmon Growth

Growth of Yukon versus Kuskokwim Chinook salmon were compared using correlation analysis. Most correlations in freshwater were non-significant (Table 5). All three significant correlations were negative, suggesting that a region-wide factor did not influence freshwater growth of both stocks. In marine waters, growth of Yukon Chinook salmon was not significantly correlated with growth of Kuskokwim Chinook salmon of the same life stage (e.g., SW1) and year at sea (Table 5). Growth of most life stages at sea were not significantly correlated with different life stages co-occurring in the ocean during the same year. However, significant correlations between different life stages of the two stocks were all negative. These data suggest that either Yukon and Kuskokwim Chinook salmon did not experience similar growing conditions in the ocean or that differential growth in freshwater confounded growth correlations in the ocean (see growth dependency below).

Comparison of Adult Length and Scale Growth

Adult size of salmon is primarily established during the last several months at sea (Brett 1995), but resorption of Chinook salmon scales during this period may confound a relationship between adult size and scale growth measurements. Nevertheless, mean annual adult length of Yukon and Kuskokwim Chinook salmon was typically correlated with scale growth.

Length of Yukon age-1.4 Chinook salmon was correlated with total marine scale growth, which explained 38% of the variability in mean length, 1966-2004 (Fig. 10). Approximately 28% of the annual variability in mean length of Yukon age-1.3 Chinook salmon was explained by the combined effects of scale growth during the homeward migration and scale growth during the second year at sea. Length of Yukon age-1.3 Chinook salmon was also positively correlated with total marine scale growth ($R^2 = 0.21$, $P < 0.05$).

Adult length of age-1.3 Chinook salmon returning to the Kuskokwim River was positively correlated with scale growth during the homeward migration. Scale growth explained 30% of the annual variability in adult length from 1975 to 2004. In contrast, adult length of age-1.4 Chinook salmon returning to the Kuskokwim River was negatively correlated with scale growth during SW3, SW4, and homeward migration ($R^2 = 0.23 - 0.31$, $P < 0.05$).

Climate Shift, Chinook Salmon Abundance and Growth

Yukon, Kuskokwim and Nushagak Chinook salmon abundance indices shown in Fig. 1 tend to reflect the 1976/77 ocean regime shift (abundance increase) and the 1997/98 El Nino event (abundance decrease). Both of these broad-scale climate events had a significant impact on the Southeastern Bering Sea and on salmon production (Rogers 1984; Kruse 1998; Peterman et al. 2003; Hunt et al. 2002). In contrast, the 1989 regime shift (Hare and Mantua 2000), which was associated with a significant decline in adult size and abundance of Bristol Bay sockeye salmon (Ruggerone and Link 2006; Ruggerone et al. 2007), did not have an immediate effect on Yukon and Kuskokwim Chinook salmon abundance (Fig. 1). It is noteworthy that adult abundance of Chinook salmon changed rapidly in response to the 1976/77 and 1997/98 climate events, suggesting abundance and survival were largely influenced during late marine life rather than early life.

We did not find statistically significant and meaningful relationships between the Chinook salmon abundance indices and Chinook salmon scale growth during each life stage. The lack of significant relationships probably reflects the strong dependence of scale growth on growth that occurred during the previous year, as noted below. Removal of this dependence through additional statistical analyses is necessary before hypotheses about western Alaska Chinook salmon growth and abundance and survival can be tested. We have initiated analyses to remove previous-year effects on Chinook salmon growth, but we are unable to complete this unexpected analysis given the short time frame of this project.

Annual and seasonal scale growth was compared with the Chinook salmon abundance indices shown in Fig. 1. Abundance of Yukon Chinook salmon was negatively correlated with spring plus growth during the smolt migration ($r = -0.41$; $n = 32$, $P < 0.05$) and positively correlated with scale growth during the homeward migration ($r = 0.38$; $n = 32$, $P < 0.05$). No other variables were correlated with the Yukon abundance index. Abundance of Kuskokwim Chinook salmon was negatively correlated with scale growth during each life stage ($n = 28$, $P < 0.05$). The negative correlations between Kuskokwim Chinook salmon abundance and scale growth were influenced by low scale growth after the 1976/77 regime shift when Chinook salmon abundance was high, followed by relatively high scale growth beginning in the early to mid-1990s.

Scale growth patterns were compared with the 1976/77, 1989, and 1997/98 climate events. Distinct shifts in scale growth during each life stage were not associated with these climate events. The most noticeable pattern occurred among Yukon Chinook

salmon during the first year at sea (SW1). Yukon SW1 scale growth tended to be intermediate prior to the mid-1970s, high immediately after the 1976/77 regime shift, and below average after the 1989 regime shift (Figs. 2 and 3). Yukon scale growth during subsequent life stages tended to follow this pattern although the pattern was less defined. Growth of Kuskokwim Chinook salmon during the first year at sea (SW1) tended to be high after the 1989 regime shift compared with growth during the late 1970s and early 1980s (Figs. 6 and 7). Thus, early marine scale growth of Yukon Chinook salmon tended to decrease after the 1989 shift, whereas growth of Kuskokwim Chinook salmon tended to increase. As noted above, growth of Yukon and Kuskokwim Chinook salmon tended to be negatively correlated during each life stage, although correlations were weak and typically non-significant (Table 5).

Growth in Relation to Asian Pink Salmon

Previous studies indicated that Chinook salmon growth and survival was influenced by competition with pink salmon (Grachev 1967; Ruggerone and Goetz 2004; Ruggerone and Nielsen 2005). We tested the hypothesis that Chinook salmon scale growth was influenced by Asian pink salmon, which are exceptionally abundant in the central Bering Sea during odd- versus even-numbered years (Ruggerone et al. 2003; Davis et al. 2005). For example, during the 1990s, catch per unit effort (CPUE) in Japanese research nets during odd-numbered years indicated that pink salmon was 580% more abundant than sockeye salmon and 87% more abundant than chum salmon (Davis et al. 2005). However, chum salmon in the Bering Sea exhibited an alternating pattern of abundance that was opposite of pink salmon. Chum salmon were 134% more abundant during even-numbered years. We did not expect competition between AYK Chinook salmon and western Alaska pink salmon, which are much less abundant and are primarily present during even-numbered years. It is possible, however, that pink salmon fry contributed to the diet and growth of yearling Chinook salmon, therefore we also examined growth in freshwater.

In order to remove the effects of time trends and to highlight differences in growth between even- and odd-numbered years, we calculated the first difference of each Chinook salmon scale growth variable, i.e., differenced growth (DG_i) = $G_i - G_{i-1}$, where G is scale growth in year i. Adult length of age-1.3 Chinook salmon was significantly longer when returning in odd-numbered versus even-numbered years (large mesh nets only: df = 1, 35; F = 21.181; P < 0.001). The alternating-year pattern was consistent throughout all years, 1968-2004, although it was less apparent during the mid to late 1990s. In contrast, the alternating-year pattern of age-1.4 Chinook salmon length switched in the early 1990s, based on the significant interaction variable that split the dataset into two periods: 1968-1991 and 1992-2004 (df = 1, 33; F = 11.770; P = 0.0016). During odd-numbered return years, Chinook salmon tended to be smaller prior to 1992 and larger during 1992-2004. However, length was not significantly different within each period (P > 0.05).

Using differenced values, we examined annual scale growth patterns to determine the life stage in which growth might vary between odd- and even-numbered years. Among age-

1.3 Chinook salmon, annual scale growth did not show an alternating-year pattern, except during SW2 when differenced growth tended to be greater during odd-numbered years at sea (Figs. 11 and 12; df = 1, 36; F = 3.165; P = 0.084). Among age-1.4 Chinook salmon, SW2 scale growth was significantly greater during odd-numbered years at sea (Figs. 11 and 12; df = 1, 36; F = 33.869; P < 0.001), whereas SW3 growth was significantly greater during even-numbered years (df = 1, 36; F = 23.715; P < 0.001). No differences in growth were detected during other life stages of age-1.4 Chinook salmon. As noted below, growth tended to depend on previous-year growth, therefore the significant effect shown during SW3 may reflect SW2 growth. Thus, greater odd-year SW2 growth of both age-1.3 and age-1.4 Yukon Chinook salmon was associated with greater adult length, especially prior to 1992[3].

Kuskokwim scale growth during odd- versus even-years at sea followed the same pattern as Yukon Chinook salmon. Among age-1.3 Chinook salmon, SW2 growth (differenced values) during odd-numbered years at sea tended to be greater than growth during even-numbered years(Figs. 11 and 12; df = 1, 24; F = 2.764; P = 0.109). Likewise, SW2 growth of age-1.4 Chinook salmon was significantly greater during odd-numbered years at sea (Figs. 11 and 12; df = 1, 24; F = 4.437; P = 0.046). Too few Kuskokwim Chinook salmon were consistently sampled near Bethel each year to test whether adult length exhibited an odd/even-year pattern.

Additional statistical analyses confirmed that SW2 growth of Yukon and Kuskokwim Chinook salmon (age-1.3 and age-1.4) was significantly greater during odd-numbered years. A three factor ANOVA (odd/even, age, stock) indicated significant interaction between odd/even years and age (df = 1, 1, 124; F = 4.434; P = 0.037), indicating the strength of the odd/even-year effect was not consistent among age-1.3 and age-1.4 salmon; no difference was detected between stocks. Based on the significant interaction between age and odd/even year, a two factor ANOVA (odd/even, age) was conducted. The ANOVA indicated significantly greater SW2 growth of both age-1.3 (df = 1, 62; F = 5.374; P = 0.022) and age-1.4 (df = 1, 62; F = 26.313; P < 0.001) during odd-numbered years at sea.

Greater SW2 growth of Chinook salmon during odd-numbered years was unexpected. Initially, we expected early marine growth of Chinook salmon might be reduced during odd-numbered years at sea because pink salmon are highly abundant. However, chum salmon were 134% more abundant during even-numbered years, 1991-2000 (Davis et al. 2005). Both Chinook salmon and chum salmon overwinter together in the Bering Sea, as indicated by incidental catches of both species in the pollock fishery. However, diet overlap between Chinook salmon and Chum salmon tends to be relatively small (avg. 30% in odd and even years) and chum eat relatively little fish and squid compared with Chinook salmon (Davis et al. 2005). We do not know which prey species might contribute to this alternating-year pattern of growth, but it is likely a species that is consumed primarily during their second year at sea.

[3] SW2 growth during odd-numbered years was associated with age-1.3 adults returning in odd-numbered years, whereas it was associated with age-1.4 adults returning in even-numbered years.

Growth Dependence on Earlier Growth

Life stage growth of both Yukon (Fig. 13 and 14) and Kuskokwim (Fig. 15 and 16) Chinook salmon was significantly and positively correlated with growth during the previous year ($P < 0.05$), excluding growth during homeward migration. On average, 60% and 76% of the variability in Yukon and Kuskokwim scale growth, respectively, was explained by growth during the previous year. These relationships were consistent for both age-1.3 and age-1.4 Chinook salmon. Spring growth during the smolt migration period (FWPL) was correlated with total freshwater growth. Growth during the first year at sea was correlated with freshwater growth, but was most highly correlated with growth during early life in freshwater (i.e., circuli 1-4). Growth during each subsequent year was correlated with previous year growth, but growth was most highly correlated with maximum scale growth, as defined as the spacing among the five widest circuli. Regression slopes were consistently below 1.0, indicating scale growth of older life stages grew at a slower rate compared with younger stages.

The only exception to the pattern of growth dependency was during the homeward migration (SWPL). Kuskokwim SWPL growth tended to be positively correlated with growth during the third year at sea (Fig. 15 and 16), whereas Yukon SWPL growth was negatively correlated with growth during the third year and fourth years at sea (Fig. 13 and 14).

Autocorrelation was present in most scale growth time series. However, autocorrelation was nonsignificant in the residuals of the growth regressions described above, indicating the regression models were not significantly influenced by time (L. Conquest, University of Washington, pers. comm.). Furthermore, statistical significance of the regressions was tested by reducing the degrees of freedom to account for autocorrelation within the variables (Pyper and Peterman 1998) and all regressions were statistically significant.

The dependence of growth on prior growth is an unusual finding compared with analyses of Bristol Bay sockeye growth where there was no significant positive correlation between scale growth of adjacent life stages (Ruggerone, unpublished analyses). Ruggerone et al. (2005) reported a significant negative correlation between growth in the second year versus first year at sea. They suggested the negative relationship might reflect the need to grow fast in the second year if growth in the first year was below average.

Sexual Dimorphism

Two factor ANOVA (sex, mesh size) applied to both Yukon and Kuskokwim salmon indicated adult female Chinook salmon returning at age-1.3 and age-1.4 were significantly longer than male salmon (Fig. 17; Table 6). This pattern was consistent for both small mesh and large mesh gillnets and for both Yukon and Kuskokwim stocks. On

average, age-1.3 female Chinook salmon were 59 mm longer than male salmon, whereas age-1.4 salmon were 14 mm longer[4].

In contrast to age-1.3 and age-1.4 salmon, male age-1.5 Yukon Chinook salmon were significantly longer (d = 34 mm) than female salmon (Fig. 17; Table 7). Length of male age-1.5 Kuskokwim salmon was not different from female salmon.

ANOVA was used to identify the life stage(s) at which female Chinook salmon became longer than male salmon. Among age-1.3 Chinook salmon, Yukon female scale radii exceeded that of male salmon beginning in freshwater (FW1; Fig. 18), whereas Kuskokwim female salmon began to exceed growth of male salmon during the second year at sea (Table 7; Fig. 19). Growth of female age-1.3 salmon during all late life stages were consistently greater than male salmon, leading to greater female adult length, as noted above.

In contrast, among age-1.4 salmon, male salmon tended to be larger than female salmon from freshwater residence through the second or third year in the ocean (Table 7; Fig. 19). Growth of age-1.4 female salmon exceeded that of male salmon only during late life stages, including SW4 and the homeward migration. Relatively great growth of female salmon during late marine life led to greater adult length of female compared with male salmon, as discussed above.

These unique findings of sexual dimorphism among AYK Chinook salmon provide important information about the life history strategy of Chinook salmon. The data show that characteristics of age-1.3 and age-1.4 Chinook salmon begin to establish during early life. We hope to provide a more in depth discussion about sexual dimorphism, age structure, and life history strategy in subsequent publications.

Life Stage Growth of Age-1.3 and age-1.4 Chinook Salmon

Faster growing salmon tend to mature at an earlier age. Therefore, scale measurements were used to determine the life stage at which growth of age-1.3 Yukon and Kuskokwim Chinook salmon began to exceed that of age-1.4 salmon. Growth of age-1.3 Chinook salmon began to exceed that of age-1.4 salmon during freshwater (Yukon) or during the first year at sea (Kuskokwim; Table 8). Growth of age-1.3 Chinook salmon was significantly greater, on average, during each subsequent life stage except for spring plus growth (FWPL). On average, growth of age-1.3 salmon was 11% (Kuskokwim) to 17% greater (Yukon) than that of age-1.4 salmon growth.

During FWPL, growth of age-1.4 salmon (both stocks) significantly exceeded that of age-1.3 salmon (Table 8). Growth of age-1.3 salmon was 7.7% (Kuskokwim) to 11% less (Yukon) than that of age-1.4 salmon growth. Slower FWPL growth of age-1.3 Chinook salmon might reflect a tendency for larger smolts to migrate earlier in the season, thereby allowing less spring plus growth (FWPL) but greater growth during the first year in the

[4] Values are unweighted means from fish captured by small and large mesh gillnets.

ocean (SW1). These data highlight the complexity when examining growth of salmon at sea.

Effect of Gillnet Mesh Size on Chinook Salmon Size

The ANOVA to test the effect of sex on adult size of Chinook salmon was also used to examine the effect of mesh size on Chinook salmon size. Large-mesh gillnets (8.0-8.5 inch) captured larger salmon compared with small mesh nets (5.5-6.0 inch), but this effect varied with age of Chinook salmon (Table 6). Large mesh gillnets captured Chinook salmon that were 56 mm (age-1.3), 20 mm (age-1.4), and 30 mm (age-1.5) longer depending on age. Selectivity for female salmon was similar: large mesh gillnets captured Chinook salmon that were 58 mm (age-1.3), 16 mm (age-1.4), and 23 mm (age-1.5) longer than those in small mesh nets, depending on age.

Conclusions

Harvests of Yukon and Kuskokwim Chinook salmon appeared to rapidly increase in response to the 1976/77 ocean regime shift, then rapidly decline in response to the 1997/98 El Nino event. These rapid responses of Chinook salmon abundance to climate change suggest late life stages were primarily affected, at least initially. Comparisons of annual Chinook salmon scale growth patterns with abundance trends and with environmental factors such as the regime shifts were complicated by the high dependency of growth on previous-year growth. Some long-term trends in growth were discussed but further analyses are needed to statistically remove the influence of prior growth before meaningful relationships can be developed between annual growth and abundance.

Growth of Chinook salmon in a given year was highly dependent on growth during the previous year. This unique finding was consistent among Yukon and Kuskokwim Chinook salmon (ages 1.3 and 1.4) during all life stages except for the homeward migration. For example, great growth in freshwater led to great growth during the first year at sea. This pattern may reflect the importance to Chinook salmon of large prey, such as forage fishes and squid, and the greater ability of larger Chinook salmon to capture larger prey and grow faster. This pattern was not observed in Bristol Bay sockeye salmon and most western Alaska chum salmon.

We tested the hypothesis that Chinook salmon growth was influenced by the strong alternating-year abundances of Asian pink salmon in the Bering Sea. Diet overlap between pink and Chinook salmon in the Bering Sea is approximately 55% (Davis et al. 2005). Adult length of Yukon Chinook salmon tended to alternate from year-to-year, especially age-1.3 salmon that were longer during odd-numbered years (too few Kuskokwim adult data available for test). Analyses of annual scale growth patterns indicated that SW2 growth was consistently greater during odd-numbered years at sea for both age-1.3 and age-1.4 Chinook salmon returning to the Yukon and Kuskokwim rivers. Interestingly, this finding is opposite the expected finding if pink salmon were directly competing with Chinook salmon. Chum salmon are known to be much more abundant in the Bering Sea during even-numbered years, but their diet overlap with Chinook salmon

is approximately 30% (Davis et al. 2005) and competition with Chinook salmon is less likely. We do not yet know what factors are driving the alternating-year pattern in Chinook salmon growth but it is conceivable that it could be caused by pink salmon if pink salmon consumed shared prey that were one year younger than the same prey consumed by Chinook salmon during their second year at sea.

Adult female Chinook salmon (age-1.3 and age-1.4) were significantly longer than male salmon. Scale increments of age-1.3 female Chinook salmon were significantly greater than that of male salmon during each life stage beginning in freshwater (Yukon) or during the second year at sea (Kuskokwim). In contrast, scale increments of age-1.4 female Chinook salmon did not become significantly greater until the last year at sea (SW4) and during the homeward migration. The finding of large female size-at-age contrasts with greater length of male sockeye and chum salmon at a given age. This finding suggests that growth may be especially important to the reproductive potential of female Chinook salmon because larger fish tend to produce larger and more numerous eggs.

Growth of age-1.3 Chinook salmon began to exceed that of age-1.4 salmon during freshwater (Yukon) or during the first year at sea (Kuskokwim). Growth of age-1.3 Chinook salmon was significantly greater than that of age-1.4 Chinook salmon during each subsequent life stage except for spring plus growth (FWPL). On average, growth of age-1.3 salmon was 11% (Kuskokwim) to 17% greater (Yukon) than that of age-1.4 salmon growth. These data highlight the complexity when examining growth of salmon at sea.

The unique findings of this investigation (growth dependency, alternating-year growth during SW2, sexual dimorphism during early life, and differential growth of age-1.3 versus age-1.4 salmon early in life) provide new information about AYK Chinook salmon and life history strategy of Chinook salmon in general. Additional effort is needed to develop relationships between Chinook growth and abundance and environmental conditions while accounting for strong dependency of growth on previous-year growth.

Acknowledgements

This investigation was funded by the AYK Sustainable Salmon Initiative (Projects 45076, 45077, 45078). We thank ADF&G biologists, especially D. Molyneaux, who provided constructive comments on the study. We also appreciate efforts to gather, measure, and catalog scales by D. Folletti, M. Lovejoy, A. Norman, D. Oxman, W. Rosky, and W. Whelan. Constructive comments on the report were provided by E. Ivaska, S. Goodman, C. Jay, J. June, and C. Zimmerman.

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Table 1. Annual scale sample sizes of age-1.3 and age-1.4 Kuskokwim Chinook salmon selected from the fishery catches near Bethel and weirs on tributaries.

	Commercial & Test Fishery Catch			Weir	Total
Year	Unkn mesh	5.5-6"	8.0-8.5"	samples	scales
Age 1.3					
1964	8	0	37	0	45
1965	20	0	23	0	43
1966	0	0	21	0	21
1975	36	0	0	0	36
1977	0	5	34	0	39
1978	4	0	10	0	14
1979	0	3	21	0	24
1981	17	0	12	0	29
1982	0	15	11	0	26
1983	0	23	28	0	51
1984	36	0	0	0	36
1985	0	37	0	0	37
1986	33	0	0	5	38
1987	38	0	0	0	38
1988	0	43	0	0	43
1989	34	0	0	0	34
1990	36	0	0	0	36
1991	39	0	0	0	39
1992	34	0	0	0	34
1993	15	2	8	13	38
1994	51	0	0	0	51
1995	0	41	0	0	41
1996	0	46	0	0	46
1997	0	16	0	10	26
1998	0	47	0	0	47
1999	0	21	0	8	29
2000	0	0	0	29	29
2001	0	7	5	8	20
2002	0	30	19	1	50
2003	0	47	7	4	58
2004	19	0	6	0	25
Age 1.4					
1964	15	0	30	0	45
1965	10	0	22	0	32
1966	0	0	38	0	38
1975	9	0	0	0	9
1977	0	6	42	0	48
1978	14	0	39	0	53
1979	0	0	28	0	28
1981	8	0	43	0	51
1982	0	12	33	0	45
1983	0	20	26	0	46
1984	51	0	0	0	51
1985	0	45	0	0	45
1986	17	0	0	25	42
1987	37	0	0	0	37
1988	0	39	0	0	39
1989	41	0	0	0	41
1990	37	0	0	0	37
1991	31	0	0	0	31
1992	30	0	0	0	30
1993	6	1	4	24	35
1994	31	0	0	0	31
1995	0	50	0	0	50
1996	0	45	0	0	45
1997	0	22	0	19	41
1998	0	33	0	6	39
1999	0	46	0	5	51
2000	0	0	0	28	28
2001	0	6	6	12	24
2002	0	14	36	11	61
2003	0	14	24	8	46
2004	4	0	3	0	7
Total	761	736	616	216	2329

Table 2. Annual scale sample sizes of age-1.3 and age-1.4 Yukon Chinook salmon selected from the fishery catches in the lower river. All fish were collected with 8.0-8.5 inch mesh.

Year	Age-1.3	Age-1.4
1966	5	50
1967	23	50
1968	40	50
1969	44	50
1970	50	50
1971	50	50
1972	50	51
1973	50	50
1974	50	54
1975	50	50
1976	50	51
1977	46	50
1978	16	57
1979	51	51
1980	52	50
1981	50	50
1982	50	54
1983	50	54
1984	30	54
1985	27	52
1986	50	50
1987	33	57
1988	36	60
1989	22	38
1990	52	56
1991	50	56
1992	52	56
1993	50	52
1994	51	50
1995	20	56
1996	54	25
1997	56	48
1998	52	53
1999	26	52
2000	16	50
2001	23	53
2002	53	50
2003	55	50
2004	35	50
Total	1620	1990

Table 3. Effect of gillnet mesh size on Kuskokwim Chinook salmon growth characteristics. Values are ratio of fish growth measurements when captured by 8-8.5 inch mesh vs. 5.5-6 inch mesh based on two tests: 1) all years of data, 2) years when data available for both mesh sizes. Correction factors were applied to fish caught with 5.5-6 inch mesh when consistent significant differences were observed (*) based on ANOVA. (*) indicates one of two tests were significant ($P < 0.05$) and trends of both tests were consistent. (**) indicates both tests were significant ($P < 0.05$) and trends were consistent. (***) indicates both tests were highly significant ($P < 0.01$) and trends were consistent.

Life stage	Age 1.3		Age 1.4	
Adult length	1.117	***	1.028	***
FW1	0.946	*	0.981	NS
FWPL	0.949	NS	0.972	NS
SW1	0.988	NS	0.99	NS
SW2	1.077	**	0.975	NS
SW3	1.101	**	1.014	*
SW4			0.973	NS
SWPL	1.026	NS	0.993	NS

Table 4. Within growth-year correlations (r) between A) age-1.3 and age-1.4 Kuskokwim Chinook salmon and B) age-1.3 and age-1.4 Yukon Chinook salmon. Values within boxes are from the same cohort. Significant correlations are underlined ($P < 0.05$) or shown in bold ($P < 0.01$).

A.

Kuskokwim age 1.3 \ Kuskokwim age 1.4	FW1	FWPL	SW1	SW2	SW3	SW4	SWPL	Length
FW1	0.41	**0.69**	0.28	0.22	0.30	0.41	0.39	
FWPL	0.35	**0.71**	0.14	0.05	0.41	0.21	0.33	
SW1	0.28	0.24	0.21	0.20	**0.49**	0.36	0.47	
SW2	0.28	0.29	0.14	0.27	**0.46**	**0.51**	0.29	
SW3	0.32	0.21	0.42	0.03	0.39	0.36	0.01	
SWPL	0.32	0.38	0.42	0.18	0.35	-0.19	**0.78**	
Length								0.44

B.

Yukon age 1.3 \ Yukon age 1.4	FW1	FWPL	SW1	SW2	SW3	SW4	SWPL	Length
FW1	0.37	**0.63**	0.40	**0.51**	**0.56**	0.42	-0.18	
FWPL	0.33	**0.49**	0.21	0.33	**0.44**	**0.50**	-0.32	
SW1	0.21	-0.08	0.23	**0.41**	0.34	0.37	-0.01	
SW2	0.40	0.37	0.23	**0.61**	**0.57**	**0.49**	-0.09	
SW3	0.27	0.35	0.32	**0.46**	**0.45**	**0.58**	0.06	
SWPL	-0.32	-0.36	-0.09	-0.21	-0.25	-0.16	0.18	
Length								0.08

Table 5. Within growth year correlations (r) between Kuskokwim Chinook salmon and Yukon Chinook salmon during A) freshwater and B) marine life stages. Correlations at $P < 0.05$ underlined; correlations at $P < 0.01$ are bold.

A.

			Kuskokwim			
			Age 1.3		Age 1.4	
			FW1	FWPL	FW1	FWPL
Yukon	Age 1.3	FW1	-0.07	-0.10	<u>-0.44</u>	0.02
		FWPL	-0.16	-0.11	-0.23	<u>-0.47</u>
	Age 1.4	FW1	0.15	0.27	-0.05	0.12
		FWPL	0.01	0.12	<u>-0.38</u>	-0.16

B.

			Kuskokwim								
			Age 1.3				Age 1.4				
			SW1	SW2	SW3	SWPL	SW1	SW2	SW3	SW4	SWPL
Yukon	Age 1.3	SW1	-0.29	-0.33	-0.13	-0.35	-0.04	-0.11	-0.25	0.01	-0.17
		SW2	<u>-0.41</u>	-0.15	-0.32	**-0.47**	<u>-0.41</u>	0.06	-0.15	-0.13	-0.36
		SW3	<u>-0.40</u>	-0.25	-0.14	-0.36	**-0.67**	-0.20	-0.29	0.05	<u>-0.39</u>
		SWPL	0.11	0.23	0.20	-0.18	0.15	0.04	0.16	0.37	-0.02
	Age 1.4	SW1	-0.08	0.07	<u>0.38</u>	-0.21	-0.07	-0.18	0.14	0.04	0.01
		SW2	-0.34	-0.08	0.04	-0.28	-0.33	0.21	-0.25	-0.08	-0.19
		SW3	<u>-0.44</u>	-0.19	0.16	<u>-0.41</u>	0.34	-0.24	-0.01	-0.07	-0.35
		SW4	-0.34	-0.24	0.10	-0.31	**-0.52**	-0.29	-0.14	0.07	-0.30
		SWPL	<u>-0.45</u>	-0.37	0.09	0.06	0.37	0.02	-0.16	0.00	0.05

Table 6. Two factor ANOVAs to examine whether adult length-at-age was influenced by sex and/or gillnet mesh size (5.5-6.0" vs. 8.0-8.5"). The variable associated with significantly larger Chinook salmon is shown, i.e., male (M) or female (F); small mesh (5) or large mesh (8).

	Yukon River					Kuskokwim River				
Age	Factor	Larger	df	F-value	P-value	Factor	Larger	df	F-value	P-value
1.3	Sex	F	1, 9076	542.88	<0.001	Sex	F	1, 2963	447.73	<0.001
	Mesh Size	8	1, 9076	601.95	<0.001	Mesh Size	8	1, 2963	33.85	<0.001
	Interaction		1, 9076	0.88	0.349	Interaction		1, 2963	3.64	0.056
1.4	Sex	F	1, 25217	29.30	<0.001	Sex	F	1, 4106	70.83	<0.001
	Mesh Size	8	1, 25217	74.89	<0.001	Mesh Size	8	1, 4106	117.14	<0.001
	Interaction		1, 25217	1.86	0.172	Interaction		1, 4106	2.94	0.087
1.5	Sex	M	1, 3405	82.13	<0.001	Sex		1, 565	0.02	0.895
	Mesh Size		1, 3405	1.07	0.302	Mesh Size	8	1, 565	51.82	<0.001
	Interaction		1, 3405	0.50	0.480	Interaction	Mixed	1, 565	4.28	0.039

Table 7. ANOVA test results to determine whether scale growth of Yukon and Kuskokwim Chinook salmon at each life stage was influenced by sex. Tests conducted on both age-1.3 and age-1.4 Chinook salmon. The larger sex is identified. See Fig. 17 and Fig. 18 for associated analyses.

	Age-1.3				Age-1.4			
Stage	Larger Sex	n	F-value	P-value	Larger Sex	n	F-value	P-value
Yukon River								
FW1	F	1526	14.15	<0.001	M	1950	3.89	0.049
FWPL		1526	0.32	0.570	M	1950	11.32	<0.001
SW1	F	1526	5.54	0.019		1950	0.69	0.406
SW2	F	1526	9.92	0.002		1950	3.07	0.080
SW3	F	1526	10.33	0.001	M	1950	4.64	0.031
SW4		NA				1950	3.00	0.084
SWPL	F	1010	3.86	0.050	F	1279	16.33	<0.001
SWPL Max	F	994	11.64	<0.001	F	1270	16.26	<0.001
Kuskokwim River								
FW1		1109	0.01	0.911		1196	0.10	0.747
FWPL		1109	0.23	0.629		1196	2.03	0.154
SW1		1109	0.21	0.649	M	1196	9.50	0.002
SW2	F	1109	18.19	<0.001		1196	0.08	0.775
SW3	F	1109	17.59	<0.001		1196	0.14	0.705
SW4		NA			F	1196	27.26	<0.001
SWPL	F	1083	18.92	<0.001	F	1155	17.05	<0.001
SWPL Max	F	1020	9.96	0.002	F	1166	6.86	0.009

Table 8. Two factor ANOVAs (age, sex) to determine whether scale growth at each life stage varied with adult age of Yukon and Kuskokwim Chinook salmon. Percentage difference is the difference in age-1.3 growth relative to age-1.4 growth. See Table 7, Fig. 17 and Fig. 18 for associated analyses.

	n		%		
Stage	age-1.3	age-1.4	difference	F-value	P-value
Yukon River					
FW1	1526	1950	14.1	118.31	<0.001
FWPL	1526	1950	-12.3	15.389	<0.001
SW1	1526	1950	12.9	302.94	<0.001
SW2	1526	1950	21.8	705.96	<0.001
SW3	1526	1950	13.4	305.92	<0.001
SWPL	1010	1279	25.6	93.78	<0.001
SWPL Max	994	1270	13.7	173.12	<0.001
Kuskokwim River					
FW1	1109	1196	0.7	0.58	0.447
FWPL	1109	1196	-7.7	10.63	0.001
SW1	1109	1196	3.9	15.03	<0.001
SW2	1109	1196	12.6	149.98	<0.001
SW3	1109	1196	7.1	46.58	<0.001
SWPL	1083	1155	17.8	35.14	<0.001
SWPL Max	1020	1166	12.7	73.97	<0.001

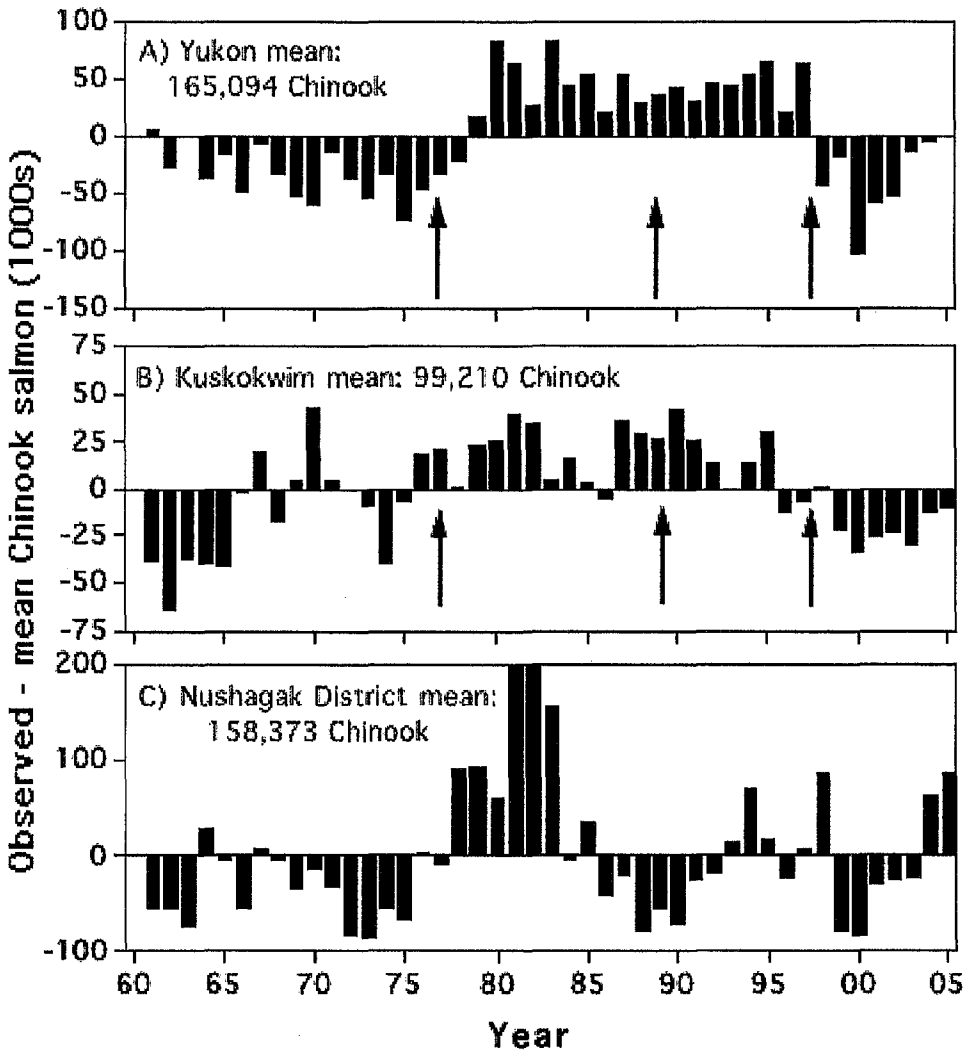

Fig. 1. Catch trends of Yukon and Kuskokwim Chinook salmon and run size trend of Nushagak District Chinook salmon (Bristol Bay), 1961-2005. Yukon values are total catch in Alaska (subsistence, commercial, sport, personal use) and Canadian catch and escapement (escapement prior to 1982 estimated from observed harvest rate during previous five years). Kuskokwim values are total catch (subsistence, commercial, sport, test fish). Subsistence catches prior to 1988 were adjusted by 1.47x based on ratio of 5 years after method change compared with 5 years prior to change. Arrows identify 1976/77 and 1989 climate regime change and 1997/98 El Nino event. Data sources: Bue and Hayes 2006, Whitmore et al. 2005.

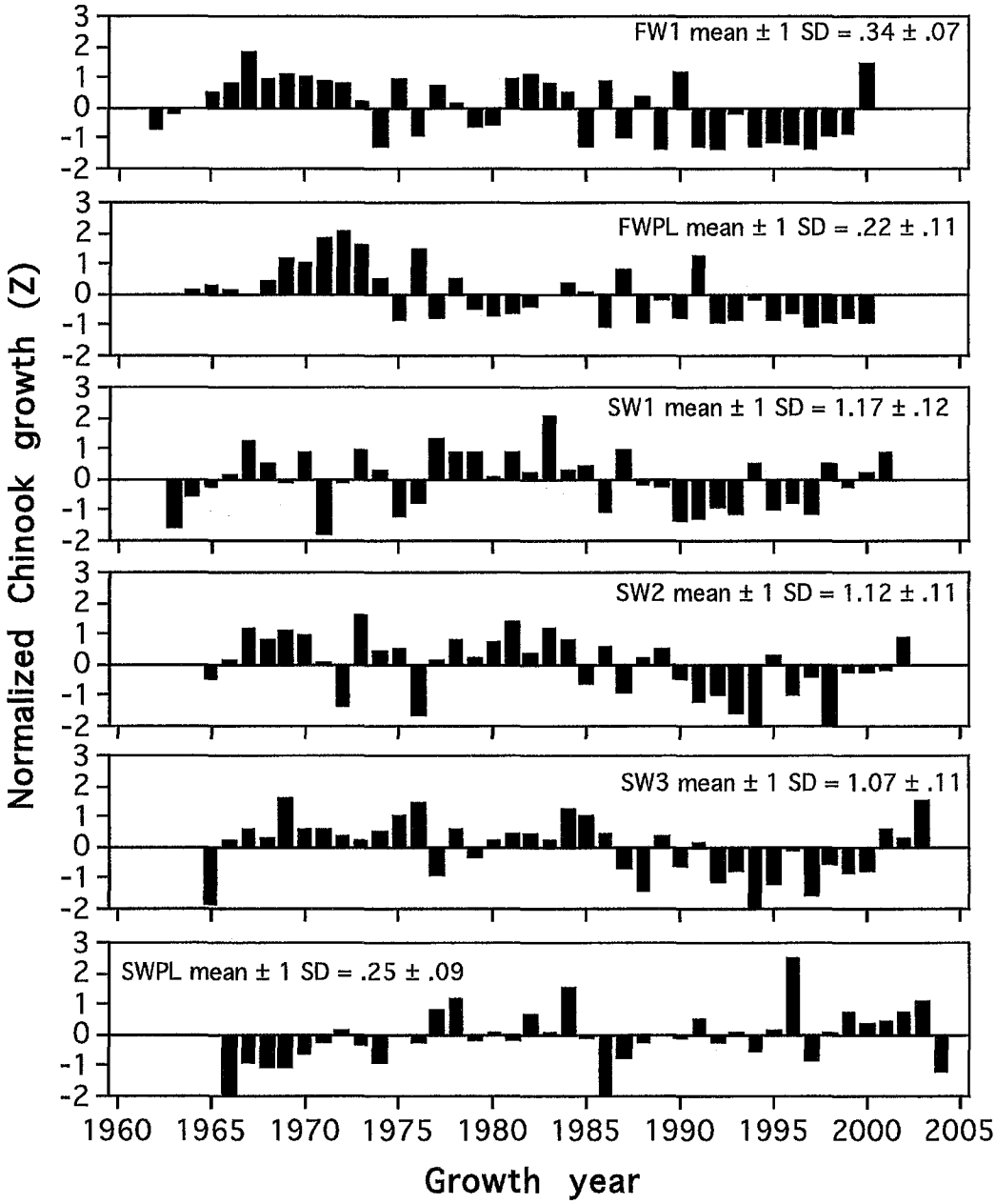

Fig. 2. Mean annual growth of age-1.3 Yukon Chinook salmon during each life stage, growth years 1962-2004. Values are standard deviations above and below the long-term mean. The long-term unweighted mean of male and female scale measurements are shown.

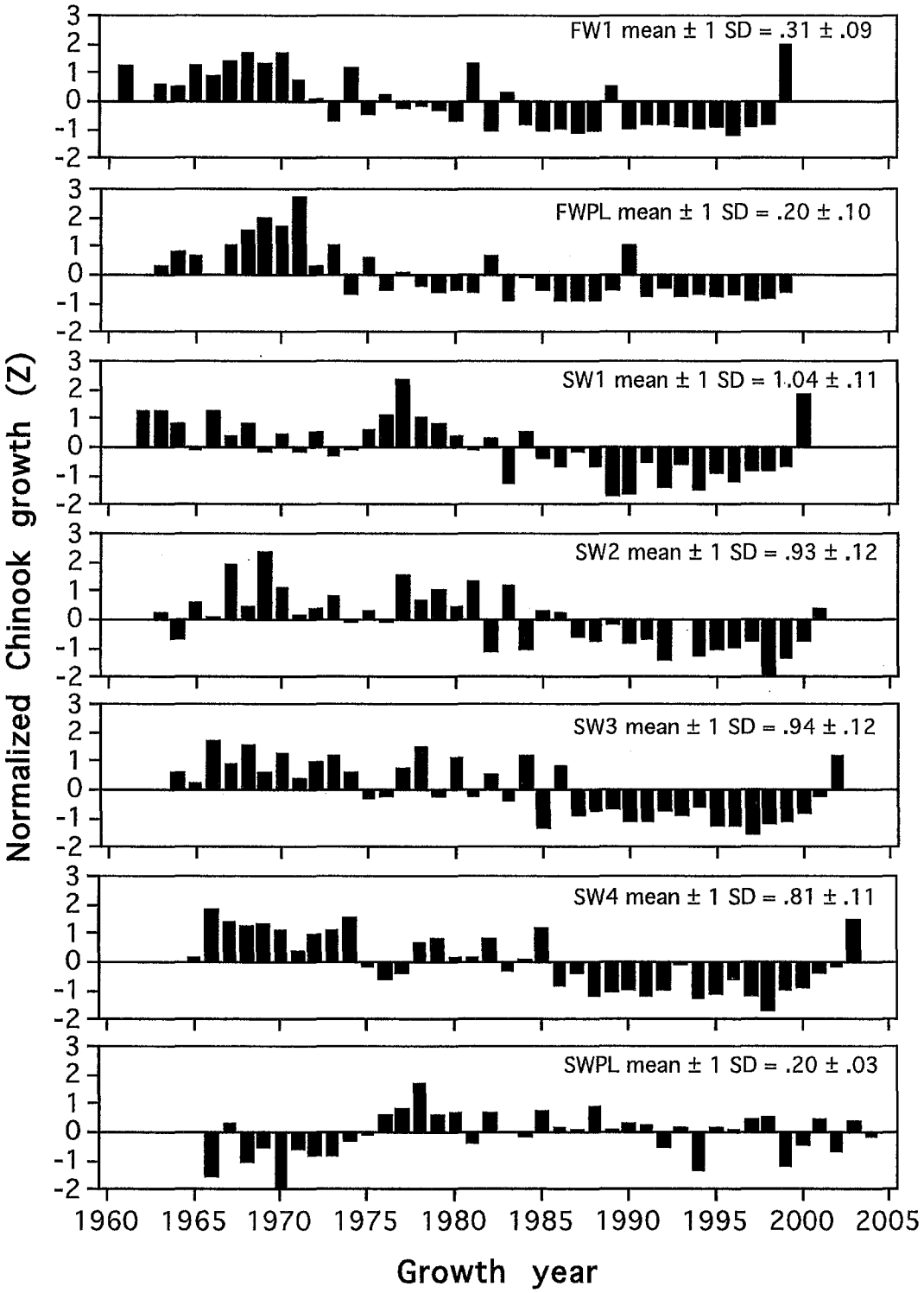

Fig. 3. Mean annual growth of age-1.4 Yukon Chinook salmon during each life stage, growth years 1961-2004. Values are standard deviations above and below the long-term mean.

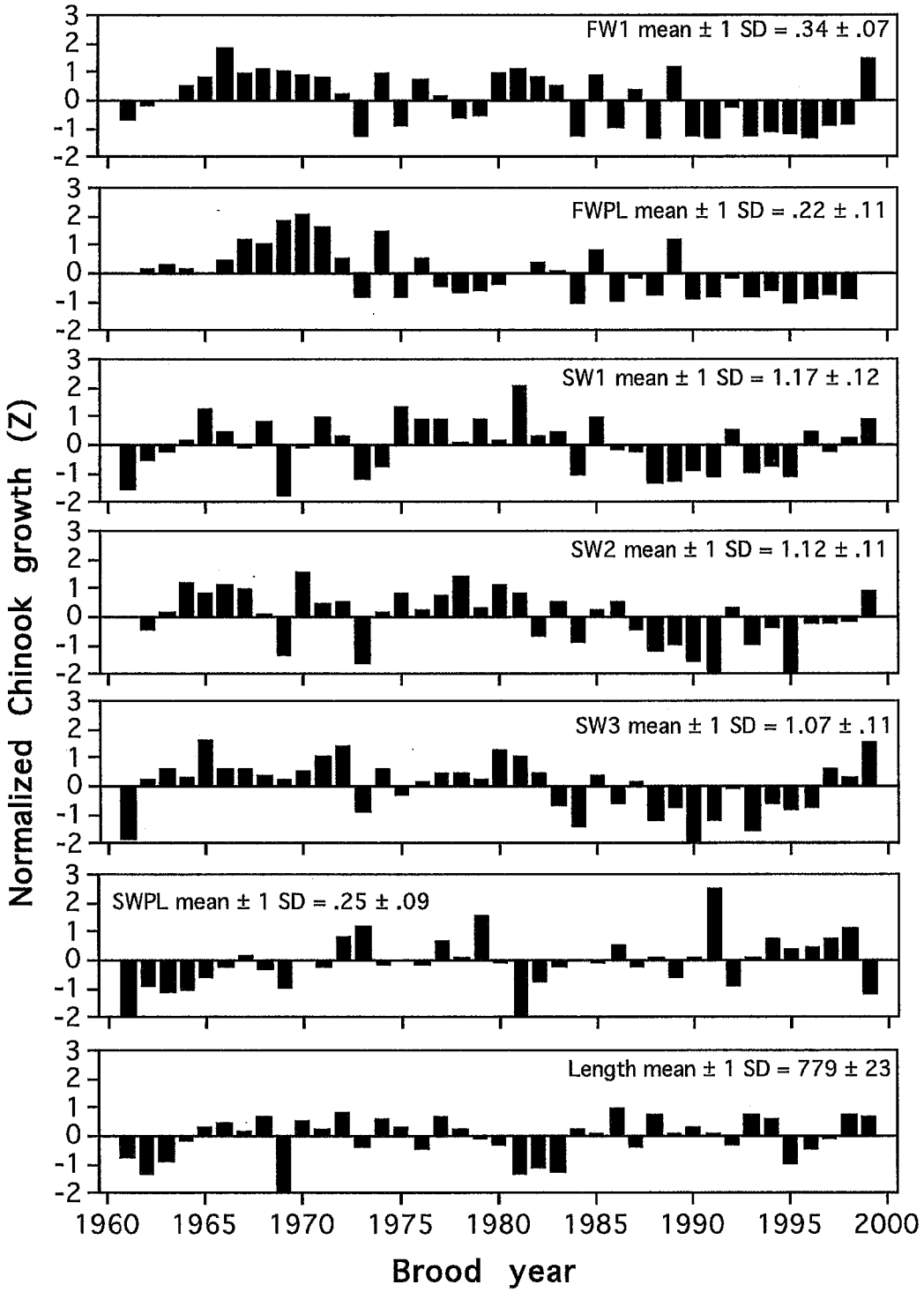

Fig. 4. Mean annual growth of age-1.3 Yukon Chinook salmon during each life stage, brood years 1961-1999. Values are standard deviations above and below the long-term mean.

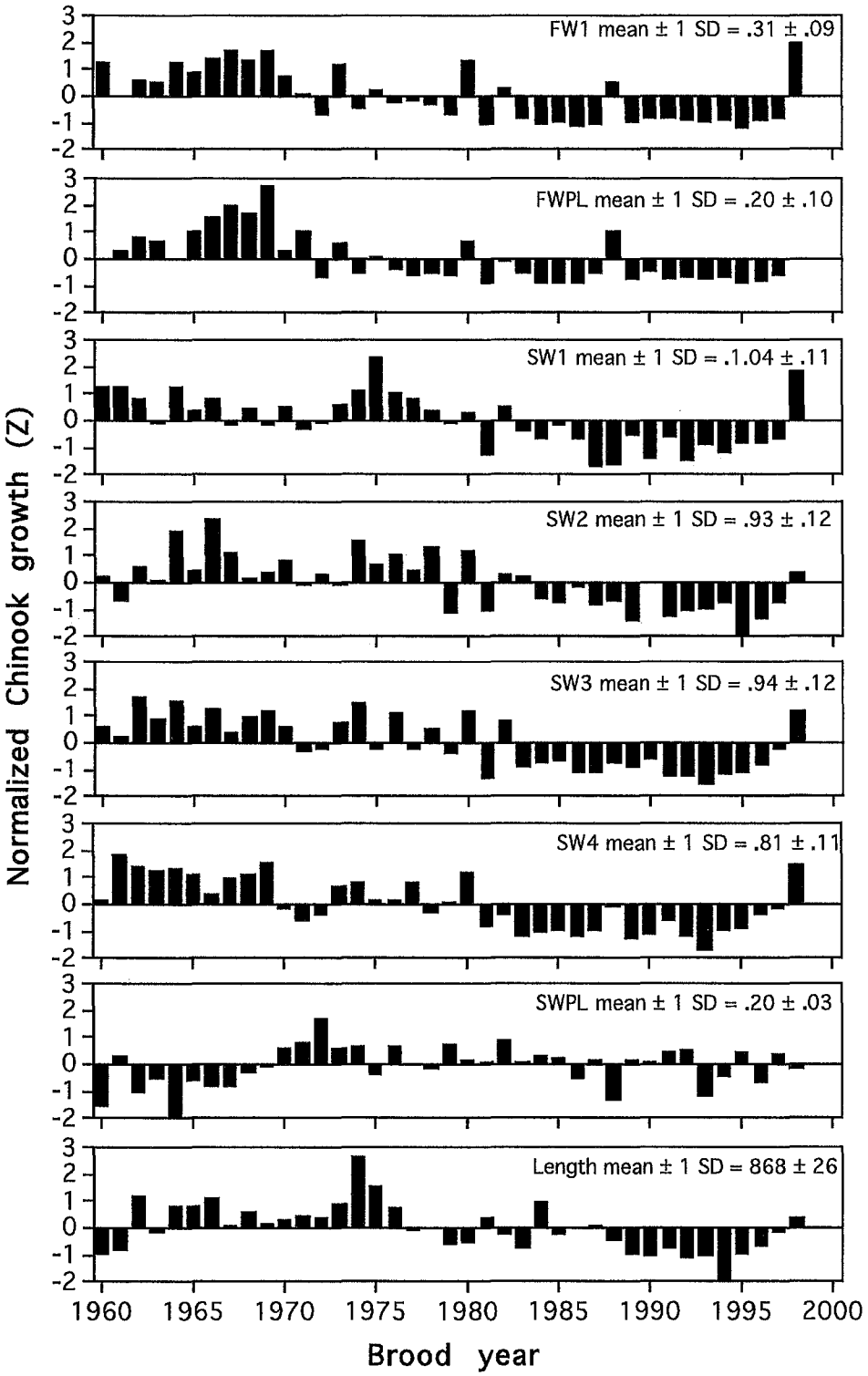

Fig. 5. Mean annual growth of age-1.4 Yukon Chinook salmon during each life stage, brood years 1960-1998. Values are standard deviations above and below the long-term mean.

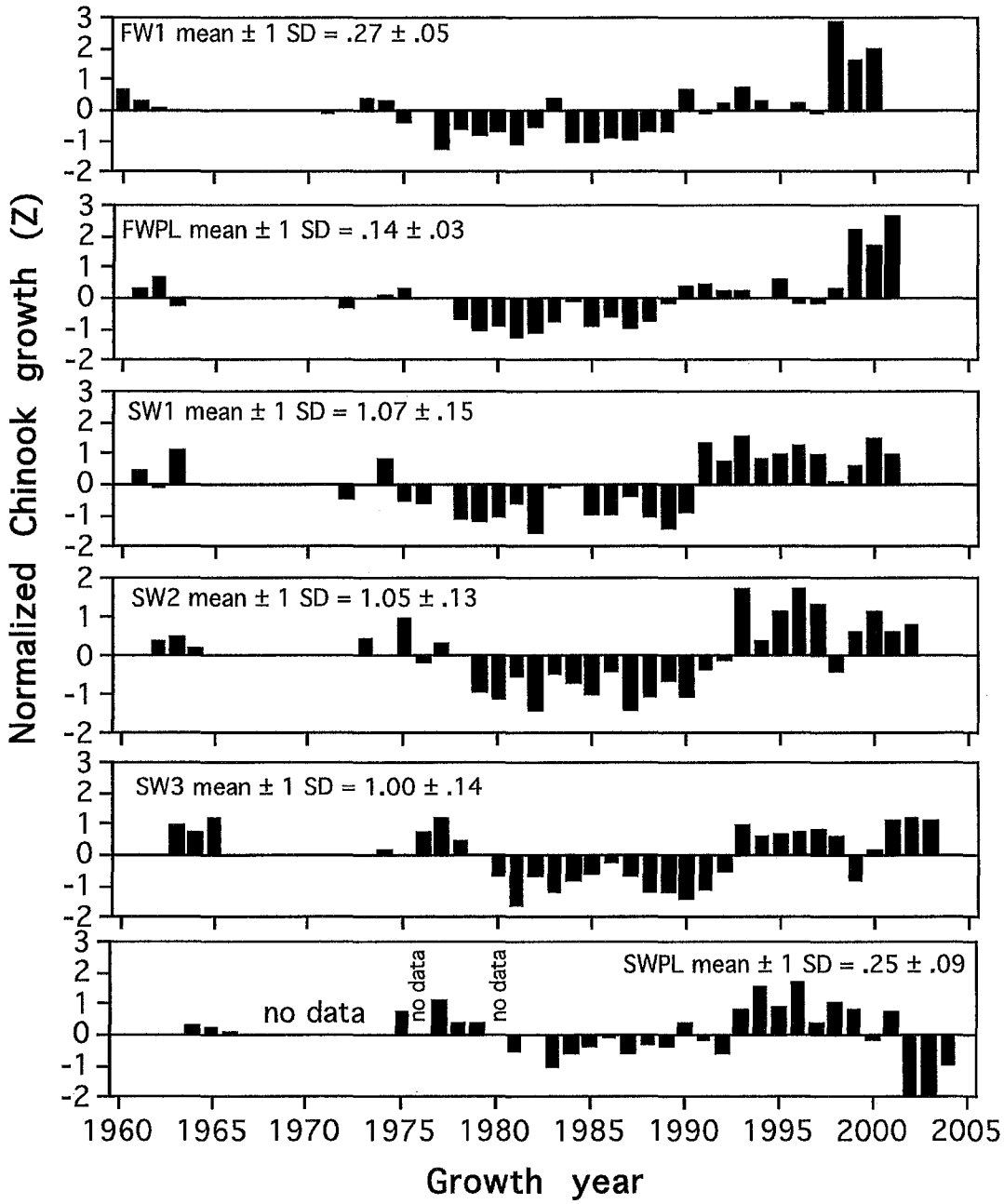

Fig. 6. Mean annual growth of age-1.3 Kuskokwim Chinook salmon during each life stage, growth years 1960-2004. Values are standard deviations above and below the long-term mean.

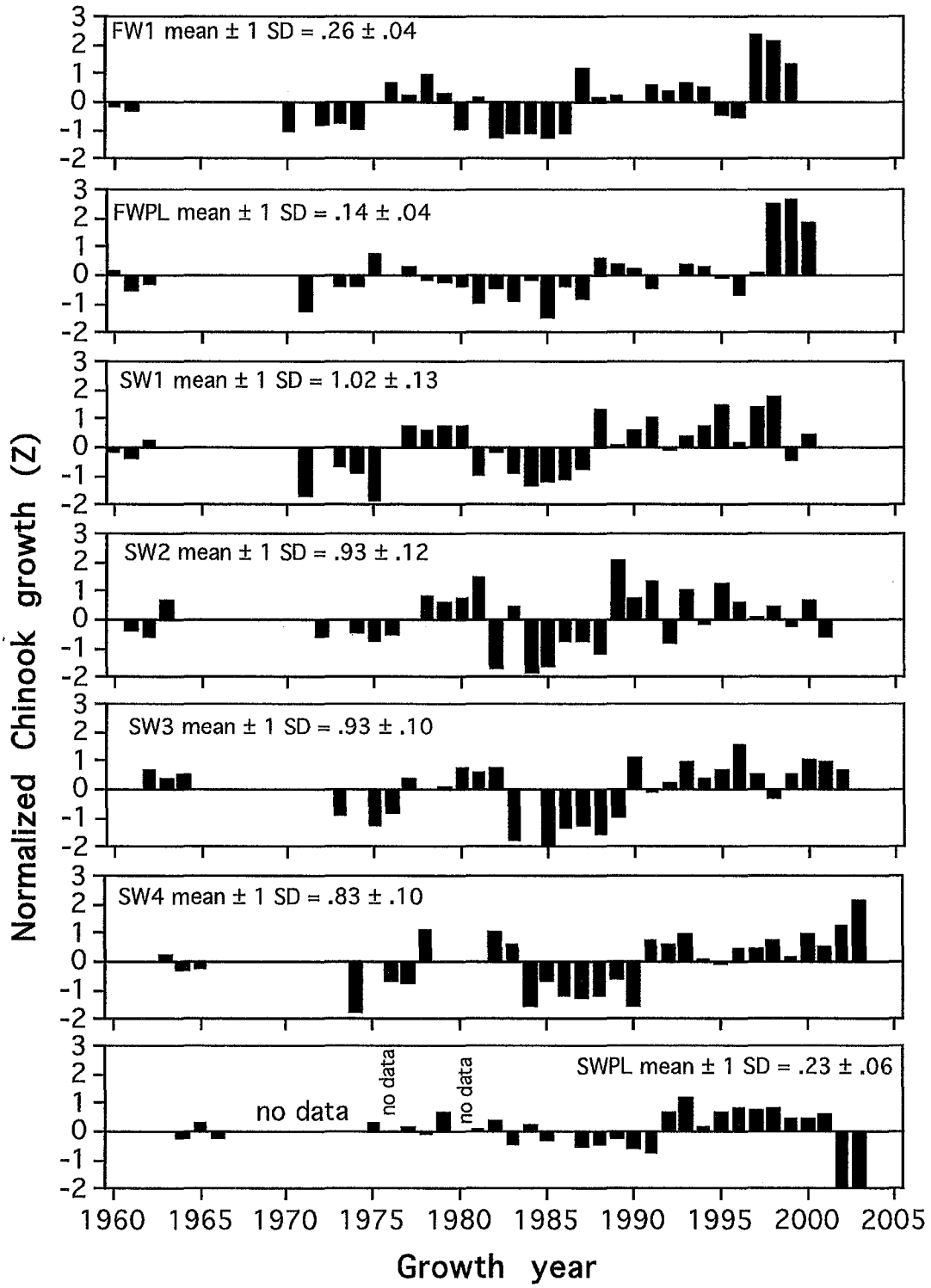

Fig. 7. Mean annual growth of age-1.4 Kuskokwim Chinook salmon during each life stage, growth years 1960-2004. Values are standard deviations above and below the long-term mean.

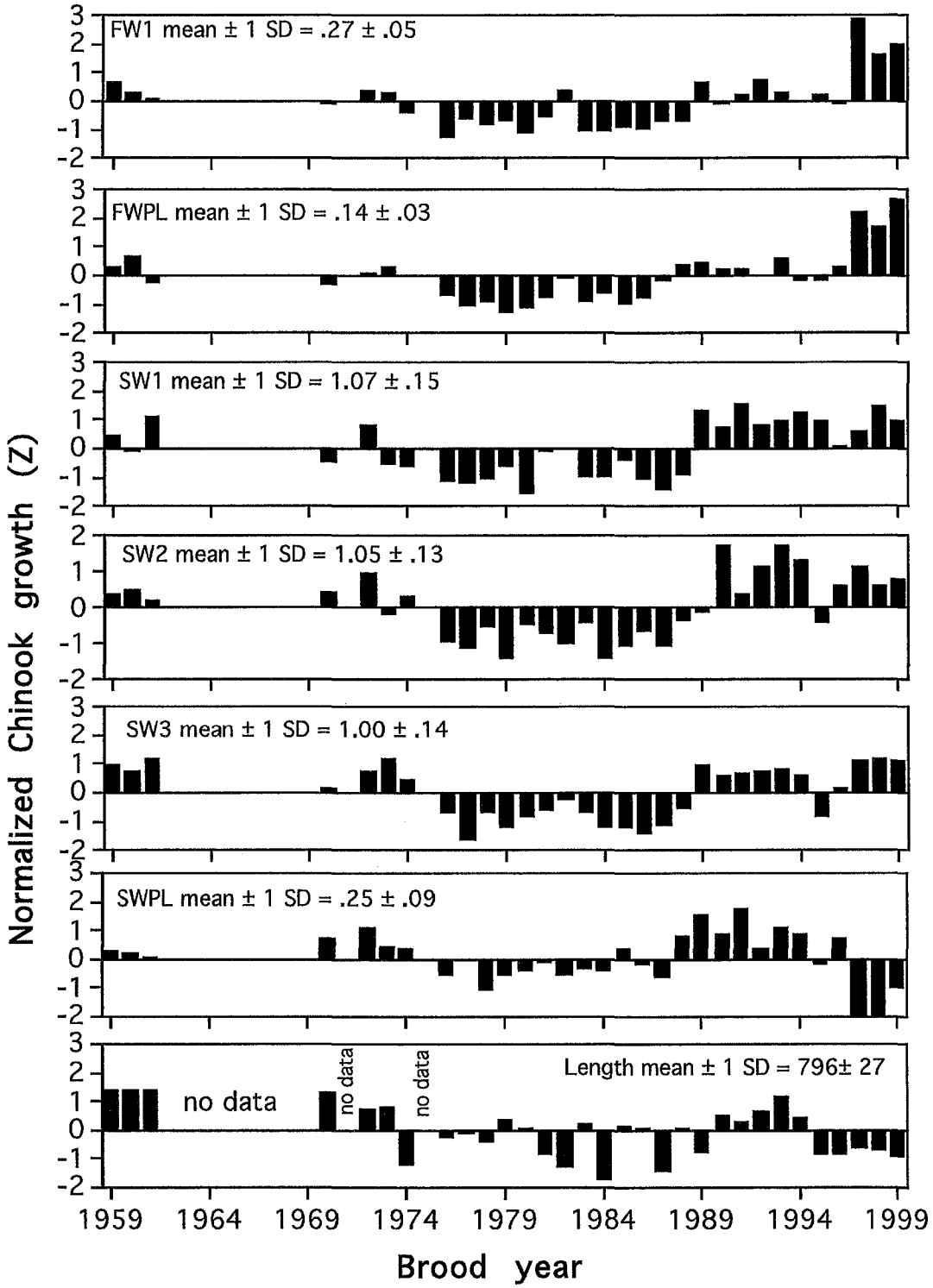

Fig. 8. Mean annual growth of age-1.3 Kuskokwim Chinook salmon during each life stage, brood years 1959-1999. Values are standard deviations above and below the long-term mean.

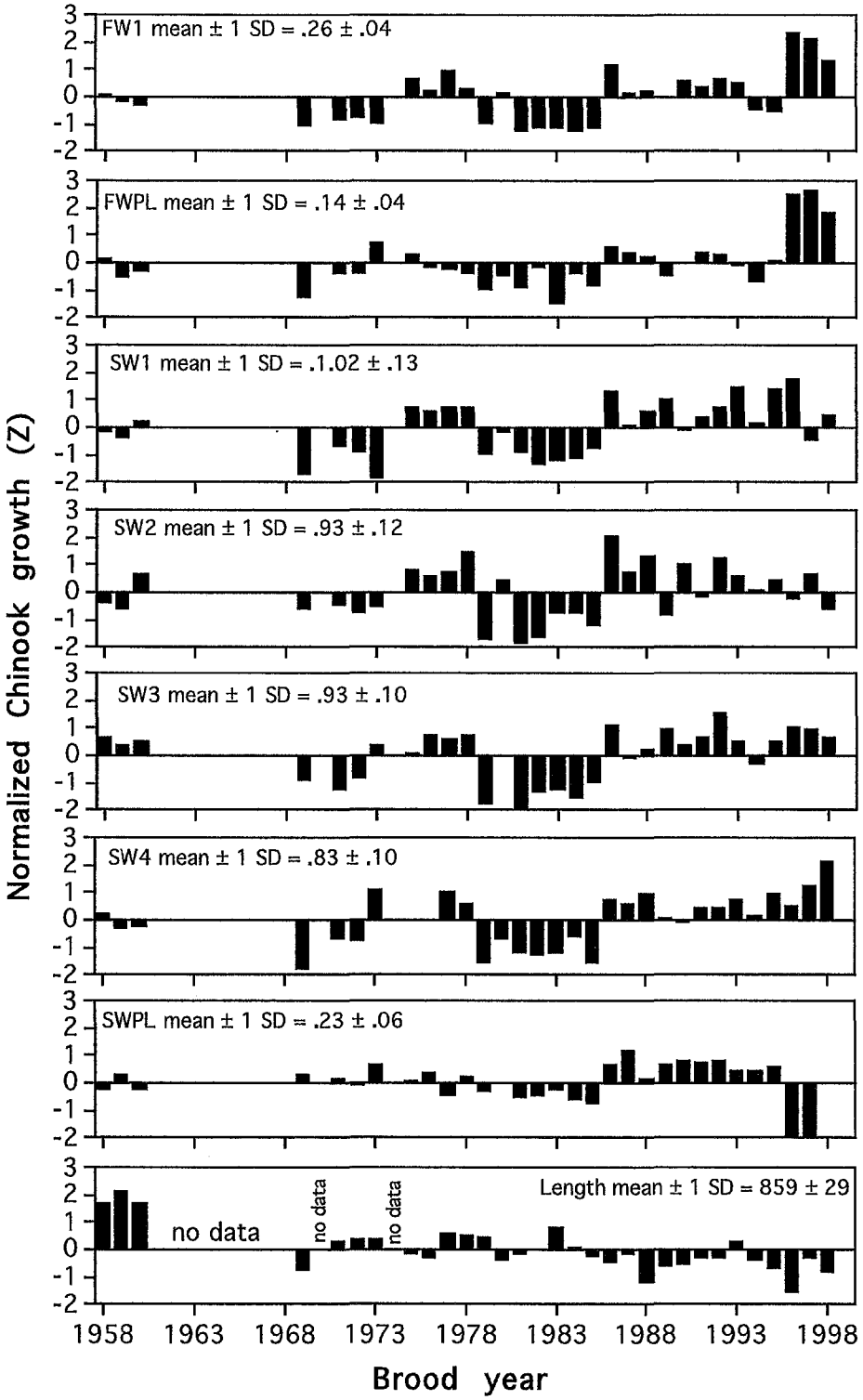

Fig. 9. Mean annual growth of age-1.4 Kuskokwim Chinook salmon during each life stage, brood years 1958-1998. Values are standard deviations above and below the long-term mean.

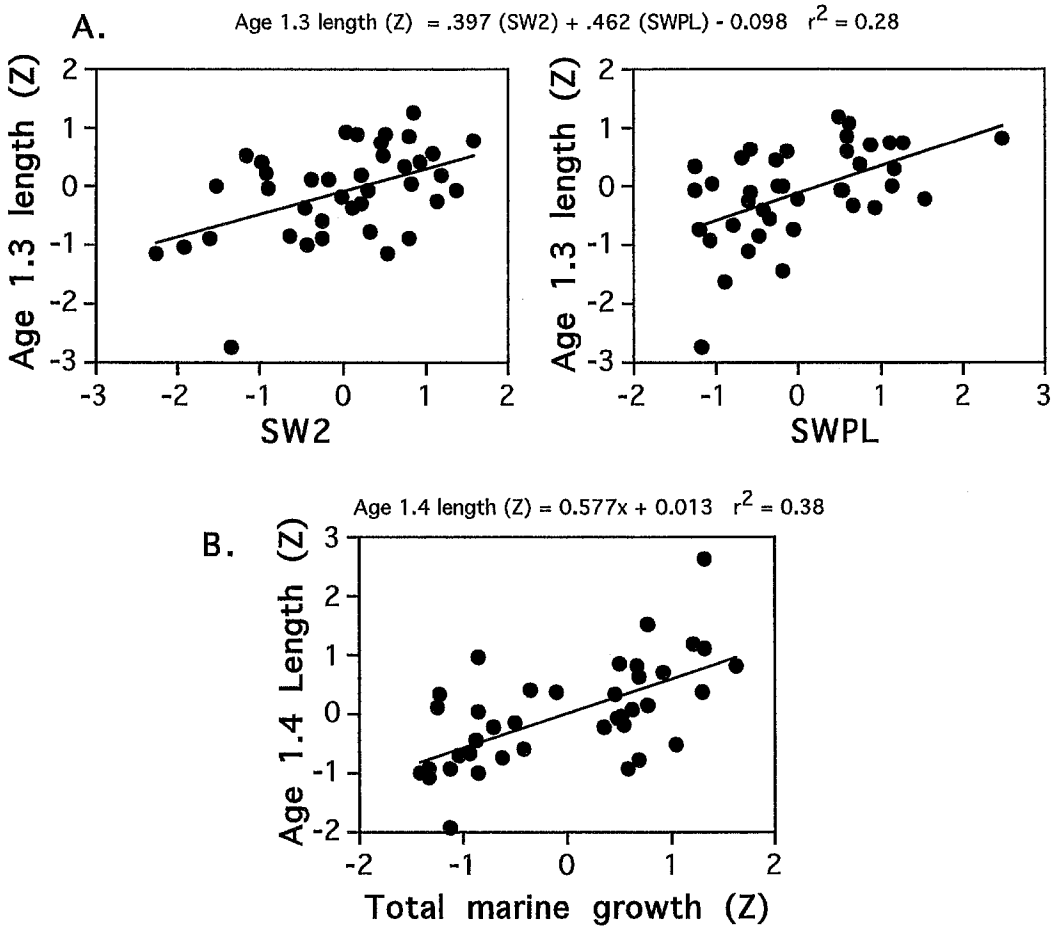

Fig. 10. Relationship between normalized adult length of A) age-1.3 and B) age-1.4 Yukon Chinook salmon and marine scale growth. The age-1.3 length model shows the partial effect of SW2 and SWPL growth on length based on partial residual analysis (Larson and McLeary 1972). Total marine growth (excluding SWPL) was also a significant explanatory variable for age-1.3 length ($P < 0.05$).

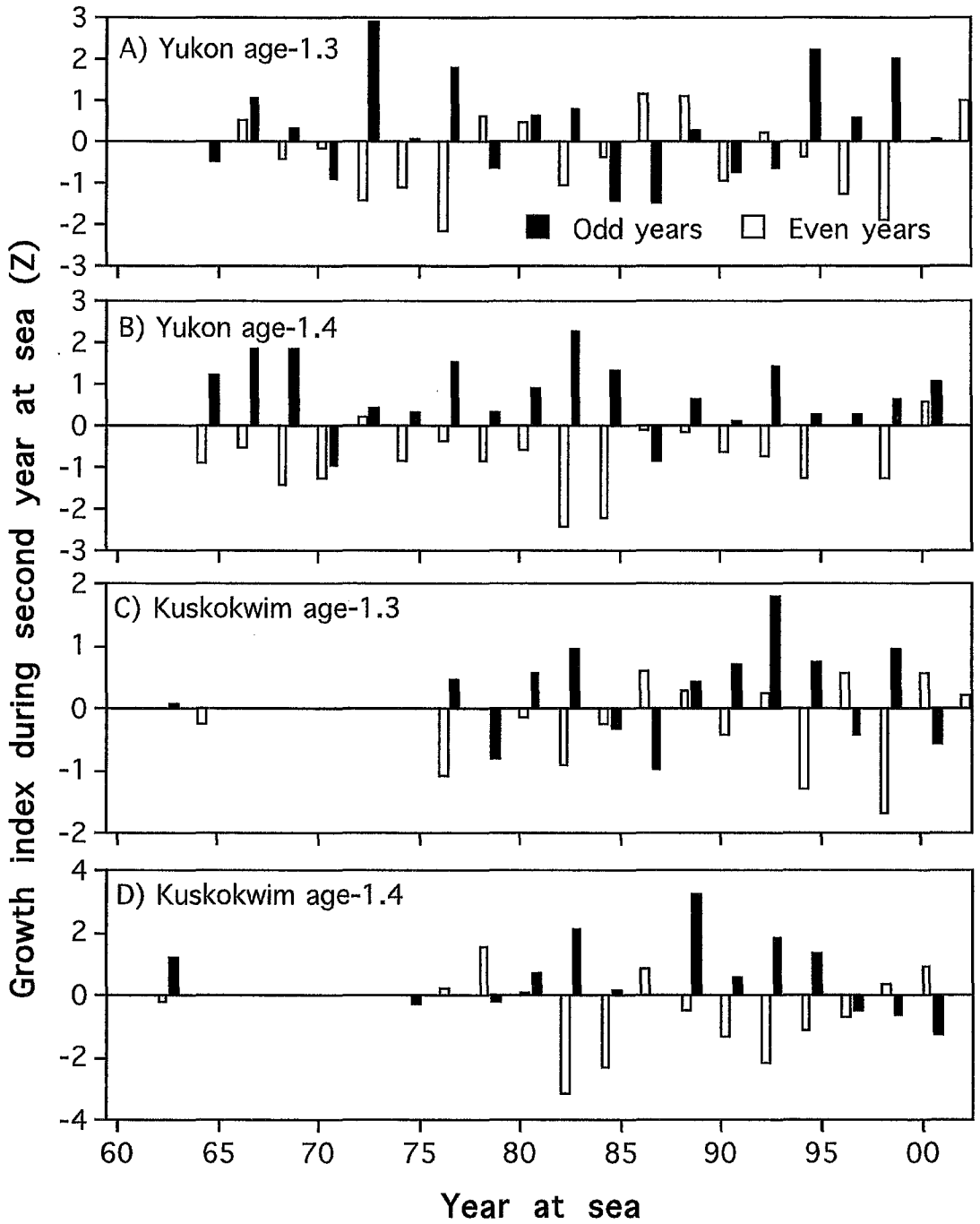

Fig. 11. Index of Yukon and Kuskokwim Chinook salmon growth during the second year at sea (SW2), 1962-2002. Residence during odd-numbered years are black bars, whereas residence during even-numbered years are white bars. Index is the first difference of normalized scale growth. For Kuskokwim fish, difference is based on nearest neighbor (i.e., y-1 or y-3) because data were missing in some years.

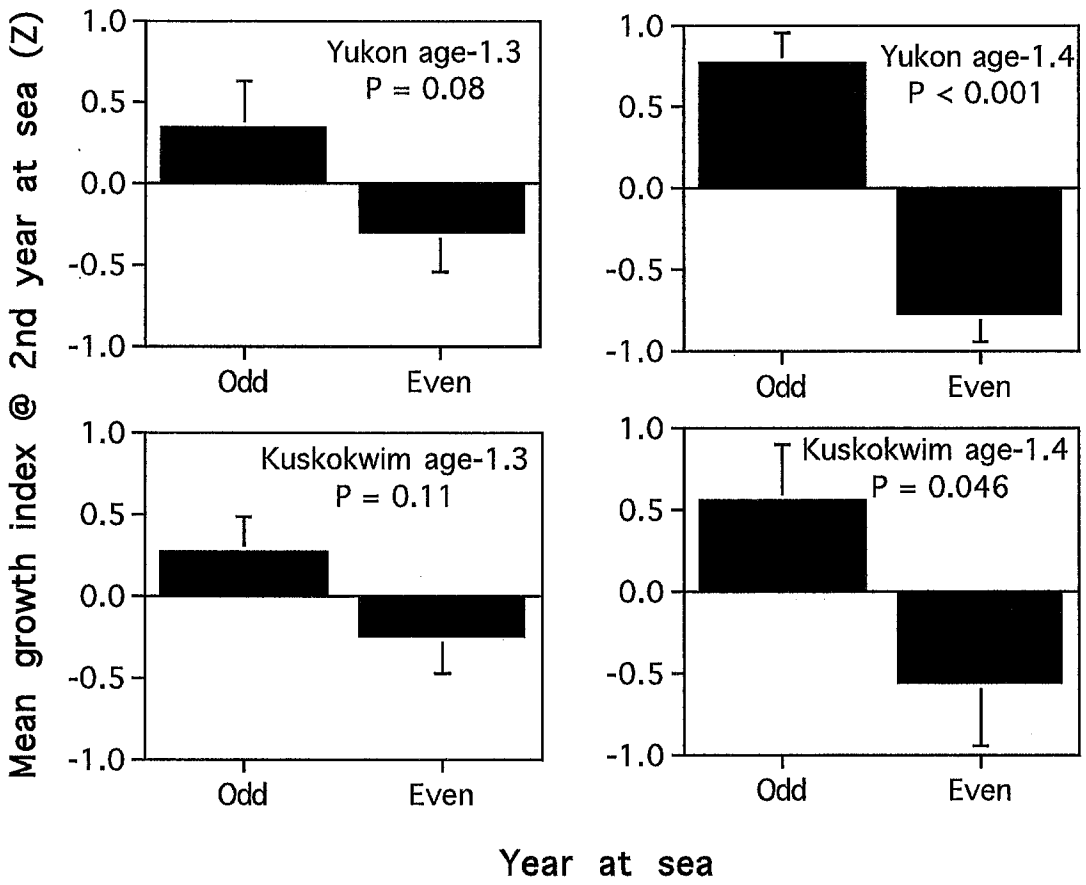

Fig. 12. Mean growth index (± 1 SE) of Yukon and Kuskokwim Chinook salmon during odd- versus even-numbered years of the second year at sea. Index is the first difference of the normalized values. Statistical significance of each ANOVA is shown.

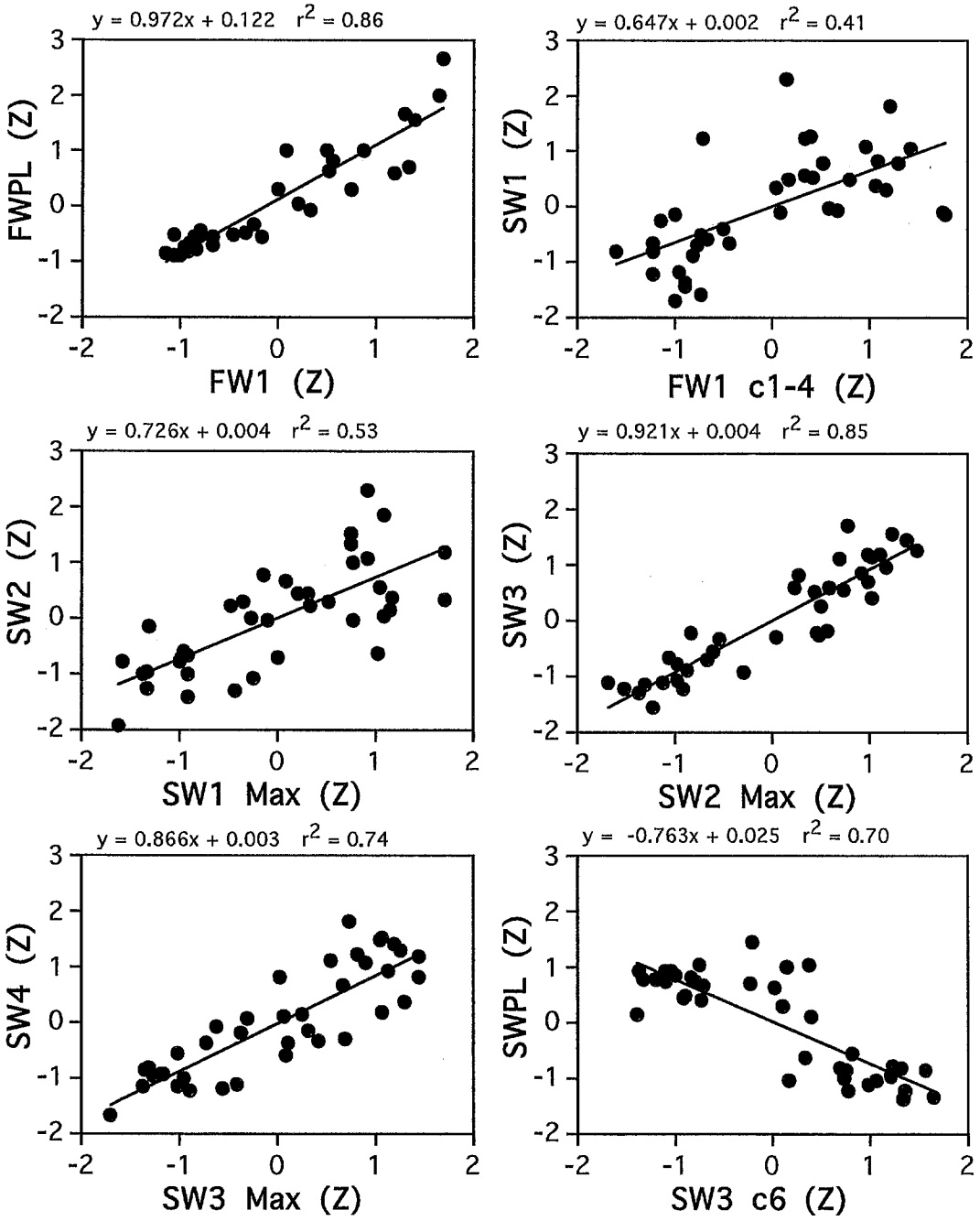

Fig. 13. Relationship between scale growth during each life stage of age-1.4 Yukon Chinook salmon and growth during the previous year. Independent variables include: first four circuli of FW1 excluding focus (FW1 c1-4), width of five maximum circuli during SW1, SW2 and SW3, and width of circuli 1-6 during SW3 (SW3 c6). All values are normalized.

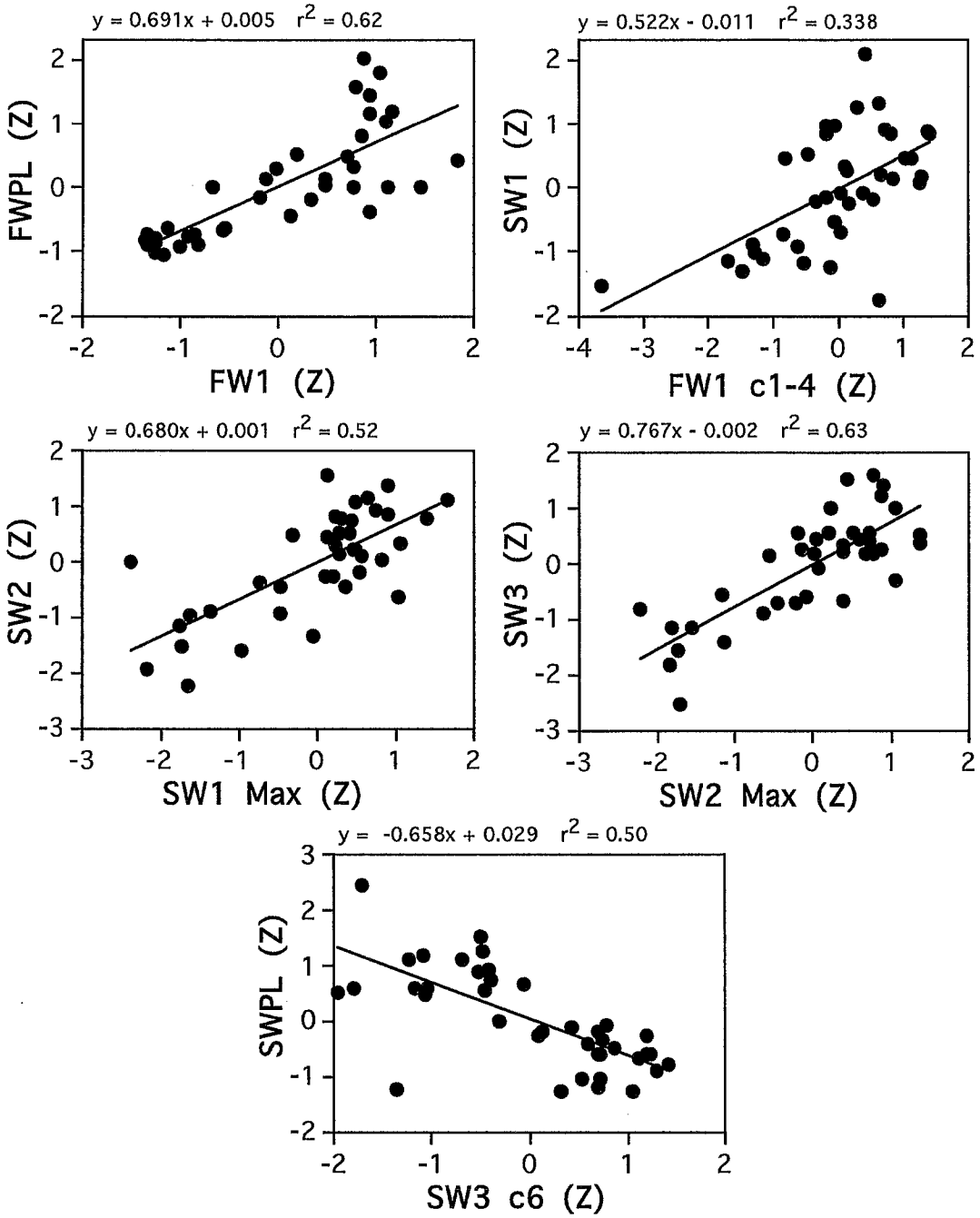

Fig. 14. Relationship between scale growth during each life stage of age-1.3 Yukon Chinook salmon and scale growth during the previous year. Independent variables include: first four circuli of FW1 excluding focus (FW1 c1-4), width of five maximum circuli during SW1, SW2 and SW3, and width of circuli 1-6 during SW3 (SW3 c6). All values are normalized.

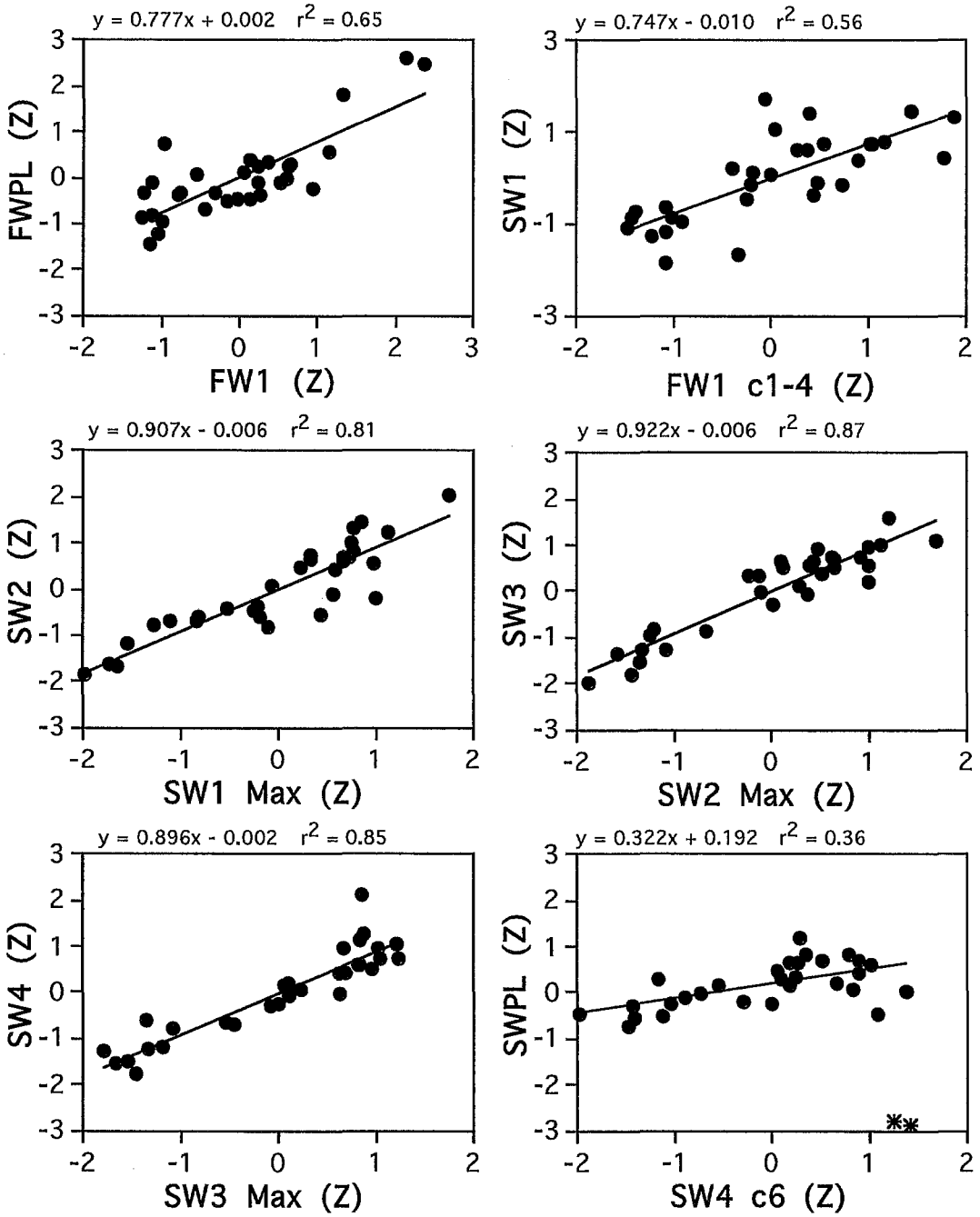

Fig. 15. Relationship between scale growth during each life stage of age-1.4 Kuskokwim Chinook salmon and growth during the previous year. Independent variables include: first four circuli of FW1 excluding focus (FW1 c1-4), width of five maximum circuli during SW1, SW2 and SW3, and width of circuli 1-6 during SW4 (SW4 c6). Two outliers in the SWPL relationship are shown as "*" (return years 2002, 2003). All values are normalized.

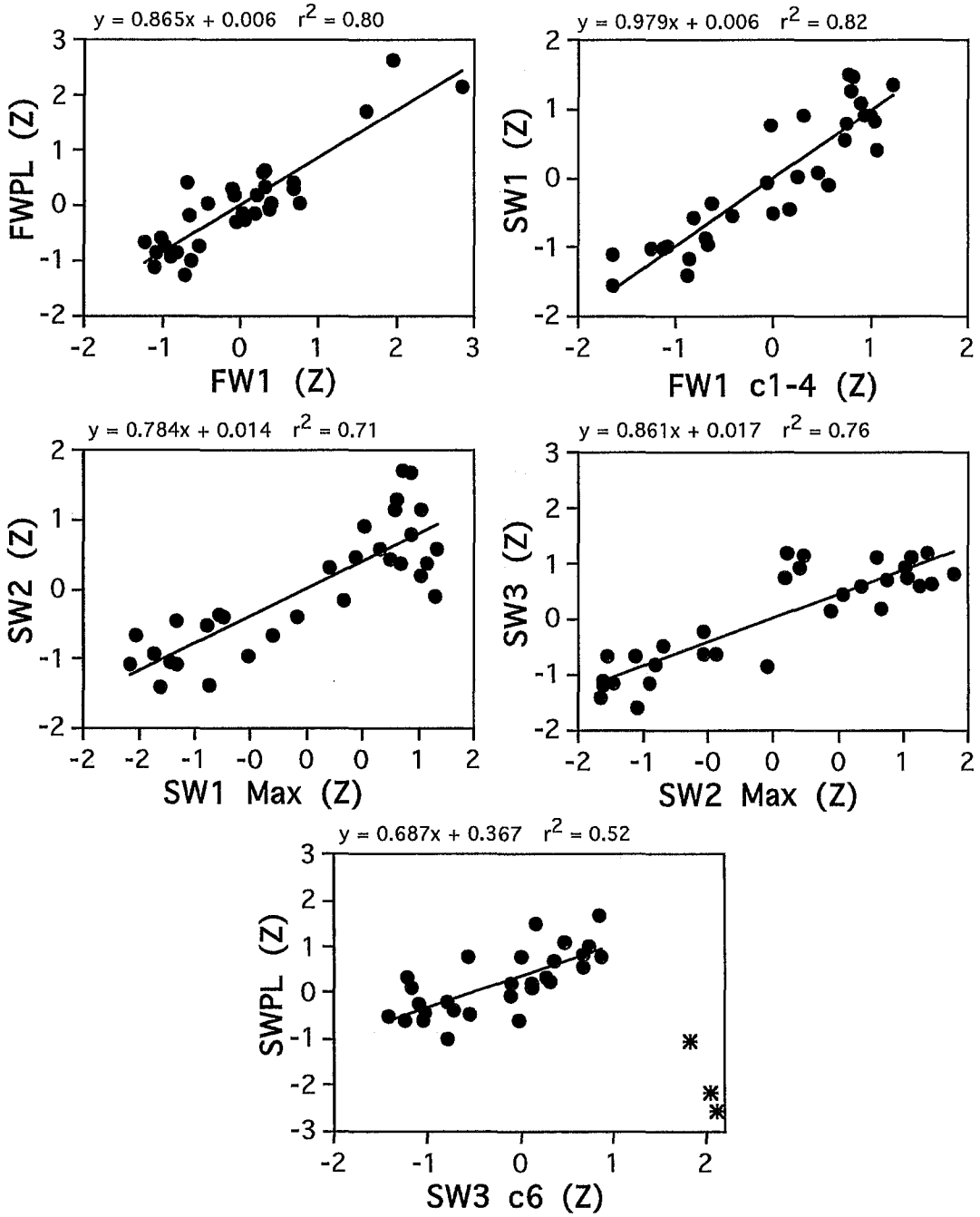

Fig. 16. Relationship between scale growth during each life stage of age-1.3 Kuskokwim Chinook salmon and scale growth during the previous year. Independent variables include: first four circuli of FW1 excluding focus (FW1 c1-4), width of five maximum circuli during SW1, SW2 and SW3, and width of circuli 1-6 during SW3 (SW3 c6). Three outliers in the SWPL relationship are shown as "*" (return yrs 2002, 2003, 2004). All values are normalized.

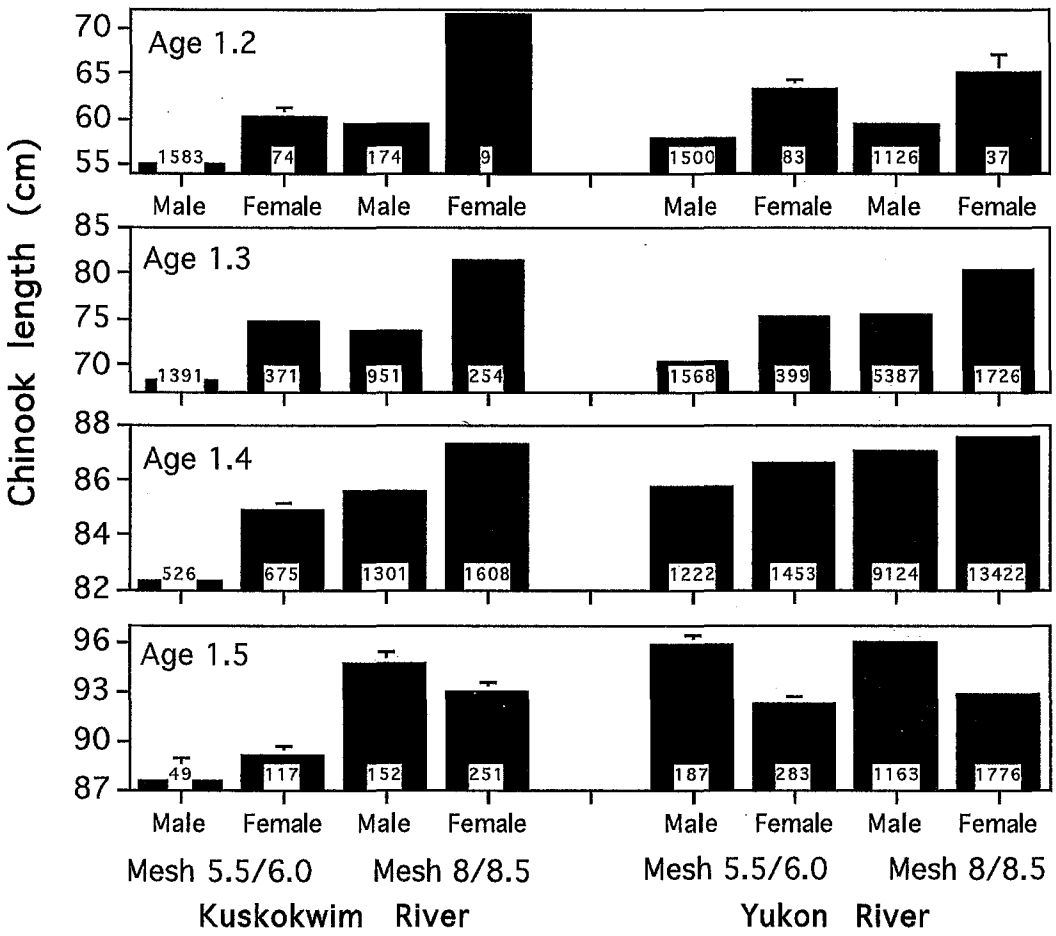

Fig. 17. Mean adult lengths of age-1.3, age-1.4, and age-1.5 male and female Kuskokwim and Yukon Chinook salmon, 1964-2004. Values are mean ± 1 SE. Sample sizes are shown.

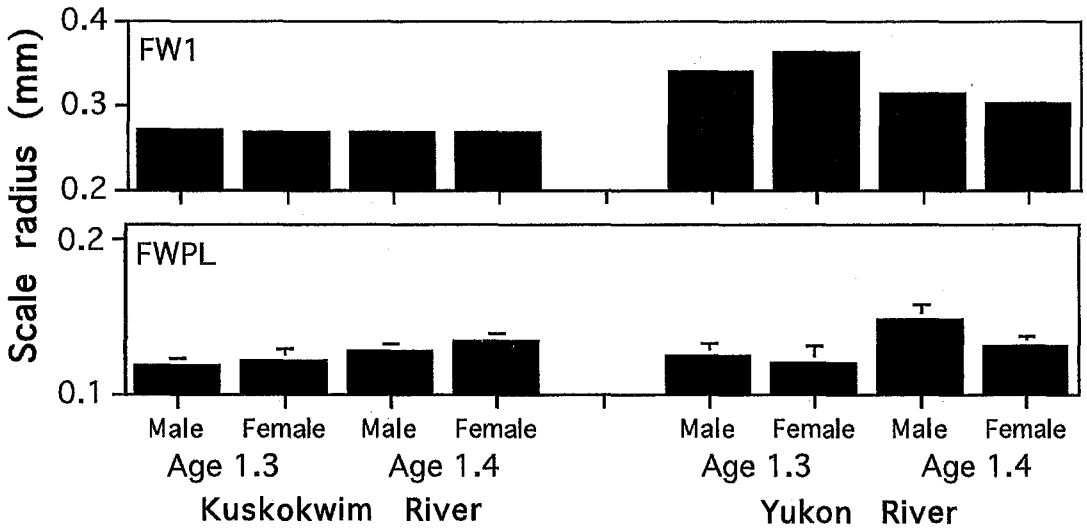

Fig. 18. Scale radius measurements of age-1.3 and age-1.4 male and female Kuskokwim and Yukon Chinook salmon during freshwater residence, 1964-2004. Values are mean ± 95% CI. Sample size of each mean exceeds 320 fish.

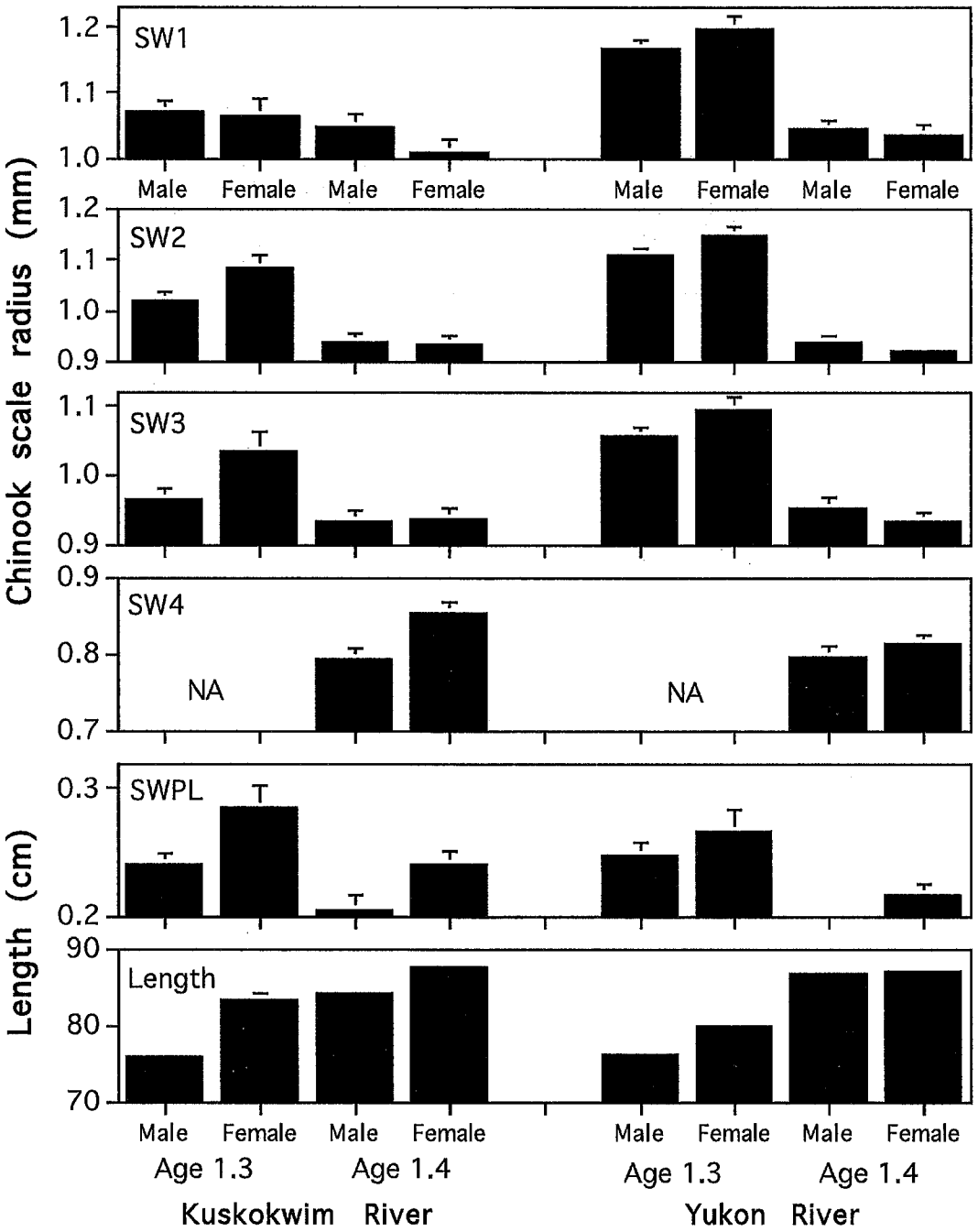

Fig. 19. Scale radius measurements of age-1.3 and age-1.4 male and female Kuskokwim and Yukon Chinook salmon during each year at sea and adult length, 1964-2004. Values are mean ± 95% CI. Sample size of each mean exceeds 320 fish.

RC 33

January 15, 2010

My name is Fred Beans, I was born and raised in Mountain Village, of the Wade Hampton District. I am in OPPOSITION of the following proposals;

Proposal 88 There isn't enough set net sites to handle all the fisherman along the Lower Yukon, primarily the main stem of the Yukon, especially with the windows, presently established.

Proposal 89 My personal experience of the use of a depth finder, indicates that the fish are way out of any ones reach, between the depths of 40 to 75 feet! My fellow fisherman and I fish in shallow waters, ranging from 15 to 25 feet deep. So, by decreasing the depths of our nets will not make any difference, and it will hurt our way we fish for a living.

Proposal 90 If we were to use smaller mesh gear, larger fish will die and fall off, especially during the King Salmon runs. Not only that the bigger fish will fall off, we will be wasting an abundence of smaller fish, due to the high numbers caught.

Proposal 91 This proposal will NOT help us, who live on the Lower Yukon River, which is considered the **POOREST region of Alaska!**

Proposal 92 This will not help the people of my region, because we will already have our King salmon for the winter, any more taking, will be wanton waste, which is a no-no to the Board of Fish, and ADF&G.

Proposal 93 Two words-WANTON WASTE! Another no-no.

Proposal 94 Will not work, due to the conflicts it will create between Commercial and Subsistence fishing.

Proposal 95 The market value of the fish flesh, is at it's peak, here on the cash strapped Lower River, whereas, value drops as they progress up the river. We target the WHOLE fish.

Proposal 96 Bright, whole, commercially caught chums, helps put dollars into the pockets of the poor people that only know fishing on the Lower River.

Proposal 97 The reduction of quota will NOT help my people, of the Lower River, due to the high cost of living, lack of jobs, decline in fur prices, and no other means of support to the Families, other than assistance from the Federal and State Government.

In conclusion, we, the People of the Lower Yukon, should not be dictated, by others of Alaska.

RC 34

My name is Malora Hunt, I am a lifelong subsistence and commercial fisherman from Emmonak. I learned to process salmon when I was eight years old. I come from a family of four children. In my family everyone was expected to do their part in the traditional way of preserving salmon. Also we had to share in the work of my Dad and bothers commercial fishing activities.

Today I appreciate everything that I have learned in making a living in the salmon industry. Salmon is our main diet, so important to our livelihood and way of life. I take special care of my catches. I make sure that I have top quality fish either for commercial or personal use. Since my childhood I have witnessed the leaders of our community teaching against over harvesting of our resources and being mindful to the law of nature.

Proposal 90 will have negative impact on the summer chum. This proposal will lead to over harvesting.

Most of these proposals will force the people of the Lower Yukon to change their way of life and they are not accustomed to change nor are they prepared to make these changes. I would like to serve on this committee. Thank you for taking time to listen.

RC 35

Hello, my name is Joseph Strongheart, Sr. I am from Nunam Iqua. I oppose Proposal 88 which would prohibit drift gillnet gear for both subsistence & commercial fishing.

Drift gill netting has become our traditional way of fishing now a days. When I drift for fish, I have a better chance of seeing and counting the amount and type of fish I get.

This way I have a great chance to make better use of my time and save money.

As we have heard many times, the Wade Hampton area is one of the poorest regions in Alaska. Not only is the price of gas high, but freight and fishing gear are very expensive. There are a lot of families that use the gear size for subsistence and also for commercial use. There is a small window for commercial use. There is a small window of time to dry our fish and preserve them. Drift netting helps allow us to do that in this time frame.

Drifting for fish has a bad reputation for people who do not depend on this type of fishing to survive.

My kids and other people's kids on the Lower Yukon, grew up fishing and drifting for fish. This is tradition.

In my region, around Nunam Iqua and Black River, the tide & wind direction is king and master. We are unable to set net even if there is an opening for subsistence when goes out. Some of the area turns into mud flats when the tide goes out. Set net at these times, we get nothing or just dirt and mud. Therefore, we drift net to get our fish.

Taking away drifting will make our region even poorer.

We know our area – that is why we driftnet, to save gas and preserve our fish in a timely manner.

Since we are regulated on when to fish and how long to fish, we have learned and adapted to drifting as another way of our traditional lifestyle.

Over 90% are local natives that would be affected and a large percentage of these people depending on fishing to make up for lack of jobs.

RC 36

My name is Glenda Agayar, from Alakanuk.

For many generations, women and men, in our culture have been working together to gather chums and kings for our winter food supply. We convince our dads, brothers, and uncles to drift for chums and kings when the first runs of fish come. We like to cut chums and kings by a hundred or more fish from the first run, caught by drift fishing all at once, depending on the family size. In my family we cut, hang, dry, smoke, and store fish for eight families so we usually catch about 450 fish total for our winter supply. We make dry-fish, strips, kippered fish, salt fish, half-dried and half-smoked fish and freeze fresh chums and kings.

We would like to continue cutting, drying, smoking, and storing our fish all at once from the first run of fish that come into the Y1 District. I've been cutting fish since I was about 10 years old and since then we would cut fish before the summer season started, before the sun reaches its highest peak and the flies begin their pooping stage, all that ruins our fish we cut and hang to dry.

As a subsistence user, I do not like the idea of only set net fishing this coming year for subsistence fishing as well as for commercial fishing. Like I've been saying I want to get my winter fish supply all at once. I did not like it when we weren't allowed to cut fish when the first run of fish came last year, we had to deal with the flies poop and the sun's heat when we were cutting, hanging and storing the fish. Now when we open dry-fish, strips and kippered fish to eat they taste funny from being sun burnt and having flies poop on them.

I feel I am paying for someone else's mistake with our subsistence and commercial fishing days and hours being cut short and having to use restricted mesh size nets year after year for Y1 District area. Days, hours and restricted mesh size already ruined our subsistence and commercial fishing. Now they are trying to take away drift net fishing when most subsistence and commercial fisherman drift for their fish. We also rely on the commercial fishing income to survive and live day by day. The commercial fishing season brings a seasonal job and income to a lot of people, young and old who don't fish commercially. State of Board Fisheries need to find their mistakes and fix them. I no longer want to pay the price for someone's mistake for Y1 subsistence and commercial fishing. It has already cost a lot of people hardship throughout the years.

RC 37

Mr. Chairmen and members of the Board, my name is Stanislaus Sheppard, I represent the Lower Yukon Advisory committee and I am speaking for the chairmen, Ted Hamilton, who cannot be here. I was born and raised in Mountain Village. I sit on the Lower Yukon AC and I depend on subsistence way of life.

At the October 7th & 8th meeting in Marshall, 2009, the Lower Yukon AC met and discussed these proposals. Other than the AC members, a lot local people from the surrounding villages attended too.

They emphasized their concern about subsistence and it being restricted. Compared to many years back, our elders never heard of our subsistence being restricted because of the abundance of salmon that came into the river.

Now, because restrictions and windows the majority of the people that depend on subsistence caught salmon are having very little choice but to apply for energy assistance, food stamps and welfare.

Elders are seeing a dramatic change to the subsistence way of life and that it seems to be barely hanging on.

I encourage the Board to read all the testimony given at the AC meetings. It is very important to understand how we live and how these proposals affect our life.

RC 38

My name is Dominic Hunt, originally from Kotlik, Alaska. I am a subsistence and commercial fisherman from the Lower Yukon Delta. I have been fishing with my late father and three of my brothers since the early 1970's. After I got married I moved to the village of Emmonak. My family and I still subsistence fish and participate in commercial fishing whenever there is a commercial opening.

I am in opposition to Proposal 83 because I do not sell my subsistence-caught fish.

I am in opposition to Proposal 84 because there should be further studies on new and added fisheries. Additionally, there could be implications that could affect existing runs of different species not targeted.

I am in opposition to Proposal 85 because I have concerns regarding the non- traditional expansion of the subsistence fishery on Chinook salmon.

I am in opposition to Proposal 86 because how would ADF&G be able to monitor subsistence nets and what penalties would apply if the proposed rules are adopted, such as those who are caught not tying up their nets?

I am in opposition to Proposals 88, 89, and 90 ADF& G argues that "there appears to be no biological basis for prohibiting use of drift gillnet gear for all fisheries year round". There are a limited number of set net sites on the Yukon and it won't help the families that depend on a primary staple diet of subsistence caught salmon. The ratio of permit holders and village populations on the Lower Yukon River does not justify reallocating the fish to other areas with smaller populations.

I am in opposition to Proposal 91 because you need to be actually on the fishing grounds and be in contact with other fishermen and the test fishers to assess the strength of that particular season's run.

I am in opposition to Proposals 92 and 93 because commercially caught salmon are caught for personal income. This income is used to pay for gasoline and supplies to further our subsistence hunting and gathering activities. Subsistence openings should be monitored by ADF&G and be adequate to provide for subsistence needs.

I am in opposition to Proposal 93 because when we catch Chinook during the Summer Chum directed fishery, they are still very bright in color and still highly valued in the market. This provides us an opportunity to make a little bit of income or most often, break-even.

I am in opposition to Proposal 94 because ADF&G needs the flexibility during the season since the runs are not down to a science or they are not predictable because of many outside variables and unknowns.

I am in opposition to Proposals 95, 96, and 97 because of these proposals a misallocation and would result in losses of family income that depend on salmon for their livelihood.

I am in opposition to Proposal 99 because the Andreafsky River stocks should not be singly targeted. It would be healthier for the fishery as a whole not to concentrate on a specific tributary that a species of salmon spawn.

Thank you.

RC 39

My name is Margie Walker and I am a lifelong resident of Grayling, Alaska. I am a subsistence fisherwoman in District 4-A. I want to speak in opposition to Proposal 90 that would prohibit the subsistence and commercial gillnets larger than 6-inch mesh.

If this proposal is adopted, our fishermen will have to shell out money to buy new nets – money that our people don't have. This adds more to our hardship. There are no jobs in Grayling and no money to buy new nets.

We depend on the subsistence fishery for our livelihood. This proposal prohibits the opportunity to go out and catch fish for the long, winter months.

Thank you.

My name is Angela Dementieff and I am a lifelong resident of Holy Cross, Alaska and District Y-3 subsistence fisherwoman. I have been involved with fisheries for over 55 years. I am here to speak in opposition to Proposal 88 that would prohibit gillnet gear for subsistence and commercial fishing throughout the Yukon area.

The majority of residents in Holy Cross drift nets because there are few set net sites that have been held within families for many generations. In order to keep our traditional subsistence alive, we began a program ten years ago at our school that taught our children in grades K-12 how to drift nets for fish, and cut, dry, and smoke them. Each age group is designated with a "job" – from the high school students who go out with our elders to drift the nets and young ladies who cut the fish, to the young kindergarteners brining the fish and gathering wood to smoke the fish. Once the fish is dried and smoked, the children package the fish and give them out to our community elders. The pride and accomplishment is these kids' faces are priceless when they share the fish with the community.

This proposal is detrimental to the fabric of our community – it will rob our children and our future children's children the opportunity to live and pass on our traditional way of life.

Thank you.

RC 41

2

AK Board of Fish Meeting
Fairbanks, Alaska
Jan. 25-31, 2010

My name is Max Agayar from Alakanuk, Alaska which is in the Wade Hampton District, and I've been fishing on the Yukon Delta, both for subsistence and commercially since I can remember with my late Father, Joseph and my older brother, Richard and now passing **our fishing history with gill nets** to my children. The commercial fishing and our subsistence actives are intertwined. For the record I would like to say that when we subsist, we, my family and my extended family take only what we need and we are done until the fall salmon enter the river. **(Chinook- we only put away about 50 or so for the four families and summer chums: around 250 fish)**

For some of the proposals set before the board of fish, it's like deja-vu all over again. It seem like just not too long ago I sat on this chair, well maybe not this chair, giving a similar testimony against a couple of the proposals set before the board of fish.

Proposal # 88: prohibit drift gillnet gear for subsistence & commercial fishing.

- As I said earlier that I live in the Wade Hampton District which from the 2000 census states: The census area's per-capita income makes Wade Hampton District one of the poorest places in the United States. and all of the proposals will cost money for both the subsistence users and commercial fishermen
- It's going to be expensive to change out our gear to start set net and this affects the subsistence users and the commercial fishermen, for example:
    - Gill net drifter's use two fifty fathom nets and two buoys-that's about $3600.00 of gear. one to drift and the extra just in case the one we are using gets trashed from the snags on the bottom of the river.
    - Set netters can use up to one hundred fifty fathoms of net and 6 to 12 buoys, 6 to 12 anchors and about and about 600 to 1000 feet of rope- so about $6500.00 of gear

- The last several seasons haven't been all that great and most of the fishers will be in a bind with cash to purchase the needed gear for the change out if it passes.
- The younger generation fishermen would have to learn how to set nets; they only have been drifting their entire fishing career,
- We just do not set a net any old place on the river because of the swift currents, we need to look for eddies so that the gill net will not hang too tight and there is not enough eddies in our area for all the fishers to set nets. All are used by fishers that been fishing them for years.
    - This is for both the subsistence user and the commercial fishermen
- We have a history of drifting with gill nets on the lower river for both subsistence and commercial fishing.
- This proposal will put a big dent in our way of fishing for our subsistence fish which we need to sustain our every day nutrition through out the winter months. Because we intertwine our commercial fishing with our subsistence actives through out the whole year.

Proposals # 89 and 90: are similar restrict and prohibit for both subsistence and commercial fishers of their gear 6" and 35 messes.

- Oppose these two proposals

Proposals # 91, 92 and 93

- Oppose these proposals also

Proposals # 94

In the lower river, as families we harvest only what we need for our families and we are done until the fall fish came in. we do not fish seven days a week

Proposal # 95, 96 & 97

- On the lower Yukon, Y1, 2 & 3 there are about 700 commercial permit holders, 7028 people living in 1602 households living in 19,667 square mile area-(2000 census), upper Yukon fish wheel permit holder

141, and upper Yukon gill net permit holders, 6551 people living in 147,843 square mile area. -(2000 census)

- Fish gets water marked or blushed as they go further up the river, quality of flesh goes down and roe gets bigger

Lastly , I would like to quote a phrase that I heard some where, it goes something like this; **"When you are in Idaho you would expect to eat potatoes, when you are in Boston, you expect to eat lobster, so while you are in Alaska you would expect to eat seafood"** and **when you the Mighty Yukon River you would expect to eat wild king salmon, wild summer chum salmon, wild fall chum salmon and wild Coho, all with the great omega 3 to give you a healthy life.** For the residents that fish on the Lower Yukon River, we need to fish the way we best know how, and that is using our gill nets, **drifting** both for subsistence and commercially as the fish wheel fishermen do up the Yukon River.

RC 42

January 24, 2010

To: State of Alaska Board of Fish

Re: Proposals 73 & 75

Dear Board of Fish:

For the record I am a board member of Norton Sound Economic Development but am speaking as a resident and subsistence fisherman from Brevig Mission where the Port Clarence fishery is located.

Proposal 73 – this proposal would allow for a change in the opening day of the Port Clarence commercial sockeye fishery from June 30 to June 15. This is not a reasonable proposal because during breakup, the ice in front of Port Clarence and Grantley Harbor does not go out into the Bering Sea until the end of June. Secondly, the residents of Brevig have been opposed to this fishery before it opened to fishing commercially. Thirdly, since the (3) years since the opening of this red salmon fishery, it has closed two weeks early in 2008 and closed to commercial fishing in 2009 for the entire season. Both due to poor salmon runs.

Based on these facts, Brevig Mission residents are asking for a closure to this fishery.

Currently, Norton Sound Economic Development Corporation is assisting the four most northerly villages which includes Brevig Mission, Teller, Wales and Diomede in looking into a halibut, crab, and bait fishery instead of a salmon fishery. This is what Brevig residents would feel most comfortable with because they would not conflict with our precious salmon which we subsist on.

Proposal 75 – this proposal would allow drift net fishing in the Port Clarence area. As with proposal 73, Brevig Mission is also against this proposal for the reasons provided above.

I thank you for the opportunity in opposing these proposals and to seek the other opportunities listed above.

Sincerely,

Reggie K. Barr

RC 43

Simeon Harpak, Sr.
Mountain Village, Ak. 99632

My name is Simeon Harpak, Sr. from Mountain Village.
Since I cannot speech, write or understand English, my testimony was translated and written down by James C. Landlord.
He does not want the Native way of life to end, he wants it to continue. For hundreds of years, our Native people have depended on the fish to eat.
Just in case the mouth of the Yukon River is closed down because of these proposals, it will create a hardship for our people and how we eat. He said as our elders have said, we should not fight over our fish. He is very leery about these proposals to make it more restrictive for our people to fish. He said again that we should not fight over the fish because we depend heavily on the fish we eat.
He said he grew up eating fish; he is very worried about these proposals trying to cut down on our fishing to eat. If the Fish & Game has any questions for him, he will be glad to answer your questions and he is asking for us to help him.

RC 44

James C. Landlord, PO Box 32168, Mountain Village, Ak. 99632

As the other Lower Yukon representatives here giving testimony to the proposals from the Upper Yukon, as they, I cannot support these proposals. These proposals are harsh and painful to absorb and to make any sense. These proposals are going to create more hardships that we are already experiencing from every aspect of our lives including home fuel, gas, & high cost of groceries. All of us teach our children how to fish, how to cut fish and how to put them away. This culture is passed down generation to generation, we should not teach our children to fight over fish. Our elders have taught us this, both up and down the river.

These proposals have a lot of downgrading and restrictions for down river for us to fish effectively for us to eat. There was a report given by a Fish & Game person in one of the summits that I attended. This person said that fish wheels catches a lot of fish. And here at Fairbanks in another meeting, I saw a very large fish wheel in a DVD. There was a man there checking the fish wheel for fish. The three buckets revolving were probably two and half times deep compared to the man there. The bucket was also wide, compared to the man there; it was probably one and three-quarters times as the man. Up river people have a very large fish wheel and smaller version fish wheel.

My dad who passed away in 1971 used to say that large king salmon like to swim close to the beach or banks of the river, within 20-50 ft. He said they like to swim where they was least resistance to the current because the Yukon River has strong current. My dad couldn't speak or understand English. He was 100% fisherman, trapper and a hunter, so he understood how to live out of the land all seasons. Why am I telling you this? I think the fish wheel fisher people are just as responsible for catching the large Chinook kings; it is not the Lower Yukon fishermen alone. I assume that the fish wheels are not regulated, so research has never been done. It may not be late to do a research on the fish wheels. The Lower Yukon fisheries have been blamed for a very long time by up river and we have become heavily regulated because of these proposals from up river.

Proposal 88 wants us to fish utilizing eddies, it hard to find eddies. After 88 is proposing to knock off drift gillnets, 89 is trying to cut the depths of our nets and 90 is trying to cut the mesh. How are we supposing to fish when they have fish wheels that can catch a lot of fish any size. In 91, all of upriver after Russian Mission should also be capped at 3,000 in fish wheels, drift and set nets. In 92, I just mentioned I attended a meeting at Fairbanks, fishing & customary trades were being discussed. There was a non-Native there who stated he was told by someone that in one summer, he made about $35,000 utilizing customary trade. 93 want the Lower Yukon fishers to throw back the kings into the Yukon even if they're dead. Try and think about that proposal, does it make any logic? On 94, this proposal wasn't well thought out, how can subsistence users and commercial fishing can be done at the same time period. 95, 96 & 97 no reallocation, customary trade in middle and upper Yukon districts already exceeds subsistence catch fishing in District 1 & 2. Last year Fish & Game printed out a statistics of all the communities up & down the river how much Chinooks each community caught. For example, Fort Yukon has a estimated population of 350 and caught over 5,000 Chinooks. While Mtn. Village has a population of around 1,000 and we caught around 2,500 Chinooks. There were other examples like this in that sheet. They just want more fish, overall. We take only what we want for the winter, Chinooks or chums.

RC 45

My name is Norbert Beans, and I live in St. Mary's. I am the President of the Algaaciq Tribal Council in St. Marys. I thank the chairman and the Board to take time to listen to me.

You can tell by the amount of people that came up from the Lower Yukon that spent thousands and thousands of dollars to attend this meeting because we realize how important this meeting is to the future of the Lower Yukon.

If the proposals 88 - 97 are passed, it will put a very big impact on our way of life. The Board of Fish will be receiving a resolution from the Algaacig Tribal Government opposing proposals 88-97. This resolution will also be in support of the testimonies that were given by the Lower Yukon delegates.

The amount of time we spent fishing theses past years put a big financial burden on the families who are now coming to the tribal office asking for assistance for social services. If these proposals were to pass the amount of families needing assistance not only from the Tribal Government, but the US Government will double and maybe triple for heating fuel, electricity bills and food stamps.

On behalf of the Algaacig Government, we would like to exend an invitation to have your next meeting in St.Mary's so you can see and hear first hand, from the people, that we're unable to attend and testify at this meeting.

Quyana!

RC 46

My name is Emmanuel Keyes. I am a lifelong resident and subsistence and commercial fisherman from Kotlik, Alaska. I am speaking in opposition to Proposals 95, 96, and 97. These proposals simply reallocate salmon harvests, shifting our major fishery from lower to upper river fishermen and fishery infrastructure.

If these proposals are adopted, the consequences would cause further negative economic impacts to an already economically distressed region in the State of Alaska and Nation. The sparse income from commercial fishing would hamper our ability to participate in subsistence activities.

Proposal s 95, 96, & 97:

- Specifically, the Department must be neutral on these proposal s because they are allocative.
- These proposals would severely reduce the value of District 1 and 2 salmon fisheries, resulting in lost income for all fishermen in those districts.

Proposal 95 reduces allocation of King salmon in Districts 1 and 2 by 50% and transferring it to upriver Districts 3-6. It also prohibits the use of drift nets in District 3.

Proposal 96 reduces allocation of summer chum salmon in Districts 1 and 2 by 30% and transferring it to upriver Districts 3-6.

Proposal 97 reduces allocation of fall chum salmon in Districts 1, 2, and 3 by 60% and transferring it to upriver Districts 4-6.

The income we earn from commercial fishing helps pay for our heating fuel, gasoline, groceries, and fishing supplies. Our traditional commercial fishery is so intertwined with our livelihood. These proposals would forever disrupt our subsistence way of life and our traditions.

Thank you.

RC47

Appendix A25.–Selected environmental and salmon catch information, Yukon River drainage, 1961–2004.

Year	Average Nome April Air Temp. (°F)	Tanana River Nenana Ice Breakup	Iceout Yukon Delta Area	First Chinook Caught Yukon Delta Area [a]	First Summer Chum Caught Delta Area [a]	First District 1 Commercial period
1961	18	5/05	- [b]	6/05	- [b]	6/05
1962	18	5/12	6/10	6/07 [c]	- [b]	6/11
1963	18	5/05	5/29	- [b]	- [b]	6/03
1964	13	5/20	>6/12	- [b]	- [b]	6/15
1965	20	5/07	6/01	6/06	- [b]	6/07
1966	15	5/08	6/06	6/09	- [b]	6/10
1967	23	5/04	- [b]	5/20	5/30	6/02
1968	14	5/08	- [b]	- [b]	6/05	6/03
1969	22	4/28	5/25	5/26	6/02	6/02
1970	15	5/04	late May	6/06	6/05	6/06
1971	13	5/08	6/05	6/11	6/15	6/11
1972	12	5/10	6/03	6/09	6/11	6/09
1973	18	5/04	6/01	5/30 [d]	6/05	6/05
1974	21	5/06	late May	5/27	6/01	6/03
1975	13	5/10	6/01	6/01	6/13	6/09
1976	10	5/02	6/01	6/12	6/13	6/14
1977	9	5/06	6/01	6/09	6/11	6/11
1978	25	4/30	5/20	5/26	5/26	6/08
1979	26	4/30	5/20	5/24	5/28	6/04
1980	24	4/29	5/19	5/27 [f]	5/31	6/09
1981	24	4/30	5/18	5/25	5/28	6/05
1982	12	5/10	6/02	6/06	6/06	6/14
1983	25	4/29	5/21	5/25	5/30	6/09
1984	12	5/09	6/01	6/02 [g]	6/08	6/18
1985	1	5/11	6/05	6/14	6/16	6/24
1986	12	5/08	6/01	6/06	6/07	6/14 [h]
1987	19	5/05	5/31	5/31	6/04	6/15
1988	23	4/27	5/20	5/27	5/27	6/09 [h]
1989	25	5/01	5/31	5/29 [k]	6/03	6/13 [h]
1990	26	4/24	5/28	5/29	5/31	6/14
1991	25	5/01	5/24	5/29	5/29	6/13
1992	22 [j]	5/14	5/30 [m]	6/13	6/13	6/20
1993	28	4/23	5/19	5/26	5/28	6/14
1994	20	4/29	5/22	5/24	5/28	6/13
1995	26	4/26	5/18	5/24	5/26	6/12
1996	21	5/05	5/19	5/24	5/24	6/10
1997	27 [n]	4/30	5/15	5/22	5/25	6/11
1998	26	4/20	5/22	5/28	5/25	6/15
1999	17	4/29 [o]	5/29	6/06	6/13	6/22
2000	21	5/01	5/29	6/03	6/05	6/24
2001	22	5/08	6/05	6/07	6/09	N/A
2002	20	5/07	5/24	5/31	5/30	6/20
2003	26	4/29	5/17	5/22	5/30	6/16
2004	29	4/24	5/08	5/18	5/27	6/17

[a] Subsistence or test fishery.
[b] Information not available.
[c] Caught 6/09 Mt. Village, back calculated arrival date to mouth.
[d] Caught 6/03 Pilot Station, back calculated arrival date to mouth.
[f] Caught 5/23 Marshall, back calculated arrival date to mouth.
[g] Caught 6/05 Pitkas Point, back calculated arrival date to mouth.
[h] Special 6-inch maximum mesh size fishing period.
[j] Caught 6/01 St. Marys, back calculated arrival date to mouth.
[k] Average May air temperature was 8.2 degrees Fahrenheit below normal.
[m] The mainstem Yukon River was ice free, but ice remained along the coast until June 10.
[n] Average April air temperature was 9 degrees Fahrenheit above normal.
[o] The Nenana Ice Classic tripod moved on 4/29, but the ice did not move out for several more days.

RC 48

Appendix A22.–Percentage composition of combined commercial and subsistence salmon harvest by species, Yukon River drainage, 1982–2004.[a]

Species	Year	Sample Size	Age In Years (Percent of Total) 3	4	5	6	7	8	Total [b]
Chinook Salmon	1982	3,795	0.2	6.8	18.5	58.3	15.9	0.3	100.0
	1983	3,801	0.0	6.6	21.0	62.9	9.4	0.0	100.0
	1984	3,700	0.0	3.7	27.0	56.0	13.1	0.1	100.0
	1985	4,567	0.1	5.7	13.2	69.4	11.3	0.3	100.0
	1986	5,785	0.3	3.9	27.2	42.8	25.1	0.6	100.0
	1987	5,300	0.0	4.2	8.4	72.5	14.5	0.3	100.0
	1988	5,108	0.1	14.8	22.8	31.5	29.4	1.4	100.0
	1989	3,901	0.5	7.2	30.3	51.1	10.2	0.6	99.9
	1990	3,416	0.0	17.2	26.9	49.4	6.3	0.2	100.0
	1991	3,879	0.0	5.8	45.1	42.6	6.4	0.1	100.0
	1992	3,772	0.1	8.1	20.1	68.6	3.1	0.0	100.0
	1993	4,034	0.2	15.8	25.4	50.5	8.0	0.0	100.0
	1994	3,692	0.3	4.1	47.2	44.5	3.8	0.0	99.9
	1995	5,559	0.0	7.8	13.7	74.7	3.6	0.2	100.0
	1996	5,861	0.0	2.4	44.0	35.6	17.9	0.2	100.1
	1997	5,134	0.0	7.5	17.8	70.5	4.2	0.1	100.1
	1998	3,122	0.7	5.2	55.1	31.4	7.6	0.0	100.0
	1999	4,285	0.1	3.8	17.7	76.7	1.7	0.0	100.0
	2000	1,201	0.0	1.0	29.9	60.5	8.6	0.0	100.0
	2001 [d]	1,182	0.1	9.0	27.2	57.6	6.1	0.0	100.0
	2002	3,580	0.0	8.2	27.0	53.9	10.9	0.0	100.0
	2003	3,850	0.1	3.4	32.3	56.5	7.7	0.0	100.0
	2004	6,556	0.0	9.9	23.3	63.1	3.6	0.0	100.0
5-Year Average (1999-2003)		2,820	0.1	5.1	26.8	61.0	7.0	0.0	100.0
Summer Chum Salmon	1982	3,419	5.3	0.0	88.6	6.1	0.0		100.0
	1983	4,110	1.0	53.8	44.4	0.8	0.0		100.0
	1984	2,722	2.0	73.7	23.9	0.5	0.0		100.0
	1985	2,472	1.4	68.6	29.2	0.8	0.0		100.0
	1986	3,473	0.1	29.1	69.8	1.0	0.0		100.0
	1987	2,184	0.4	60.8	31.8	6.9	0.0		100.0
	1988	5,112	0.0	70.1	29.1	0.8	0.0		100.0
	1989	3,778	0.4	38.7	60.5	0.4	0.0		100.0
	1990	3,155	0.4	38.3	58.9	2.4	0.0		100.0
	1991	5,015	1.3	48.0	49.8	0.9	0.0		100.0
	1992	4,303	0.2	31.0	65.0	3.8	0.0		100.0
	1993	2,011	0.4	47.5	47.7	4.5	0.0		100.1
	1994	3,820	0.1	51.3	46.6	2.0	0.0		100.0
	1995	4,740	0.6	51.9	45.3	2.1	0.0		99.9
	1996	3,863	0.4	46.2	48.8	4.5	0.1		100.0
	1997	3,195	0.2	29.0	67.2	3.6	0.0		100.0
	1998	1,147	0.3	62.8	34.2	2.7	0.0		100.0
	1999	1,627	0.2	40.7	58.2	0.9	0.0		100.0
	2000	442	0.0	44.2	53.4	2.4	0.0		100.0
	2001 [d]	586	0.0	15.4	81.9	2.7	0.0		100.0
	2002	1,103	0.1	52.9	44.4	2.6	0.0		100.0
	2003	1,144	0.3	55.4	39.2	5.1	0.0		100.0
	2004	2,742	1.3	37.2	60.4	1.0	0.1		100.0
5-Year Average (1999-2003)		980	0.1	41.7	55.4	2.7	0.0		100.0

-continued-

RC 49

Hello, my name is Ellen Keyes and I live at the mouth of the Yukon River in Emmonak. I am a commercial permit holder and subsistence fisherwoman.

My family has been doing the traditional subsistence way of life that has been passed down from generation to generation.

We ask that you keep this traditional way of life so that we can pass this onto the future generations and give hope for our people.

I oppose Proposal 89 because it allocates fish from downriver districts to upper river districts. Subsistence and commercial fishermen would be required to spend more time and effort to harvest salmon – this means more gasoline at $7-$8 per gallon and other expenses that already stretches our measly incomes, if any.

Thank you.

RC 50

Good morning – my name is Humphrey Keyes and I reside in Emmonak, Alaska, seven miles from the Bering Sea. I am a commercial permit holder and so is my wife Ellen. As a family of six, we rely on subsistence. The entire family works together from getting the fish with the net to washing, cutting, and hanging and getting the wood for the smokehouse. My two boys, ages 16 and 14, get the wood and my daughters, ages 21 and 17 help their mother to head, gut, and make the strips and dried fish. This fish feeds our family over the next 9-10 months. This is the mainstay of our traditional way of life.

Our commercial and subsistence way of life is so closely intertwined that they cannot be separated. We need the cash earned from what limited commercial opportunities to get by – paying for our electricity bill, heating fuel, and food. It is a tradition we cannot afford to lose.

RC 51

Francis Thompson
P.O. Box 111
St. Mary's, Alaska 99658
amaar_culi@yahoo.com

January 27, 2010

Board of Fisheries
ADF&G
P.O. Box 25526
Juneau, Alaska 99802

Mr. Chairman, Honorable Board of Fisheries Members:

My name is Francis Thompson, I am a subsistence and commercial fisherman from the Lower Yukon river community of St. Mary's located in the Andreafski River. I also serve as a Panel Member on the U.S/Canada Yukon River Panel since 2001 to present and was an Advisory Member from 1996 to 2000.

My wife Michelle and I have 4 children and 6 grand children and two daughters in laws. (14) At this time I would like to disclose that in 2009 summer salmon season my family and I caught 47 kings and 160 summer chum and 10 fall chum for our amount needed for subsistence. These we shared with my elderly parents and I am proud that my father John Thompson is here with us today. We also shared with Michelle's parents and a community member (Elder Mary Mike) who is 93 years young. We also brought dried fish during funerary and community potlucks.
We caught our first king salmon on June 6 and quit fishing on June 8; this was two days before ADF&G test fishers caught their first king salmon.
This letter is in reference to Yukon Area Proposals to the Board of Fisheries, 2010

I: **SUPPORT:** proposal 81, 82, 87, 98, 194, 199
OPPOSE: Proposals: 83, 86, **88, 89, 90, 91, 92**, 93, **94, 95, 96, 97**, 99,193,
NEUTRAL: Proposals: 84, 85

I have been wondering why the proponents of these proposals keep submitting them and have read the October 13 and 14, 2009 Eastern Interior RAC minutes located at http://alaska.fws.gov In the Regional Advisory Councils tab to try to understand them. Past minutes can be read on these issues back to 2001.
The 9 proposals that are opposed if adopted will dramatically and negatively alter our ability to catch salmon for subsistence, our ability to commercially sell what we catch, basically destroying the Lower Yukon Fishery. Please vote no on these proposals.
The Board of Fisheries in 2001 implemented fisheries management strategies for ADF&G to implement because the Chinook salmon was classified as a Yield Concern. Since the revised Policy for the Management of Sustainable Salmon Fisheries, the departments recommended action plan has improved Chinook salmon escapements in Alaska and met Treaty obligations 5 out of 7 times..
I would also like to mention that the U.S/Canada Panel agreement was signed in 2001 after 16 years of hard negotiations by both countries. Since the agreement, both countries have worked very hard to rebuild the Yukon River Chinook salmon stocks and both the Department of Fisheries and Oceans - Canada and ADF&G has managed the fisheries very

conservatively in providing above and beyond the recommended BEG and SEG's salmon into salmon tributaries in both countries in most of the years since inception of the treaty.

Other Areas of Concern:
Bering Sea Pollock Industry – 120,000 Chinook, 700,000 chums as bycatch in 2008 – The BOF need to voice the concern of bycatch to the NPFMC and work with them to rebuild the salmon stocks returning to Alaskan waters namely the AYK Region.
Alaska Peninsula - Area M fishery 1.6 million chum harvested in 2009
In 2001 the BOF removed restriction on chum caps and next week you will address their proposals to return to a un restricted intercept fishery. Recommend returning to pre 2001 management strategies to help us rebuild the fall chum stocks, we were almost there. We had poor returns last year after having three good years of returns and an opportunity to commercial fish on the fall chum.
Customary Trade for Cash:
The upper river districts harvest of Chinook Salmon has increase since 2003 and we believe this occurred after the Federal Subsistence Board adopted a regulation allowing for up to 25% of your subsistence catch for cash sale. There are many good folks on the river that need the salmon for subsistence but there are a few that are misusing subsistence for personal financial gain and it is these people that we need to find ways to control. Strippers do not utilize the whole salmon because the bones, head and tails take to much room in the smoke house, how much is discarded about half the salmon. What does this mean in fish numbers possibly about 5-10,000 fish. Therefore we need to request to the FSB to suspend the ruling to allow customary trade for cash for Chinook salmon.

WINDOWS: Although, many of the fishermen/women in the Lower Yukon oppose the present windows schedule we are supporting and request that the present system continue with no change. The present windows schedule was a new idea that all the fishers had to adjust to because many had to harvest much of their amount needed for subsistence within the window openings. Families had to work 24 hours until all their fish were cut. Before the windows fishers caught what they could cut in a day, spreading out the subsistence harvest and on good drying days which in the lower river is in early June.
We believe that the present windows allow for fish to pass the lower river district as you will see in the reports on the Pilot Station Sonar Project numbers.

GEAR RESTRICTIONS:
At the present time the commercial fishermen/women are restricted to 45 mesh of unrestricted mesh size and 50 mesh for 6 inch or less. This was a self imposed restriction by the lower Yukon commercial fishermen in 1996 adopted by the BOF. Before, it was 60 meshes deep that was allowed. Currently, subsistence users on the lower river and both commercial and subsistence users on the upper districts are allowed 60 mesh for unrestricted gear and 70 mesh for 6 inch or less. **We are recommending that 45 mesh for unrestricted and 50 mesh for restricted gear be adopted by the BOF for the whole Yukon river subsistence and commercial gillnet fishermen, by adopting this, everyone will be on the same gear restriction.**
There are about 160 commercial fish wheel operators in districts 4, 5 and 6, unknown amount of subsistence fish wheel operators and 61 Commercial Gillnet fishermen. It is these users that also need to share in the burden of conservation if the BOF is considering gear restrictions for the Lower River gillnet users. We believe if fish size is an issue and you take any large salmon by any method that you are part of the problem.

If smaller gear is used we will have a high drop off rate trying to harvest a quota that will be established on the preseason projection. If a projection of 0-45,000 is given we will need to kill maybe 50-60,000 fish just to achieve the commercial quota.
The Canadian fishery use the same kind of gear we use and they are a selective fishery targeting females for the roe

Other Restriction:
Another restriction that was self imposed on the Lower Yukon was closing the mouth of the Andreaski River for commercial fishing which is one of the tributaries to the Yukon River. We believe that the mouth of the Andreafski River is a resting place for the Chinook Salmon as they migrate up the river and the commercial fisherman fishing at the mouth were over harvesting the Andreafski bound Chinooks and catching a lot of Chinooks that were milling. Since the closures we have had great escapements numbers documented for the East and North forks of Andreafski River.
Proposal 99: Oppose -not one of the Fairbanks AC Members came to St. Mary's to talk about establishing a terminal fishery in the Andreafski.

Reallocation Proposals 95, 96, 97 These proposals were before the BOF in 2001 but were removed by the proposer because as a BOF member he had a conflict of interest and would gain financially as a processor. Here they are again before you, please vote no on these proposals. Of the 861 commercial fishers the majority of the commercial fisherman are from the lower Yukon (678 permit holders) of which is said that 95% are natively owned and I am proud to be one of them. The market for the Yukon Salmon is best from the lower river because of the freshness and color, presently efforts to market this prized resource is slowly starting to rebound and will improve if we have the resource to provide a global market. We need to be mindful that we the Lower Yukon Fisherman have and will advocate for the best management strategies of the salmon because it is in our best interest to do so Escapement first, subsistence then a commercial fishery if projected numbers allow for a commercial harvest.

In conclusion, the recommendation is to:

1. Continue to Implement the 2001 revised Policy for the Management of Sustainable Salmon Fisheries remain status quo and give this time to work.
2. **OPPOSE: Proposals** : 83, 86, **88,89, 90, 91, 92**, 93, **94, 95, 96, 97**, 99,193, **SUPPORT:** proposal 81, 82, 87, 98, 194, 199
3. **ADDRESS the issue of bycatch for both the Chinook Salmon and Chums in the Pollock Industry**
4. **Request to the Federal Subsistence Board to suspend the Customary Trade for cash determination until such time Chinook salmon stocks are rebuilt**
5. **Address the Interception of fall chum in the Area M Fishery**
6. **Allow for in season management by the Yukon River Managers and Biologists.**

Quyana

Francis Thompson

Proposal 94 – Require windows schedule during lower river commercial fishery

- Require fish and game to use windows on the Yukon River

Proposed by; Fairbanks AC

Recommendation: Oppose

"Another problem of restrictive subsistence fishing openings is wanton waste. Absentee management has never seen this as a problem. Current time constraints placed on subsistence fishing does not recognize traditional, environmental, or economic factors of harvest, preparation, and preservation practices that have sustained the people and communities of the Yukon River. Traditional subsistence users are more aware of favorable preparation practices of harvests, timing of harvest, and amount of harvest needed to meet their needs. One of the time honored practices of traditional harvesting of resources is "take what you need" as applied by unrestricted subsistence harvest opportunities. As it currently applies, restricted subsistence fishing openings suggest "take all you can" capitalizing on selective harvesting and ignores the condition of the salmon stock and without distributing escapement opportunities for all tributaries - not just in one fishery district but by all districts within the Yukon River drainage."

Pilot Station Proposal 2006

Proposal 98 – Open for commercial fishing on the lower Yukon River

- District Y1; between Black River and Chris Point

Proposed by; Kwikpak

The only proposal from the Lower Yukon River for 2009

Recommendation: Support

Proposal 99 – Open Andreafsky River to commercial fishing

Proposed by; Fairbanks AC

Fact: The Andreafsky River is a national wild and scenic river created by Congress in 1968 (P.L. 90-542). Any commercial fishing activities on this river would impede intentions of P.L. 90-542 including preservation and protection of all resources on this river.

Recommendation: Neutral

"Every tribe trusts our subsistence way of life and that of every neighboring tribal member's that share our common resource. The existing traditional ties between neighboring communities assure us that this will not be an absentee responsibility in management. We respect this as a sovereign integrity of the role of our tribal members and the trust responsibility of use of our resources that we share.

We cannot accomplish this if we are restricted in what we can do."

Pilot Station Proposal 2006

RC 52

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BOF Proposals 2009 Recommendations

Pilot Station Traditional Council
P.O. Box 5119
Pilot Station, AK 99650

Mission Statement

Support our community with our strengths and values

Vision Statement

Respect the customs of our way of life, enrich the self-determination of our culture, and empower our community with our traditions.

"We do not approve the current use of emergency powers of the commissioner as a management tool for subsistence when subsistence harvests is said to be recognized as a priority by the State of Alaska. Emergency powers should be given to the commissioner with responsibilities to identify and address a problem and take corrective action. Emergency orders should not be necessary to supersede the status quo as it should apply. That is not power. That is the lack of trust responsibility with emergency powers used only to avoid civil disobedience in fear of the people - regardless of the condition of the resource.

In the current regulations, subsistence harvesting is not legal unless emergency orders are given from the commissioner. If no emergency order is given, than subsistence salmon fishing is a violation of these regulations and all users that harvest salmon to feed their families are guilty.

Regardless, if the commissioner does not give an emergency order to open subsistence fishing, subsistence fishermen will harvest salmon to feed their families and ignore the commissioner and recognize the state with no responsible powers for the welfare and wellbeing of our resource and of our harvest needs. Powers of resource management should recognize and respect civil responsibility of and to our resources. The current powers of the commissioner should not be used just to avoid civil disobedience of all subsistence harvesters, but rather acknowledge the powers recognizing the existence of a trust relationship and the role of the state in accepting management responsibilities and stewardship of the resources for all users. If there is ever a case of civil disobedience over subsistence harvests as applied by the current regulations, there is absolutely nothing that the state can do to restrict subsistence harvests by any tribal members to feed their families, but rather this will ratify the position that the state has no management responsibilities of all subsistence resources."

Pilot Station Proposal 2006

Proposal 88 – Prohibit drift gillnet fishing for subsistence and commercial fishing

- No more drifting for subsistence or commercial fishing on the Yukon River.

Recommendation: Oppose

Proposal 89 – Restrict subsistence and commercial nets 6 inch mesh to 35 meshes deep

- No more 45 meshes for 6 inch nets on the Yukon River

Recommendation: Oppose

Proposal 90 – No commercial or subsistence nets larger than 6 inch

- No more nets larger than 6 inch on the Yukon River

Recommendation: Oppose

Proposal 92 – Prohibit sale of kings

- No more commercial sale of kings in the Yukon River

Recommendation: Oppose

Proposal 93 – Prohibit retention of kings during chum openings; district Y1 to Y5

- Y1 to Y5; throw away all kings during commercial fishing
- Y6; can sell or keep their kings

Proposed by; Jude Henzler

Recommendation: Oppose

Recap of 2009 Salmon Fisheries

State of Alaska issued Emergency regulation: illegal for fish buyers to buy Yukon River kings from districts Y1 to Y5

- **Regulations did not apply to Canada or Y6**
- **Created the same situation with the incidental catch of kings in the Bering Sea Pollock fisheries – no salmon restrictions until 2011**

Subsistence fishermen from Marshal harvest king salmon to meet their needs.

Proposal 87 – Review Yukon River King Salmon Management Plan

- King Salmon Management Plan is a tool used by fish and game

Proposed by; Alaska Dept. of Fish & Game

ON [illegible]e Planning Issues

"The State of Alaska is responsible for Pilot Station and for rural Alaska communities. Services provided varies between all communities in a state that is diverse – not only in culture, but geographically. Pilot Station residents have always depended on subsistence hunting and fishing as a way of life. The State have always viewed subsistence and rural Alaska's way of life as secondary to the State constitution and urban communities. The State has never created and promoted any sustainable economic development opportunities based on the strengths or cultures of the communities, as Pilot Station, instead have recognized the weaknesses of Alaska natives in general to promote their own special interests. For example, the importance of subsistence activities is our social and cultural way of life, and all hunting and fishing management decisions are created by State of Alaska boards and board members - members who may be prejudices of Alaska natives and use their social inequities to their own advantage for all management decisions. A recent Board of Game member implied that natives absent in a recent meeting were off drinking beer, instead of providing their own subsistence concerns to the board. Alcohol has always been a problem in native communities.

The fact that the state constitution applies to all rural communities and to all Alaskans, should be a central argument regarding all social and economic programs, development opportunities, and delivery of all state services. In our community, we have always accepted our subsistence way of life not as an obligation or responsibility, but as a trust of our culture and neighboring communities and cultures that share our resource. It is time that we take into consideration that perhaps the state constitution does not apply to our rural community members who will never impose hardships on others that share our same resources. Subsistence is central to who we are, and there are no local existing economies that can change or supplement this part of our life. Since 1959 statehood, Alaska has always been a huge state, and if the size of the state is a factor in the delivery of these services - especially to the remote villages, cessation from the state should be a central issue of discussion for responsibility of all services – native and non-native."

Pilot Station Community Development Plan
2006, Pilot Station Traditional Council

Question: Does the Alaska State Constitution apply to federally recognized tribes of Alaska and the tribal members they represent?

Size an[illegible]ctivity

"...So to me it would be extremely interesting to compare like the Andreafsky River weir to the Tozitna River weir that -- you know, that -- and for the people that don't really understand what I'm talking about, what I'm comparing is the size of the king salmon and how many females there are and the ages of them, compare them to see it how it changed when the Lower Yukon didn't get to fish seven days a..."

Virgil Umphenour Oct 13, 2009
Eastern Interior RAC Meeting

Fact; Commercial fishermen are happy when they are catching fish, and lots of fish, large or small. Fishing on the Yukon River is unlike any river in Alaska.

Question: Like the depth of fish wheels, what if smaller net depths made commercial fisherman better at catching fish – and more fish? Would you be happy?

Rational: Have you ever notice any trends with salmon catches and Chitna dip netters – along the banks of the Copper River? Do you think that smaller dip net size would help the size of the kings?

Yukon River Windows harvesting

"...Madam Chair, Mr. Bassich. As you're well aware the regulations do provide for additional time for subsistence in the upper river, normally it would be seven days a week. And in the lower river it would be two, 36 hour, you know, periods per week..."

Russ Holder Oct 13, 2009
Eastern Interior RAC Meeting

Fact: Windows harvesting encourage wanton waste.

Rational: Traditional Alaska Natives are aware of favorable preparation and harvest timing in relation to weather and other subsistence needs through out the year. Windows harvest dictates timing and whether families are ready or not – amount and surplus.

Question: How much is too much and how much is not enough?

Pg 2/2

Yukon River Subsistence – What is and What is not?

Pilot Station Traditional Council
P.O. Box 5119
Pilot Station, AK 99650

"I am a subsistence hunter and fisher and also a commercial fisherman on the Lower Yukon District 1 whenever the Department of Fish and Game open our commercial fishing. When they don't, then we just subsist. We try to mix our commercial and subsistence because both of them are one. We can't subsist if we don't earn a little money, then we're stuck with what we're going to be doing.

A long time ago it wasn't like this. The subsistence hunter or fisherman a long time ago didn't have laws except the Yup'ik laws, which we always had. The Yup'ik laws are different from Department of Fish and Game laws. They take care of the land, they take care of the game, they take care of the fish and nobody overfishes. That's how I was raised and I'm trying to do the same thing for the Yup'ik people, but I get bumped into Department of Fish and Game laws and then that's it."

John Hanson - Oct 14, 2004,
Yukon-Kuskokwim Delta RAC Meeting

Yuk ver Salmon Fecundity

"...But anyway so that was a big issue in 1981 and we're facing the same issue on the Yukon River 26 years later and they, in this study in 1981 they referred to analysis they did for 1969 through 1979 on the Yukon River. That's a long time ago. We're just doing the same thing over again, there's no need to do the same thing over again...

...But the Staff covered all kinds of information in the Staff report to us and their conclusion was that this could reverse the problem that we have. No one knows whether it will reverse it or not..."

Virgil Umphenour Oct 7, 2007
Eastern Interior RAC Meeting

Fact: The State of Alaska, Department of Fish and Game has no information of genetic and stock timing in district Y1 and Y2, the points of entry of every Yukon River salmon.

Rational: If this was so, ADF&G would be able to answer - What percentage of kings caught and sold in last weeks Y1 salmon commercial opening were bound for the Chena River, Andreafsky, or Canada?

Traditional Harvest Management

"The animals were first introduced into Alaska from Siberia from 1891 to 1902 by Dr. Sheldon Jackson. The United States General Agent in Alaska. The original purpose of importation was to augment the dwindling source of native food supply consisting of game and fish, which had been seriously depleted by the whites."

Cohen, Felix S. 1941
Handbook of Federal Indian Law

Fact: There is no existing proof that traditional harvest management by Alaska Natives have ever lead to the decline or endangered any subsistence resources.

Rational: In my fish camp, if my fish drying racks are full of what I need, I have no reason to go and fish when the State issues an Emergency Regulation that requires subsistence fishermen to go and fish.

Question: Alaska Native Traditional management was based on need. Does the State recognize this as an acceptable management responsibility?

Changi sh Size

"...Jeff Bromergen did a study where he analyzed over 90,000 king salmon getting caught in the test fishery at the Pilot Station Sonar, which is outside of the village of Pilot Station. And so what his conclusions were was that seven and a half inch mesh, that's gillnets, the square mesh on the gillnet, you stretch it and measure how far across, anyway that seven and a half mesh gillnets were the best gillnets to use if you wanted to pass more of the female king salmon up the river and more of the six and seven year old king salmon. That it caught very few seven year old king salmon. Whereas the eight inch and larger gillnets, which most of them used in the lower river are eight and a half inch mesh, where those nets let very few of these large king salmon get past..."

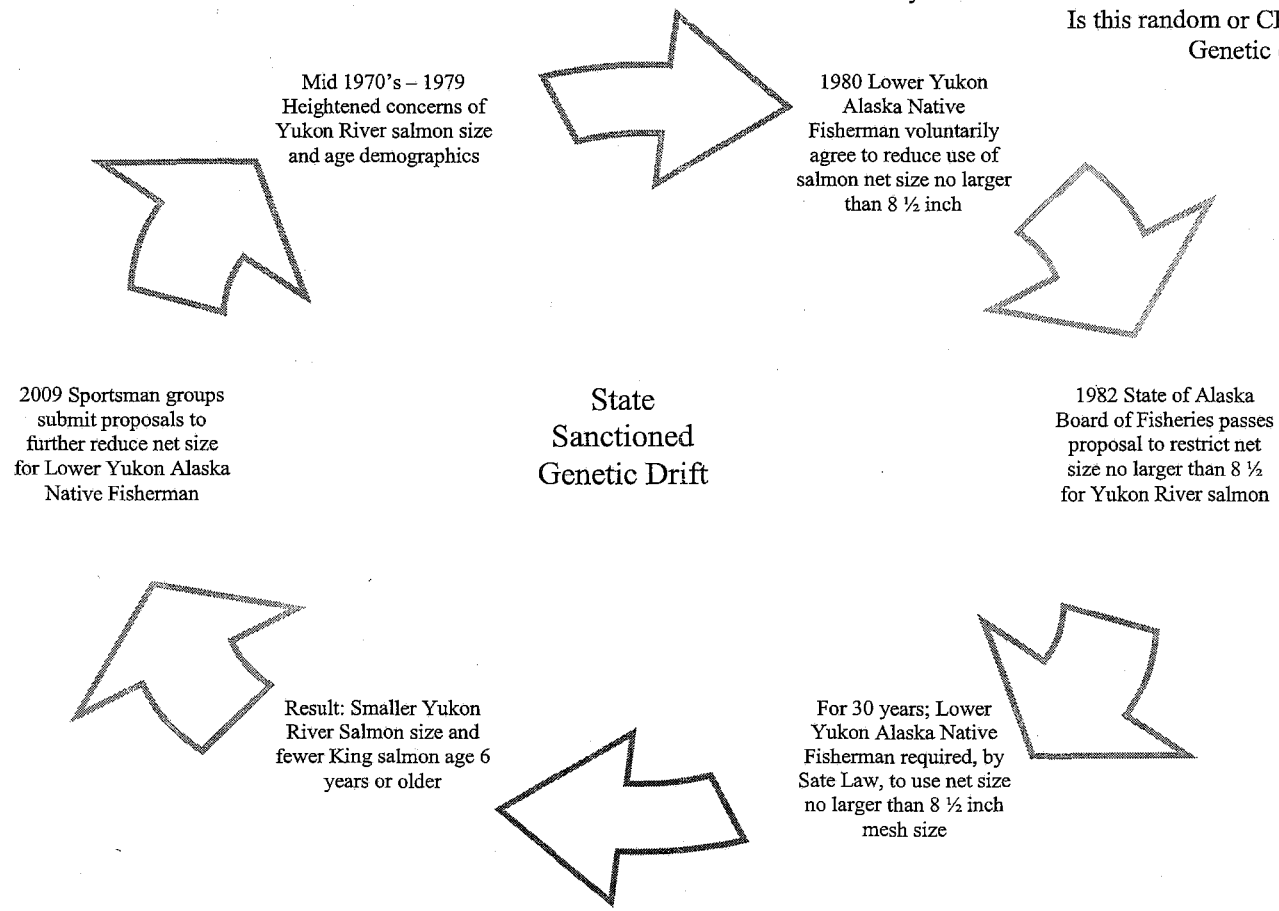
Virgil Umphenour March 20, 2007
Eastern Interior RAC Meeting

Comment: Good study – wrong ted conclusions, unfortunately, Dr. Jeff Br n, like many biologists, have never lived on the Yukon River.

Fact: The State of Alaska does not manage traditional subsistence resources for genetic diversity. At the beck of respectable Sportsman, the State attempts and manage all wild resources for dominant genetic stock, regardless of the consequences to the population. Alaska Native Fishermen in Pilot Station still have 9 and 9 1/2 inch mesh nets that were used before 1980 – still waiting for the sanctions to lift and to be used to harvest Yukon River salmon.

Question: Why are some fishermen better at catching fish than others?

Rational: If we let all fishermen use the same exact gear, would they all catch more fish... or more variety?
Is this random or CPUE?
Genetic drift?



RC 53

Martin Alexie
Mountain Village, Alaska
99632

Please use this as a RC or as a testimony as a complaint which opposes all the information listed below.

Proposal #88 – Oppose
Because I and many villagers have used the drift gillnet gear for years, I have been subsistence and commercial fishing the past 30 years. This proposal will affect our people's lifestyle, please listen to Mountain Villagers.

Proposal #89 - Oppose
This will affect the fishermen in my area because 35 mesh would be too shallow to harvest king, summer chum, fall chum, or Coho salmon. Many of us do not use that shallow of the mesh size in our area.

Proposal #90 -Oppose
I am 40 years old and of all the years we have harvested fish, we do not waste heads, meat, bones, or the fins, they are fully consumed during subsistence or commercial.

Proposal #91 - Oppose
The establishment of quota has always been known to be reported incorrect through the Pilot Station Sonar, Department of Fish and game should except responsibility for the economic fishing disaster.

Proposal #92 – Oppose
Many fishermen oppose prohibiting them the sale of King salmon during summer chum because they are not fishing illegally. More then half Alaskan Natives I know depend on their annual income during these summer chum salmon fishing, some do not have degrees or high school diplomas.

Proposal #93 - Oppose
or way to make a living.

Proposal #94 –Oppose
Many fishermen depend on their designated area to commercial fish and fish for subsistence, I have bee fishing the same area for over thirty years without changing the area, # 94, this will make many fishermen angry.

Proposal #95 – Oppose
Reducing the king salmon harvest by more then half will cause an economic disaster causing fishermen to focus on the legislature, year after year.

Proposal #96 – Oppose
This will greatly affect districts district Y1, Y2, and Y3 because there are more fishermen in this area where they have I believe salmon has the highest quality in the world.

Proposal #97 – Oppose
The activity of the percentages must not change because it's like putting a river-dam in the Lower Yukon Area.

RC 54

As we all have heard from many people before me, the Yup'ik people of the lower Yukon have depended on fish so far back in time that no one can talk about who the first fisherman was.

But what I remember hearing growing up in the delta is how central the fish was and is to the Yup'ik people. Fish is sustenance for my people; so much so as to hearing my mother on many occasions say that if she doesn't eat fish, she'd die. It's not a physical death but a spiritual demise for those of us, like her, who depend on salmon as a critical element of our daily diet.

Raven, as a legend goes, found water that was hidden from people, stole it by filling his mouth with all the water he can carry and flew westward. He left a trail of water which we call the Yukon River today. When he reached the "end of the earth," he still had a lot of water in his mouth so he shook it out furiously which became ponds, lakes, and sloughs at the mouth of this big river. Every body of water was filled with every kind of fish: *imarpinrat*, *cuukviit*, *imangat*, *manignat*, *ciiret*, to name a very few—yet the most important staple of all of these was salmon. The preparation, harvest, curing, and storing took the whole family to last them through the harsh winter months. The whole summer was focused on curing the salmon with care since too much wind, sun or rain could damage the whole crop. This age-old tradition is still practiced today by my people, they too, knowing that salmon truly provides nourishment for the body.

Salmon for us is not just a commodity; it is not just our livelihood. It is our life.

RC 55

PUBLIC TESTIMONY

MICHAEL SLOAN, FISHERIES BIOLOGIST
KAWERAK, INC. (NORTON SOUND & BERING STRAIT REGION)

Kawerak has submitted a written comment letter that you should have in your binder. Kawerak supports Proposals 68, 69, 71, 72, 74, 77, 78 and 79. We oppose Proposals 73, 75, 76 and 80. Kawerak supports Proposal #69 which expands hook & line as legal subsistence gear in much of Norton Sound, as this would eliminate the requirement for subsistence users to obtain a sport fishing license to use this gear.

Kawerak requests that the Board consider implementing weir escapement goals for salmon stocks in the Pilgrim River and also consider listing stocks of chum, sockeye and Chinook as stocks of concern due to low returns. The weir has been in place since 2002, and counts for all salmon species were the lowest since it began operation. We would also like to see better oversight of the Salmon Lake fertilization program, so that we can better understand how effective this program is.

Users in the Nome Subdistrict have faced the harshest subsistence restrictions in the state, and our chum salmon runs are still as depressed as they were when disaster was declared here 10 years ago. Our ADF&G managers have no real management options left, and they are left counting declining salmon runs and imposing restrictions on subsistence users. This is what they have done since the chum disaster was declared. We need more fish in our rivers and streams, and counting them and imposing restrictions does nothing to address this. We need restoration and enhancement options for the Nome Subdistrict, and we need the Board of Fish to help our region while we still have a few fish left. Our ADF&G management has stated that they have no plan to restore or enhance our diminished runs, and their focus appears to be focused on commercial fisheries while our subsistence users

The Board should not allow commercial fisheries that impact our chum runs to operate without conservation restrictions on incidental chum bycatch. Allowing other regions to harvest Norton Sound chum salmon while we have subsistence restrictions is in direct opposition to subsistence priority, and forces our subsistence users to bear an even greater burden.

Thank you for considering our comments.

RC 56

My name is Benjamin Kamkoff and I am a Kotlik, Alaska subsistence and commercial fisherman.

Summer and Fall chum salmon follow the King salmon going up the Yukon River. If the King salmon disappear so will the Summer and Fall salmon.

Proposal 89, which would use 6 inch mesh, will cause an increase in drop-off rates for King salmon when summer and fall salmon are being targeted during subsistence and commercial openings. I respectfully request that using larger than 6 inch mesh be used for Districts 1-3.

We suffered a great deal in the summer of 2009, both in subsistence and commercial fishing. There were no directed Chinook commercial openings and even our subsistence for Kings was restricted severely. During our directed summer and fall salmon, we could not retrieve the incidentally caught King salmon. This hurt the fishermen and fisherwomen because we were not able to earn the income from commercial sale of these salmon. This resulted in a loss of income used to pay for our supplies and gasoline. Make all fish wheels limited to half of its current size or stop all fish wheels.

Thank you.

RC 57

Written testimony of Sven Paukan for Alaska Board of Fish meeting, held in Fairbanks, AK on January 26 – 31, 2010.

I am writing to submit my written testimony for the fisheries meeting as I am unable to present my testimony in person.

I am writing to oppose a number of proposals, including 83, 88, 89, 90, 91, 93, 95-97 and 99. All these proposals were submitted by upper Yukon advisory committees or individuals. Many are the same proposals which have been submitted to both the state and federal fisheries boards in the past and all have failed, such as proposals 88, 89 and 90.

Proposal **83** is just plain wrong – to have subsistence fishermen pay for a piece of paper that allows them to put food on their table and feed their families is wrong. The federal subsistence calendars which are sent out every year are adequate to provide the subsistence fish numbers. I believe more active enforcement of current subsistence regulations would be a better way to handle this issue.

Proposal **91** proposes a cap of 3,000 Chinook on incidental harvest during commercial chum openings, and a closure of further commercial openings when the cap is reached. This proposal does not address the fact that there is no way for fishermen to know what species of fish they are catching. Additionally, the Chinook runs have not been following historical precedence and managers can not know when and where the Chinook runs will occur.

Proposals **92 & 93** are essentially the same. Historically, any Chinook caught during directed chum commercial openings have been allowed to be sold to fish buyers. On the lower Yukon subsistence fishermen are usually finished with their subsistence activities by July when the chum commercial openings are occurring, so many fisherman do not need additional fish for subsistence.

Proposals **95, 96 and 97** all seek a reallocation of fish from the lower river fishery to the upper river fishery. There is no proof that upper river subsistence fishermen are not meeting their needs because of allocation issues. The recent poor returns have affected all users, a reallocation will not correct what is happening now.

Proposal 99 would open the Andreafsky River to commercial fishing. I think this proposal made by Virgil Umpenhour and the Fairbanks AC is made just to create divisiveness between upper and lower river fishermen. There is no scientific reason for opening this river other than to create a perceived solution to a problem that is not directly tied to this river. I believe Mr. Umpenhor and the Fairbanks AC feels that trying to provoke lower river fishermen will further their misguided goals of trying to pass any of their proposals which have all failed in the past.

I thank you for your time in allowing me to submit my testimony.

RC 58

My name is Mary Keyes from Kotlik, Alaska and I am a subsistence and commercial fisherman for 40+ years.

I oppose Proposal 91. If this proposal passes it will greatly affect our way of life and for generations to come. We rely on the use of salmon. Not being able to sell incidently harvested King salmon does not make sense especially when there is a large King run. You want to make sure that every fish is harvested is properly used, and not wasted.

Commercial and subsistence fishing is very important to me because it is our way of life, our way of survival. In the past, my family and I have been able to supplement our income with commercial fishing. Today we are faced with many challenges in a way of meeting our basic needs. I cannot rely on the government to provide for myself and family because with salmon alone we can survive the hardships as we always have most of my life.

We grew up with salmon and are teaching our younger generations the importance of subsistence. The limitations on subsistence and commercial fishing will have a negative impact on the people of the Yukon Delta. Social problems will be on the rise and children's basic needs will not be met.

Thank you.

RC59

Hello, my name is Kenneth Lee and I am a subsistence and commercial fisherman on the Lower Yukon from the village of Alakanuk.

m opposed to Proposals 95, 96, & 97. The reallocation of commercial harvests of summer and fall salmon from Districts 1-2 would cause a disastrous and catastrophic impact to all commercial fishermen in this area, both economically and personally.

We tie the commercial fisheries to our subsistence way of life. Everything revolves around salmon, and it is vital to our existence.

From a financial perspective, each family would not be able to buy food, clothing, and heating fuel without income earned from commercial fishing. Can you imagine a parent faced with the difficult decision of whether to buy food to keep his or her children from going hungry or buying heating fuel to keep them warm? The sad fact is that this has already happened with the fishing disasters that faced our Lower Yukon villages in the years 2008 and 2009.

From a subsistence perspective, without the income earned from commercial fishing, families will not be able to buy the boats, motors, gear, and gasoline to sustain their subsistence way of life, culture, and traditions.

This is what is happening in the Lower Yukon – everyone is dealing with this crisis of "high gasoline prices, heating fuel, and food prices". These conditions are what a struggling fisherman and their families must face each day. This is reality.

closing, for the sanctity and the welfare of the 700+ or more commercial fishermen that depend on the salmon for their livelihood, I adamantly oppose Proposals 95, 96, and 97.

Thank you.

RC 60

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January 27, 2010

Alaska Board of Fisheries
Princess Hotel
Fairbanks, AK 99581

Testimony Before the Board of Fisheries/Yukon Subsistence-Commercial Fisheries

Chairman & Board:

My name is Nicholas C. Tucker, Sr., 64, from Emmonak. I am subsistence/commercial fisherman. I represent my fellow fishers, relatives and friends on the Lower Yukon.

I oppose:

Proposal 88: That will prohibit use of drift gillnet for subsistence and commercial fishing.

Proposal 89: That will restrict depth of subsistence and commercial 6-inch mesh to 35 meshes

Proposal 90: That will prohibit subsistence and commercial gillnets over 6-inch mesh size

Proposal 91: That will limit commercial king harvest during chum salmon-directed fisheries

Proposal 92: That prohibits sale of king salmon during non-king salmon directed fisheries

Proposal 93: That will prohibit retention of king salmon during chum salmon-directed main stem fisheries

Proposal 94: Which will require windows schedule during lower river commercial fishery.

Proposals 95, 96, & 97 which reallocate commercial harvests of kings, summer and fall chums.

I support:

Proposal 99: To open commercial fishery between Black River and Chris Poiint.

Please see **RC**____ that includes my **comments** for Review of the Federal Subsistence Program, **Comments** to this Board, my **writing** on The First Table, and my **Letter** of January 9, 2009 which made national and world news.

RC 61

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January 9, 2009

Fuel Summit Participants
Emmonak, AK 99581

RE: Fuel Crisis Devastating Families & Households

Ladies and Gentlemen:

From several years ago, our heating fuel and gasoline costs have doubled in Emmonak. Current retail prices are $7.83 per gallon for heating fuel and $7.25 per gallon for gasoline, including the city sales tax. Our village has run out of heating fuel and the first airlift shipment has arrived at the airport. As early as today, the retail for our winter shipments is expected to be anywhere from $9 - $11 per gallon or higher.

Last summer, we experienced a king salmon fisheries disaster. We did not have any king salmon commercial openings. We had a chum salmon commercial harvest which is nothing compared to the king fishery. Chum harvest traditionally covered our king salmon fishing start-up costs, most of the purchase of new equipment, repair and maintenance, supplies, and operating expenses. Our commercial fishermen did not make any money. Our income from this meager, small-scale commercial harvest is basic to and vital to our seasonal subsistence fishing and hunting, berry picking, plant gathering, motor oil and gas, supplies, equipment, and cash for repairs of our outboard motors and our snowmachines used for winter wood gathering. This income pays for our many household bills.

Last fall, we weren't delivered our usual fall fuel orders due to early freeze up. Following this, we got hit by a rare weather anomaly: It has been very, very cold since last part of September. This cold snap still persists as of this day. Households have tell me that there is more snow covering the driftwood out in the tundra and the coastlines, making it difficult finding the logs for firewood. A lot more gasoline and motor oil is being used in search of the driftwood. This winter-long, extreme cold snap is causing the furnaces and boilers to run constantly and to their maximum.

My family of ten, with a household of six adults and four minors, is one of the causalities of our current high costs of heating fuel and gasoline that are devastating families and households here in Emmonak of 847 residents. I am 63 and my wife is 54. For the first time, beginning December 2008, I am forced to decide buying between heating fuel or groceries. I had been forced to dig into our January income to stay warm during December. Again, for this month, same thing happens. I am taking away my February income this month to survive. Couple of weeks ago, our 8-year old son had to go to bed hungry. My wife and I provide for our family with disability, Veterans' benefits, social security, and unemployment incomes. We are several months behind on our city water and sewer bills. We had originally used up all our $1,200 energy subsidy to prepay electricity for the winter and other bills in hope of surviving for this winter due to these high fuel costs. We

didn't anticipate the early freeze-up that prevented our native corporation getting its winter supplies of fuel. We didn't anticipate an unexpected winter-long bitter cold. I don't recall anything having occurred as cold as it has been and its length that we have to endure. The following are the costs of heating fuel and a 100-lb bottle of propane between December 12, 2008 and yesterday, a period of 29 days:

December 12, 2008, Stove oil, 55 gals:	$ 440.54
December 14, 2008, 100# propane:	173.04
December 31, 2008, Stove oil, 55 gals:	440.54
January 9, 2009, Stove oil, 59 gallons:	471.85
Total:	$1,525.97

On December 29, 2008, we had to get 16.1 gallons of stove oil delivered at the cost of $136.03 before we ran out. Luckily, we were awarded $135.59 energy assistance from our Association of Village Councils Presidents during the 3rd week of December 2008. It would have cost us that much more to heat our home. Then, ironically, yesterday, due to a leak, we were forced to buy another 100-pound bottle of propane – an additional, unexpected expenditure of $173.04 to the above. With 21 days left this month, we have just $440 in our account to feed all the nine people in my house (one daughter is in Fairbanks temporarily).

Our family situation dawned on me: "what about my neighbors?" Just two days ago, I made a VHF radio announcement asking families to call me about what is really going on in their households due to the high costs of fuel. Within few hours, 21 households responded and several more yesterday. Many may have had their radios turned off, not at home, or just cannot afford one.

Here is what they related:

P. & K. A.: Middle aged couple, family of five. They are forced to buy heating fuel over food.

M. & M. G.: Middle aged, family of six: No wood at all; hard time buying stove oil.

L. M.: Young single parent, mother of one. On her last energy assistance, 10.2 gallons left, Dad in Anchorage for medical check up; his snowmachine and a 4-wheeler are frozen.

E. & A. U.: Elders, ages 68 and 65, family of eight and helping daughter in another house with food; gets no food stamps and both have no work. They have to buy heating fuel and gasoline for snowmachine over food.

A. & L. M.. Middle aged couple, family of eight. Family is buying heating fuel over food all this winter. They have no choice. Wife has a part time job. Husband's health, including a bad back, is preventing work – had lost his last job due to health.

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M. & M. A (Sr): Elderly couple, 80 and 75. Four adults live in the household. He is forced to buy heating fuel over food. He gets some help with energy assistance. It is very cold this winter and cannot go without heat. It is hard to get wood. Heating fuel used to be less than the price of gasoline. These days, it is higher. His daughter helps with groceries, water/sewer and electricity bills.

G. & K. F.: Young couple with family of five. Wife is unable to sleep and stressed out not knowing when they will be able get their next heating fuel. A 100-lb. bottle of propane gas that usually lasts four months is now lasting only two months because they use it to heat water. This costs them $200 every two weeks. They do not have hot water heater. Wife has very little income and uses $375, the one-half of her gross income every two weeks, to get heating fuel. She has no food for her family sometimes, because, she has to split the rest of what little is left for water/sewer and electricity. Gasoline for her 4-wheeler is very expensive. Her parents help her with food and firewood. They cannot afford a snowmachine or a boat to get logs. Heating fuel and propane is taking her food money away. Her added worry is that the village native corporation is running out of heating fuel and is being airlifted in. New cost is expected to be near $9 - $11 per gallon or higher.

R. & M. W: Near middle aged couple, family of 5. Husband not working, use wood for heating and a monitor at night. At times, have to decide between getting heating fuel or food. Their food stamps and other public assistance applications have been denied citing over income. Wife knows the customers are being refused charges at the local tank farm. The company is hurt having to say no to customers with over-limit balances and it gets very difficult at times.

J. & M. B: Young couple, family of 9. They used to have energy assistance. They have run out of heating fuel many times. Most of the time, they are getting their heating fuel at $28 - $30 at a time. This comes to less than five gallons at a time. They use their woodstove during the day and the monitor at night. Although they had gotten more subsistence food to fill their freezer, they are already running out of moose. They do have lots of fish on hand, but on other stables, they barely have enough most of the time – barely enough to eat. They want get more their groceries from the store, but can't. Most of the time they would have just rice and maybe spam – as long as their kids did not go to bed hungry(could sense choking over the phone from trying not to cry).

C. & L. R: Near middle aged couple, with six children. Another family moved in with them. They are having difficult time. They did had gotten some energy assistance. They are in need of pampers and formula milk. Sometimes, the entire household has one meat a day – at supper time. They are struggling to get heating fuel. They are behind in their electricity, water and sewer bills. The last time, they we able to get 17 gallons of heating fuel. (Could tell the wife was crying as she related these to me.)

Y. & A. K(Sr): Husband is 70 and wife. Three in the household. Husband is sick with Parkinson's disease. He gets dizzy. He is forced to quit his job. He is unable to get other work. He is real hurt that he cannot do what he had been able to do. At 68, he was still working. They are going through real hardship. He would not be getting some heating fuel and firewood if it were not for his boys.

They would be in very bad shape. They are having snowmachine problems. He counts on his boys to get firewood. He is unable to do that. Gasoline for the snowmachine is too high at $7.04 a gallon. He is exempt from city sales tax. He has no way to feed his family. His boys did set net under ice, but due to the very long cold snap, it is frozen to the ice. Sometimes they go hungry. He cries when he is alone – have to let it out. He does not feel old – his health is stopping him from providing for his family. He is not used to it. He is used to getting a paycheck every two weeks. The electricity and city water/sewer bills are higher – hopes they will not be cut off.

M. & P. Y: Husband is 58, family of four. Although he started work last August, most of the time, little at a time, he is getting heating fuel. He has a monitor stove. His energy assistance is depleted. His house is cold half of the time. He does not get food stamps. His Permanent Fund Dividend is all gone. His rent is $250 per month. He is struggling to make ends meet

G. & F. H: Near middle aged couple, family of six. The husband cried as he was talking to me. He says he is not doing good. He receives a very small unemployment income and is out of fuel a lot. He is able to get his heating fuel five gallons at a time. His family has been out of food for quite some time now. Their one-year old child is out of milk, can't get it and he has no idea when he will be able to get the next can. He has been borrowing milk from anyone he can. His moose meat supply is running out. He has been out of work since October 2008. There are no jobs available. Because of this very high cost of heating fuel, he is in this situation. The electricity has sky-rocketed and he can't pay all the bills. What little money he gets goes into food and it is getting very, very hard. He hopes to find food somewhere. He is mainly concerned about his one-year old child, his wife and thinks that his wife may be pregnant. They do have some pilot bread, There are days without food in his house. He is not concerned about himself, but about his wife and children. He calls other family members for a can of milk. Whatever little bit of meat they have left, they are trying to make it last. They have little bit of it at a time and out of that, eat as much they can so that they would not be too hungry during the night. They almost lost their child last year with RS. She is sickly. Their house is not well insulated. The five gallons of heating fuel they are able get last four days. They use their electric stove for heat. Without any work, it is very hard. It is hard for me to imagine what my family has to go further on with – my kids and my wife. This winter is hardest for us with high price of everything. My brother and his son, we give them some food, whatever little we have. We let them eat as long as I have something to share. Our freezers are going empty. Have to use heaters to help keep the house warm. Just to think about all this is very hard – it hurts.

P. R: Single, separated, with five children. (He chokes occasionally, holding back crying.) He and his children are staying in the same household with his brother's family. Cost of fuel is so high and everything else and we're able to get just a few things at a time. We have no other subsistence food left. Only thing we're surviving on moose meat alone and it is almost gone. Everything is so high – only able to get little bit. We can't catch up on our bills. We're really hurting even we are given some from other people. Right now, we can't eat during the day, only at supper time. And, it is still not enough. If there had been no school lunch, our kids would be starving. It is going to get worse in two weeks when our new heating fuel supply is airlifted in. Price of fuel will go way up again. I am lucky that the Women's Shelter is able to give me some coffee.

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M. M. & A.R: Middle aged, couple with a child, family of three. Don't know how they are going to survive. They are getting heating fuel five gallons at a time or $20 at a time. When the new supply of fuel is air shipped in, it is going to get even harder. We are improvising our woodstove. This is the hardest year – other years were okay. This is the worst year.

S.K & Girlfriend: Both young, 37 and 34. He says his mom has cried from these hardships they are going through (his mom is 73 and dad is 68). He and his girlfriend have no heating fuel. Whatever money he gets goes to getting gasoline for his snowmachine to get logs. They have barely any money left for food. Sometimes, he has to borrow little bit of money to get some food from his 73-year old mom. There are some days he and his girlfriend are without any food. Today, they had nothing for breakfast. Most of the time, they have some dry fish for lunch or Cup of Noodles with Pilot Bread. There are times they go without dinner or if they eat, they have little bit and that would set them up for the night. His electricity bill use to be $60 for the little house they're in and now it is over $100 a month. They're living without city water/sewer and use honey buckets and have to dump them. They pack water. They have no money for city water and sewer. Their snowmachine is finally out of commission. They had to keep using it to get whatever firewood they could even the bearings had been broken because they can't afford to do repair work on the machine. They were packing water with in that condition.

O. & A. M: Young couple, 34 and 37, five in the family. They are in need of heating fuel and food. They are buying so much heating fuel – burning so much. They are having hard time getting food. They have not paid for their city water/sewer since October 2008. They go without dinner sometimes. Their kids are able to have lunch – at school. They have no woodstove. Their house is very small and if they did get a woodstove, they wouldn't know where to put it.

T. & A. P: Middle aged couple, 47 and 41. Eight in the family. Very, very cold winter. Their 55-gallon heating fuel lasts only two weeks: this is about $441 every two weeks. They are able to burn wood, but the gas for the snowmachine is very expensive and the logs are very hard to find in this early snow. Logs are covered under the snow. The husband has to use more gasoline and motor oil in search of the logs for firewood. Rent and rent payments are okay. Husband has a part time work and some unemployment income. The family receives some food stamps but runs out around the third week of each month. Subsistence hunting is not easy because it takes time, having to use lot more gas at $7.25 a gallon. He and his wife can't even get hygiene stuff like toilet paper and bath soap to keep clean. His part time income isn't enough – he works only four hours a day. His wife is limited on what jobs she can get. She has a bad back problem – she use to have a job. Husband is doing what he can by himself.

As you can see, I had only a day and a half to gather and compile this information. I am reaching out for these families. Help is needed and cannot be delayed. I cannot imagine so many in this village are in hunger, without fuel, and other essentials and uncertain about their future. What is mind boggling about the whole situation is that they have remained silent, anonymous, suffered, and cried. The four villages in this region are in close proximity to each other and the demography is the same. Is this going on in your village?

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This is not the time for any debates or questions. The winter-long anomaly in the weather, conditions, and the situation are beyond our control.

There are approximately 200 households of the 847 residents here. In just a day and half, I was able to reach only 25 households. Are as many as 175 more remaining silent? In appearance, the heads of these 25 households look normal. I am devastated from the revelation of these few houses contacted. Additionally, how many of those who are able to work are without jobs? Easily, staggering 400 plus! Some other households are still calling, but I have few hours to print this report for my testimony during today's fuel summit.

Though it may sound absurd, a massive airlift of food in the months of January, February, March and April will help our people. Any peoples, churches, organizations, associations, and government agencies ought to sent money to our native corporations to offset both the current fuel prices and the airlift presently underway. For over thirty years, we have witnessed in our region that our native corporations are just like people. They have limited income and their expenses have always been high. Why? Our Wade Hampton district has always been the most economically depressed than that of our both nation and state. We are in the most remote area of our state.

To help, please call:

City of Emmonak, (907) 949-1227/1249
Emmonak Tribal Council, (907) 949-1720
Emmonak Corporation, (907) 949-1129/1315/1411
Emmonak Sacred Heart Catholic Church Pastoral Parish Council Chairman, (907) 949-1011.

To assist with offsetting heating fuel costs, call Emmonak Corporation.

For distribution of food, I would suggest Emmonak Tribal Council handle this.

Lastly, for some who do not know me, I have been advocate for this region the past thirty years in its commercial and subsistence fisheries, social issues, and socio-economic issues and our church. One of my credentials include having been an appointed by two governors as advisor to the Yukon River Salmon Treaty negotiations. The families contacted are reaching out in desperation through me and now, you.

Copy of this letter is available to anyone. We have work to do.

Sincerely,

Nicholas C. Tucker, Sr.

Cc: file

RC 62

The First Table

Thanksgiving Day - the First Day, the First Table: The Native chief and tribal families and the first guests sat, shared, talked and ate. They recognized each other, each other's worth, dignity, decency, the prospects of living and ruling together, and trusted one another's intelligence and wisdom. Apparently, they agreed on a set of rules or laws to live by. There is no account mentioned or written of them throwing knives and forks at each other. They returned to their homes to go about their own business, having accepted each other. Natives opened up their land and its rich resources to the new guests to share with. For all they knew, this was to be the way of life for the next two hundred years, sharing in every aspect of our American way of life, promoting each other, helping each other, taking care of each other, rebuilding where needed and restoring where necessary.

This was a grand, bold and brave move on each side. And, actually, it isn't too late. We have another two hundred years ahead of us.

As in the recent case with Mr. Eddie Barr, the Native spirit hasn't diminished a bit - two hundred years later. For all America to see, Mr. Barr extended out his hand for the next two hundred years.

The seeds for the present fruits of racial hate or racism were planted generation by generation, becoming plentiful and abundant.

We are all descendants of the People at the First Table. We should have a renewed hope for the next two hundred years. We're Americans.

We all talk about economy and how it can bring down our country. We are fearful of our national debt. But we fail to see just how serious racial hate, its crimes and practices are. It will drastically further burden our country, not strengthen it, and it will drastically build up our national debt. The solution(s) isn't going to be by our government. It is our hearts. The accountability is ours. We had a beginning, – The First Table - but we blew it. We've never returned to it.

Had we not been herded into reservations, had we been trusted, had our human decency and dignity been respected and honored, had we been allowed quality education, had we been accepted into the society, had we not been characterized, demeaned, stigmatized, alienated and put aside as less than intelligent, had we been allowed to leave our villages or reservations and allowed to fully live out our education, and had our qualifications been given a chance than rather than avoided or questioned and had we been given opportunities and free reign to advance, we would have averted big-time public assistance, welfare, public housing, hospitals, Bureau of Indian Affairs, public subsidies, and all other preventable headaches of our federal and state governments. We could have walked on equal basis, and instead as described, contributed big time, be taxpayers – and helped everyone advance.

Mr. Barr encouraged us Natives on by one extension of his hand to handshake. He reminds us of our worth in character, strength, stamina, ability to endure pain and suffering, boldness, spirit, generosity, kindness, compassion, sensitivity, and all other attributes, but above all, mercy and forgiveness. The Natives are at the Second Table, waiting for our fellow Americans to join us. We have no grudges. No revenge, ill-feelings or ill-will. We do not blame - just waiting.

Sadly, as it is, our Native communities need jumpstarts to get out of what we had been forced into. It will cost to rebuild and restore. The cost will be minimal compared to what it will be in the next 200 years if we do not return to the Table.

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RC 63

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January 3, 2010

Honorable Ken Salazar
Secretary of the U.S. Department of the Interior
Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Comments for Review of Federal Subsistence Program

Dear Honorable Ken Salazar:

I begin my comments with this: Since January 2009 until December 2009, our Wade Hampton district, particularly our region, the Lower Yukon River has been in the news – a 12-month period. The news reached statewide, national and through CNN into other countries. We've been on numerous radio talk shows, TV, and online news. This was due to combination of events leading to or occurring: failed commercial fisheries the summers of 2008 and 2009, severely restricted subsistence fishing, extreme high fuel prices that moved our people to a choice between heating fuel or food. Some did the extreme doing without food or barely any, in some instances, without for days.

Important note: Our President Obama's Cabinet secretaries have had the first hand experience in gathering information and seeing the third world condition of our Wade Hampton district villages.

I would be appalled if my comments aren't included in your review of the Federal Subsistence program. They are in themselves are revealing.

My name is Nicholas C. Tucker, Sr., a Yup'ik Eskimo from Emmonak, Alaska, in western Alaska. Our village is located at the mouth of the Yukon River about 12 miles inland from the Bering Sea. My wife, Dorothy, and I will have been married 38 years this coming August. We have 20 grandchildren out of whom we have adopted three which we had added to our 9 children. I will be 65 this year.

I am very proud to say that my family is a family of veterans where my father served in the Alaska Territorial Guard during World War II, myself in Vietnam, and one of our sons in Iraq. We are part of so many untold Alaskan Native families with veterans who have served our country. Alaska holds the largest veterans in the United States per capita. This is no small matter. From my vantage point, just about every one of us Native veterans have returned to our villages. These are our healing grounds. Its people are rich in so many attributes to include thoughtfulness, kindness, and generosity. Our land is calm, serene and wide open. We hold a 10,000-year old subsistence way of life that is intertwined to and holds us together in our culture, traditions, heritages; it upholds our native spirits in dances,

rituals, beliefs, teachings and values. This way of life is very fragile and sensitive to its surroundings, especially today. Should our subsistence way of life become extinct, we will have lost a sacred set of teachings and values.

Today, many of our children are pursuing higher education, vocational and technical training. Many are successful. My family is in this group. For my part, I've had the pleasure of having lived and worked in Seattle, Washington and Dallas, Texas and traveled the entire Continental United States and into Canada. I am a self-made double entry accountant, a result of my on-the-job training in retail work since at the age of sixteen in 1961. I had early retirement two years ago. For over 64 years, I have observed our people, some with college degrees and others having worked all over our country, return to our villages to do subsistence hunting, fish, or trapping. Some returned for a short period of time while others permanently. They remain attached very close to our culture.

There is a magnet of spirits in our wildlife, plants, land, rivers, sea and the sky that draw all of us back; of our elders, relatives and friends who still hold on dearly to our 10,000-year history. We often miss the warmth of our people when we are away. Subsistence way of life and our culture builds men of character and integrity. When ones sees us for whom we really are, stamina, strength, resolve, endurance, resiliency, creativity, inventiveness, and ingenuity will stand out.

Contrary to the stigmatism as "failed" people, we are very much alive, though embattled with numerous social disorders and ills. This hasn't let us down. We remain filled with hope, instilled over 10,000 years.

Our subsistence activities take us out into our country, the rivers, and the coast and each trip is never the same – generation after generation! We return refreshed and ready to go again. Each trip brings in its own unique story and adventure, sometimes, hilarious! We've attempted living in cities, but they hold us caged in of our eagle-soaring spirits. This is largely the reason we find it difficult to adjust to other types of life. It is not out of ignorance, nor was it ever for being uncivilized or barbaric. It is wisdom. In the remote, distant villages, we are privileged to have nearly every day to ourselves for contemplation of the teachings of our elders, ancestors and our lives. The solidity of our ancestors and elders is derived from content hearts. Today, our way of life is enriched and completed by our Christian faiths. Fresh subsistence-caught fish, birds, game and marine mammals electrify our spirits through healthy diet and nutrition.

Cultures evolve or adapt to changing generations. We are not exempt from that. We have largely remained as we have for 10,000 years, but our subsistence-transportation methods have been forced to change from the way we had traditionally procured our subsistence food. Here is how it was forced upon us:

The Federal Government mandated the education of our young. As opposed to our former way as nomads moving from camp to camp in pursuit of our food, we had no choice but to congregate into larger villages. It was a formation of a city in miniature context, with all the infrastructures necessary to it. It is costly, too. Prior to that, we had no concept of monetary system other than bartering. Yet, our culture remains intact.

We look to you on a fair and just process. In Yup'ik, when something is gravely important, it will spell disaster if not attended too.

I challenge you to carry forward a justice for my people. After all, we had wisely managed and preserved for you for ten-thousand years everything within and on this land to which you now proudly live and walk on. Our spirits and hearts may be broken because you have snatched away, or took advantage of our backyard resources. That is in the past. You remain most welcome to share them with us – we held out open arms upon your arrival. That has not changed. Please my writing, The First Table, attached. We need this country.

The time is indeed ripe. It is your prime opportunity to help us Yup'iks on the Lower Yukon. I recommend that you put in a clause recognizing our subsistence/commercial fishing way of life, which is one and both to be persevered as one. They are inseparable. This is indeed unique, just as we and our culture are.

Thank you for elevating us to importance and making us feel very welcome by communicating with us one on one, and your honored respect.

I remain respectful,

Nicholas C. Tucker, Sr.,

Cc: file

RC64

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January 10, 2010

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

RE: Comments, AYK Finfish, BOF Meeting, Fairbanks, AK January 26-31, 2010

Mr. Chairman Vince Webster and Respected Board:

I respectfully ask you to first read the attached Comments for Review of Federal Subsistence Program, addressed to our Honorable Ken Salazar, Secretary of the United States Department of the Interior. My comments are baseless and meaningless without this information.

These few moments of your precious time are golden to me. They mean the difference between someone of capacity and wisdom being able to hear me or shut down our cherished way of life. Your iron rod will be felt by the very depths of our spirits and hearts. It will mean whether or not our collapsing region-wide subsistence/commercial fishing economy will survive. It will mean the difference between crushed spirits and hearts or answer to our hopes of checking and/or reducing hunger, homelessness, struggle for warmth, increased joblessness to what is already a bewildering rate at 80%, break down of infrastructures, increased social disorders, and ills. The future sky-rocketed costs associated with these will be a major impact to our state and federal governments. Our villages are already in third world conditions. It calls for our actions follow our wisdom. I refer you to my writing, The First Table, attached.

We have already been referred to as desperately reacting to the current fishery situations we are in. My comments on the Yukon finfish proposals are a cumulative of my years of observations, experience, careful consideration and the knowledge passed on by our parents and elders. By the way, I will have been 65 this August and I was born here. Our salmon resource, culture, traditions and infrastructures are intertwined into one. I have a serious reservation about all concerns over the decline of our Chinook salmon on the Yukon. The causes for this supposed decline all point to our Lower Yukon. Otherwise, we wouldn't have so many proposals directed at us in one setting, would we?

The current Yukon subsistence and commercial finfish proposals will do more harm than good to our depressed region. They will shake our already-collapsing subsistence/commercial fisheries economy. Please note carefully how I wrote "subsistence/commercial fisheries economy." You have read my Comments for Review of Federal Subsistence Program. I hope this gave you further insight into how our subsistence fishing, commercial fishing and our year-round subsistence activities have naturally evolved into one here on the Lower Yukon. This

evolution is extremely difficult for anyone outside our culture to understand, let alone any clear perception. The components just melted into one. When one hurts, other naturally follows.

Our 10,000-year line of ancestors held sacred our subsistence way of life, culture and traditions. Dorothy, my wife of 37 ½ years, our 11 children and 20 grandchildren are a link to this lineage. We and our neighbors are witnesses to a surviving people, where, along the way, the challenges took many forms, some deadly. Our struggles today are a no exception in this continuing journey. But, in this case, it is preventable. Our inner strengths and hope have always sustained us. You are here come at the moment when we most a sustenance, a bridge between the horizon and our crushing spirits. Our strength depends on that link holding salmon along the way. You've seen how our great land. It is harsh and unforgiving, yet, all a while presenting gifts of wildlife, fish, sea mammals and birds along our 10,000-year journey. We have danced to the music of our fresh nutritious diets. Today, that music is barely audible. You alone have access to the volume. You're able to comprehend the way this is expressed because you've gained some insight to the infrastructure of our subsistence way of life. So, I ask that you take one more step, a step closer to our culture, where we are real human beings capable of feelings, hurts, tears, being cold and hungry, whether as an infant or a hundred year-old elder. We look to you in earnest and in hope as you ready yourself with the iron to decide the fate of our villages.

In another perspective, take a moment and reverse this process mentally. We're at the table deciding your future, that of your wives, children and grandchild, and worse, the fate of your city and picture the consequences of all of you losing your businesses and jobs. You know your culture, and think about what this table, in my people's hands, is about to do, with little knowledge and experience of everything that you have and everything that you are. We giving you three minutes, and will decide from all this vague information presented before us...

Every culture has and stands to adapt to each changing generation, while retaining the most essential and driving forces within. That is what we Yup'iks have done. As intelligent as we all are, we have never fully understood each other's cultures. The life within a cultural ecology and environment, whether minute or mammoth, remain crucial to the continuing formation, health and preservation of our great planet. Many of our indigenous cultural roles remain mysterious to many. You are our link during our journey beyond 10,000 years. Perhaps your descendents will admire you for having begun an attempt at unfolding some of these mysteries and will themselves discover the fruits of what contributions we are capable of. You see, we may be silent, but there is lot in us which is not expressed yet. Union of our spirits will unfold that.

Today, the challenges facing our salmon resources and culture are the emerging pollutants that are beyond our boundaries. We have exhausted our resources from much sacrifice. We've cooperated. You are too well aware of that. There is only so much we are capable of contributing at this point in time to the conservation, protection and preservation of our salmon resources.

You've been with us since this board process started and, along the way, you've gained some knowledge, wisdom and fortitude. One of which is to recognize which and when proposals makes sense, are applicable, or are a practical. You've come to see our diverse regions, Native cultures, languages, and dialects.

I believe our indigenous people along the Yukon can contribute to our board process. I do not think that this process alone can save our salmon resources. We need to dig deeper. Right before you, we have 10,000-year seasoned subsistence users from the mouth of the Yukon River all the way up to Eagle. We can offer a new tool to add into the process. We know our way of life best. We've co-existed thousands and thousands years. How we got divided, starting hating each other and angry at each other is another story. I think we all can effectively save our salmon since we can all work together on facts.

Our elders respect each other up and down the river. Time after time, our elders remind us to avoid fighting over our resources. Following that advice may be a difficult task at first, but if it means continued use of our salmon resources and saving, then we have no other choice. The tribes are able to get together and work on the issues intelligibly. We want to be there for you. We best feel we hold the expertise, knowledge, and experience. There is room to explore into options how we may wisely and prudently offer sacrifices rather than have them thrown unto our laps.

I admire a fellow Native in the interior who stated in one of the minutes of a regional meeting that his village is opposed to oil development because an oil spill stands to hurt us down here (in the same breath, he had wondered and couldn't understand why we, downriver fishermen, do not appreciate that). That is good enough for me as an opener.

Involving tribes can be an effective, added tool to our board process. We might consider the Yukon River Drainage Fisheries Association (YRDFA) to work this in. But its work is very broad, more complicated, time consuming and heavy. The tribal process will be a hurdle on its own. We could be an arm of YRDFA, functioning on our own. This approach just might eliminate some concerns over discrimination if we were to form separately. Each village tribe is a multi-user entity. I suggest we explore this.

The process on proposals would, in essence, be deeper, thoughtful, and thorough. It will require more time, but it is beneficial because we would all work on more in detail and in diligence. Right now, I have very grave concern over the rush on the proposals in the way we hand them. One of these days, our rush to judgment will cause an irreversible damage. To look at a 10,000-year way of life in one short setting and determining a future of any given region will have multi-faced bombshells. I would recommend spacing out a year or two longer on each AYK cycle to give the village tribes the opportunity to meet with each other. Following that, representatives can then schedule a regional and/or drainage-wide meeting to discuss the proposals and issues. Something is bound to come out of this added tool. One thing is certain: we will all be better informed. We will also be able to retain factual information coming in or out and, subsequently during testimony before you. Right now, because many of us are not

informed, we would not have certainty about how facts are actually being passed on to us. We will have better educated one another of each others' regions and our ways of life. Although we are formed into one spirit by our Great Spirit, our cultures, traditions, languages, and dialects vary and differ. There is exists so much unknown possibilities. We could accomplish a lot,

I do not think the urgency to rush through the proposals is here. But, we do have a lot to lose in a very short setting at any given cycle meeting – these are but a second in our 10,000-year history and to the 10,000 more we look to in the horizon. Our subsistence ways of life and culture will always remain at stake. One region may have it more than another in any moment during this journey. When we have helped one in one era, the other can turn around and help in the next. As it is, our government can shut down any region, if we don't work together.

We may have expert scientists, but, they are relatively still in infancy, in respect to our salmon resources. They themselves are giving us mixed messages and signals. Surveys do not have any defined base to rely on. Estimates have consistently shown more escapements than not. I believe that our cooperative efforts can result in better solutions.

I hold great admiration for one interior region that recognizes our Lower Yukon's gear types, mesh sizes, and the depth of our nets and to what is best for us to achieve maximum harvest of our salmon in order meet our subsistence needs.

There is advantage to drift net fishing. Over recent years, we have noticed warmer Yukon water. We cannot keep set net-caught salmon in the water too long. It will not retain its texture for long. The potential problem is that the meat will fall off when hung to dry. Driftnet efficiency is conserving in nature. When I get my winter supply of 180 chum salmon within an hour or several hours, I am done. The salmon gets to escape another 164 hours that week and rest of the month. My big family usually just needs just under 200 chum salmon for the winter and following spring.

There is a documented concern by an interior councilman on a regional advisory council for the Federal Subsistence Board. The meeting transcripts of this meeting is 275 pages, so what I will do is to quote the gentleman. His statement is on Page 7, beginning line 42 and ending line 49 and Page 8, starting line 2 and ending line 16 (the quote is in its entirety excluding the line of an applause) of the Eastern Interior Federal Subsistence Board Regional Advisory Council Meeting, Public Meeting, Volume I, in Ft. Yukon, Alaska on October 13, 2009. Because I read the words "...I see a lot of people...," the statement very much appears to be relating to illegal fishing in their region. Quote, unquote: "Yes, I have quite a few concerns about just about everything. One of the problems we're having is we have a lot of laws on the books and, you know, they're not being enforced. And here we are making more laws every time we get together. And it's not doing any good to make more laws if you don't have the original laws enforced. And I have a problem with that...And a lot – these fisheries, I see a lot of people just stripping the roe and throwing the fish overboard and I don't believe in that. And that was – they had a law saying you can't do that, but they just never enforced that law and it's been going on for 25 years. And that's why our salmon run is so poor even on the Tanana River and the Yukon. I've seen

fishermen down there hang fish up and bears are eating off the racks down there. And they don't – they didn't do anything about it, it's been 20 years ago. But I have a lot of other concerns, but I'll quit at that one for now."

In the same transcripts, I found this, to which I will quote another council member on Page 153, beginning line 3 and ending line 18: "So there are people that abuse the system, there's no way to catch them, it's almost impossible to make a case against them. If we have catch – the catch calendars are made up by the State anyway, they're sent out to all the villages anyway, if it's requirement to fill it out, it is an inconvenience, but it's going to do two things. Like I said it's going to show how much fish people really do have so we have the data to better manage the fishery and number 2, it's going to take the people that are using the fish like the one individual that bought a brand new crew cab pickup truck, over $40,000 in once season off of subsistence fish when you got restricted up here and couldn't get your subsistence needs met. That will put the tool in place so that those people won't be able to do that anymore."

You might want to have your staff verify these two quotes at:

http://alaska.fws.gov./asm/pdf/ractrans/Region%209%20Transcripts%2013%20Oct%2009.pdf

It makes one wonder just how many large Chinooks have been taken in a 25-year period. How many Chinook females are in $40,000? Here in Emmonak, during a 2008 meeting, we heard from ADF&G personnel that there were some lost Chinooks between Pilot Station sonar and the spawning grounds. From my recollection, it was around 20,000.

Then we have heard of some diseased Chinooks. The disease doesn't seem to infect them in the ocean, but they contract the disease near shore as they enter the river systems. Larger Chinooks and females seem to be more susceptible to this disease. Some speculate we may have some lost fish before they reach the spawning grounds and some may have just died off before they reached their spawning grounds. Would some may have been too sick to spawn? Are the disease passed on to eggs?

Just a few years ago, I testified before the Federal Subsistence board. During my preparation, I discovered, I believe it was from the JTC report that something like 83 scientists definitely cannot say whether or not a selective or environmental conditions are a cause of a trend in fewer kings, especially the larger.

I wonder: would tearing apart a subsistence/commercial fishery economy, village infrastructures, and cultures on the Lower Yukon bring back our salmon, while letting aside upper river and/or interior illegal fishing that appears to thriving through sale of roe? At the current rate, it would take me over 13 years to gross $40,000. How much fish didn't make it to their spawning destinations the last 25 years? Is this the sole $40,000 illegal activity or is it very large in scope? Where are we here?

Then, we all got so excited about the Chinook bycatch in the ocean fisheries. We all shot for very low caps – an admission that there is indeed a problem affecting all regions and communities along the entire Yukon-wide drainage. What of the Area M 700,000 chum bycatch? Then there are our lingering concerns over the entire migratory pathway of all our salmon stocks, their feeding grounds and habits.

We anticipate that board will do away with our unrestricted mesh sizes, but in consideration of the aforementioned activities and/or incidents, is this justified? To say we are educated and accomplished scientists and do just a three-year field study with a 7 1/2 – inch mesh size doesn't seem to co-relate. All the variables and defining factors aren't there. This is a quick, half-measured study - wouldn't all of us tend to think so? Was the study done with 50-fathom nets or the usual 25-fathom nets. How many meshes deep were they?

I think it will be callousness to further subject the Lower Yukon to unnecessary hunger and deprivation of our other essentials. We have a humanitarian issue, not a salmon resource issue. It is caused by (large?) illegal human predators, rush syndrome, lack of real information and other forces beyond our Lower Yukon borders.

I suggest we settle back. We may find ourselves with other pressing matters than the Lower Yukon or we may have subjected them under ill-advised proceedings?

Respectfully,

Nicholas C. Tucker, Sr.

Cc: file
Interested individuals and parties

Attachments: Comments for Review of Federal Subsistence Program
The First Table

RC 65

First, and foremost I'd like to thank the Board of Fisheries for this opportunity to testify. My name is Thomas Alstrom and I am a subsistence and commercial fisherman from Alakanuk, Alaska. I have also participated in the Pollock fishery for both A and B seasons in 2007.

I've seen the quality of Chinook salmon being very silver, bright and high in oil content both at sea and on the Yukon Delta. Salmon markets and consumers that purchase Yukon Chinook salmon want the best quality known salmon on the market. The proof lies on the label that specifies "Yukon" that they are purchasing the best salmon available.

Proposals 95, 96, and 97, which reduces the commercial caught Chinooks in Districts 1 and 2 would not only be a loss to the residents and local businesses in the area, but also to the people that are actually purchasing the Yukon salmon. If these proposals are adopted, consumers would have to succumb to purchasing a lower quality of salmon because the brightness and oil content is substantially reduced as the salmon migrate further up the Yukon River.

With the escapement goal being met in Canada for the past three years, the ability to sell Chinook salmon during non-Chinook directed fisheries has been a devastating loss to the fishermen, the fish buyers and processors, and the face of the Chinook salmon – the name of the world's tastiest salmon. Therefore, I adamantly oppose Proposals 91, 92, and 93.

Thank you.

RC66

The packaged PSD salmon is distributed through SeaShare to food banks located primarily in the Puget Sound area of the Pacific Northwest. Less than full truckload quantities of fish are distributed to Seattle-area food banks that use their freezer trucks to pick up the frozen salmon directly from the freight carriers. Sometimes full truckloads are made available to any qualified food bank within the America's Second Harvest network that is willing to pick it up with a freezer truck and pay for shipping expenses. Due to transportation costs, donated salmon usually stays in the western U.S. Individual food banks distribute the salmon to soup kitchens, shelters, food pantries, and hospices (SeaShare 2008). Over the 12 years that the salmon PSD program has been in place, nearly 2 million pounds of steaked and finished salmon have been donated through the program. Using an estimated four meals per pound of salmon, nearly 650,000 meals have been donated on average, per year. The donated salmon provides a highly nutritious source of protein in the diets of people who have access to only meagre, and often inadequate, food (NMFS 1996).

Expenses for processing the salmon and delivery to the food banks are covered by donations. Fishermen participating in the PSD program must sort, retain, and deliver to an approved storage facility, all salmon destined for the PSD program. Their costs include space on the vessel to store the fish, and maintenance of the fish in suitable condition. Processors must accept delivery, fill out the appropriate paper work and process, refrigerate, package, and store the donated fish, incurring costs in time, labor, and equipment that must be borne by the processor. The PSD salmon must then be delivered from the processor to SeaShare, which then coordinates the temporary storage of the fish, its transportation, and routing to eligible food banks. The transportation costs to Seattle are usually donated by various freight carriers. Participation in the PSD program is entirely voluntary, so an entity that found the program requirements onerous could stop participating without financial cost to itself (NMFS 2003a).

The PSD program reduces waste of salmon PSC catch. Without this program, these fish would be discarded at sea, and would not be directly used by anyone (although discards would be available to scavengers, potentially benefitting future fish productivity). The PSD program encourages human consumption of these fish, without creating an economic incentive for fishing operations to target them. Under the PSD program, salmon that are unavoidably killed as PSC bycatch are directly utilized as high quality human food, improving social welfare and reducing fishery waste.

2.5 The Community Development Quota (CDQ) Program

A portion of the Federal pollock TAC in the Bering Sea is allocated for harvest by participants in the CDQ Program. The CDQ Program was designed to improve the social and economic conditions in western Alaska communities by facilitating their economic participation in the BSAI fisheries. The large-scale commercial fisheries of the BSAI developed in the eastern Bering Sea without significant participation from rural western Alaska communities. These fisheries are capital-intensive and require large investments in vessels, infrastructure, processing capacity, and specialized gear. The CDQ Program was developed to redistribute some of the BSAI fisheries' economic benefits to adjacent communities by allocating a portion of commercially important BSAI species including pollock, crab, halibut, and various groundfish, to such communities. The percentage of each annual BSAI catch limit allocated to the CDQ Program varies by both species and management area. These allocations, in turn, provide an opportunity for residents of these communities to participate in and benefit from the BSAI fisheries.

A total of 65 communities are authorized under Section 305(i)(1) of the Magnuson-Stevens Act to participate in the program through six CDQ entities.[5] These CDQ entities are non-profit corporations that

[5] The CDQ entities include the Aleutian Pribilof Island Community Development Association (APICDA), the Bristol Bay Economic Development Corporation (BBEDC), the Central Bering Sea Fishermen's Association (CBSFA), the Coastal Villages Region Fund (CVRF), the Norton Sound Economic Development Corporation (NSEDC), and the Yukon Delta Fisheries Development Association (YDFDA).

manage and administer the CDQ allocations, economic development projects, and investments, including ownership interest in the at-sea processing sector and in catcher vessels. Annual CDQ allocations provide a revenue stream for CDQ entities through various channels, including the direct catch and sale of some species, leasing quota to various harvesting partners, and income from a variety of investments.

Geographically dispersed, the members communities extend westward to Atka, on the Aleutian Island chain, and northward along the Bering Sea coast to the village of Wales, near the Arctic Circle. The 2000 population of these communities totaled over 27,000 persons of whom approximately 87 percent were Alaska Native. In general economic terms, CDQ communities are remote, isolated settlements with few commercially valuable natural assets with which to develop and sustain a viable, diversified economic base. As a result, economic opportunities are few, unemployment rates are chronically high, and communities and the region are economically depressed. The CDQ Program ameliorates some of these circumstances by providing an opportunity for residents of CDQ communities to directly benefit from the BSAI fishery resources.

The CDQ Program was implemented by the Council and NMFS in 1992 with allocations of 7.5 percent of the pollock TAC. Allocations of halibut and sablefish were added to the program in 1995. Authorization for the CDQ Program was added to the Magnuson-Stevens Act by the U.S. Congress in 1996. In 1998, the Council expanded the CDQ Program by adding allocations of the remaining groundfish species, prohibited species, and crab. Currently, the CDQ Program is allocated portions of the groundfish fishery that range from 10.7 percent for Amendment 80 species, 10 percent for pollock, and 7.5 percent for most other species.

In 2007, the six CDQ entities held approximately $543 million in assets. Since inception of the CDQ Program in 1992, the CDQ entities have generated more than $204 million in wages, education, and training benefits. CDQ entities fund fisheries infrastructure investments such as docks, harbors, seafood processing plants, fisheries support centers, and vessels such as motherships and catcher/processors that operate in crab, halibut, and groundfish fisheries. In 2007 fisheries and fishery related investments by the six CDQ entities totaled more than $140 million, primarily in the BSAI. Local programs purchase limited access privileges in the fishery and acquire equity position in existing fishery businesses. The six CDQ entities had total revenues in 2007 of approximately $170 million, of which 41 percent ($70 million) was derived from CDQ royalties. Income from sources other than royalties has exceeded royalty income since 2004, with direct income accounting for 54-59 percent of revenue annually (WACDA 2007).

Pollock royalties are a very important source of CDQ Program revenues that directly fund investments in the region. Table 2-12 shows the estimated total royalties from all CDQ allocations, from pollock CDQ allocations, and an estimate of the average royalty rate ($/mt) for pollock. Pollock royalties have historically represented about 80 percent of total annual royalties from the CDQ allocations and, in 2005, were approximately $50 million. Specific information about total annual pollock royalties for all CDQ entities combined has not been publically available since 2005.

Table 2-12 CDQ pollock royalties for 2001-2008.

Year	Total royalties all species (millions $)	Total pollock royalties	% pollock of total royalties	Harvested pollock (mt)	Average royalty ($/mt)
2001	$ 42.6	$ 36.7	86%	139,946	$ 262
2002	$ 46.3	$ 36.6	79%	148,427	$ 247
2003	$ 53.5	$ 42.8	80%	149,121	$ 287
2004	$ 55.4	$ 45.9	83%	149,169	$ 307
2005	$ 61.4	$ 48.5	79%	149,720	$ 324
2006	N/A	N/A	N/A	150,376	N/A
2007	$ 69.7*	$ 43.2*	62%*	139,400	$ 310*
2008	N/A	N/A	N/A	99,959	N/A

Note: No pollock royalty data is available for 2006 or 2008.
*This table contains calculated or estimated values where data were incomplete.

The average annual royalty value to the CDQ entities was calculated from the audited financial statements and data available through public reports and financial statements. CDQ royalty data was collected by species until 2006 therefore no further calculation necessary for 2001-2005. Although NMFS records the weight of pollock harvested by sector annually, insufficient aggregate royalty data are publicly available to estimate forgone pollock royalties for 2006 and 2008. The 2007 estimates are base on an average of Aleutian Pribilof Island Community Development Association (APICDA) and Coastal Villages Region Fund (CVRF) total royalties derived from pollock. We applied the average royalty value to the estimates of pollock catch by pollock weight to get our estimates of pollock royalties for the CDQ sector annually. The percentage of pollock royalties was calculated from the total royalty statistics provided in the Western Alaska Community Development Association (WACDA) 2007 report, 41 percent of total revenue ($170 million).

Accurate royalty data was collected by NMFS in the CDQ entities audited financial statements. Annually until 2005, NMFS received information about royalties paid, by species or species group, for the CDQ allocations. NMFS not been authorized to require submission of accurate royalty information since the 2006 amendments to the Magnuson-Stevens Act. Therefore, we now rely on royalty information from the CDQ entities publically available annual reports prepared primarily for residents of the member communities. Some of the CDQ entities choose to include specific information about royalties, while others choose not to provide this level of detail in their annual reports. Additional information that would improve the analysis of the impacts of the alternative would be to estimate the forgone values of pollock royalties to the CDQ entities under each alternative.

Table 2-13 below provides information about the investments that the CDQ entities have made in vessels and companies (LLCs) that participate in the Bering Sea pollock fisheries. These are significant investments that have been largely funded by pollock royalty revenues.

Table 2-13 CDQ entity ownership of pollock vessels and regional importance

Region	Percent of population in CDQ group(s) of this Region	Name of CDQ group	Name of Company or Limited Liability Company (LLC)	Percent Company or LLC owned by CDQ	CDQ Vessel ownership (wholly owned or partially owned)
Norton Sound	Fifteen communities - 8,488 persons. About 98% of the population in this area (Nome census area, exclude Shishmaref).	Norton Sound Economic Development Corporation (NSEDC)	Glacier Fish Company, LLC	50%	Northern Glacier 201' trawl CP
					Pacific Glacier 276' CP
					Alaska Ocean 376' CP
Yukon River and delta	Six communities with 3,123 persons. Approximately 23% of population in Wade Hampton and Yukon-Koyukuk census, minus Takotna, McGrath and Nikolai).	Yukon Delta Fisheries Development Association (YDFDA)[6]	American Beauty, LLC	75%	American Beauty 123' CV and CDQ pollock quota for Golden Alaska
			Ocean Leader, LLC	75%	Ocean Leader 120' CV and CDQ pollock quota for Golden Alaska
			Golden Alaska, LLC	30.2%	Golden Alaska 305' MS
Kuskokwim River and delta	Twenty communities with about 7,855 persons account for 47% of the regional population (Bethel census area plus Takotna, McGrath, and Nikolai)	Coastal Villages Region Fund (CVRF)	American Seafoods, LLC	46%	American Dynasty 272' CP
					American Triumph 285' CP
					Katie Ann 296' CP
					Ocean Rover 256' CP
					Northern Eagle 341'
					Northern Jaeger 336' CP
					Northern Hawk 341' CP
Bristol Bay, Alaska Peninsula, Aleutians, Pribilofs	Twenty-three communities with 7,605 persons account for about 57% of the regional population (Aleutians East and West, Lake and Peninsula, and Dillingham census districts, minus certain communities around Lake Iliamna.	Central Bering Sea Fishermen's Association (CBSFA)	American Seafoods, LLC	4.54%[7]	CBSFA has ownership interests in some portion of AFA CPs
			Fierce Allegiance LLC	75%	Starlite 123' CV
			Star Partners LLC	75%	Starward 123' CV
		Aleutian-Pribilof I. Community Development Association[8]	F.V. Golden Dawn, LLC	25%	Golden Dawn
			Starbound LLC	20%	Starbound 149'CV
		Bristol Bay Economic Development Corporation (BBEDC)	Defender Fisheries LLC	49%	Defender 195' CV
			Doña Martita LLC Investment	50%	Dona Martita 165' CV
			Arctic Fjord, Inc.	30%	Arctic Fjord 275' CP
			Neahkahnie, LLC	30%	Neahkahnie 110' CV
			No LLC	50%	Morning Star 148' CV
					Morning Star 57'CV
					Arctic Wind 157' CV

[6] Eric Olson, Larry Cotter, Paul Peyton, and Morgan Crow, Personal communication, July 2009
[7] CBSFA Annual Report 2006 http://www.cbsfa.com/imageuploads/file72.pdf
[8] Larry Cotter, Personal communication, July 2009

RC67

Yukon River Chinook Fecundity Conservation for the Future

Dawson City Yukon Territory/ Circa 1930
85 pounds

History

- Decline in Size, both girth and length of Chinook the Further upstream you go
- Use to catch 65-70 pound fish/ rare to find a 30 pound fish now, average Eagle harvest under 12 pounds
- Two life cycles of below average returns
- Two life cycles of selective gauntlet fishery targeting larger Fecund Females
- Loss of 8 year old fish component/ most fecund fish
- 7 year old fish down to less than 2 % of run/ 2nd most fecund fish

Canadain Component

- Subsistence and Commercial harvest is Approx. 50% of total run
- 50% of Yukon Chinook originate in Canada
- Vitally Important to maintain a healthy Canadian component to insure Numbers of fish for Subsistence and Commercial harvest

Fecundity

- 10 lbs. Chinook Carries approx. 4,500 eggs
- 20 lbs. Carries approx. 10,000 eggs
- 30 lbs. Carries approx. 12,500 eggs
- 40 lbs. Carries approx. none Caught
- Largest Caught Eagle ASL study 31.5 pounds

Importance of more fecund fish

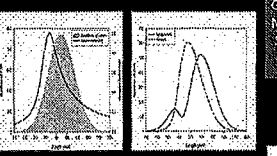
- 10 lbs = 4,500 eggs
- 20 lbs = to two 10 pound fish 10,000 eggs
- 30 lbs = to 2.66 10 pound fish 12,000 eggs
- ? 40 lbs. = to 3 10 pound fish

- 30-40 pound fish use to be fairly common in 1970 & 1980

Mesh Size

Example 2

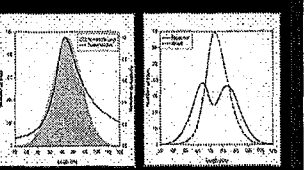
Effect of 50% Exploitation with 6.5" mesh



Greatest CPUE
More smaller jack escapement
Savings in Larger Fecund fish

Example 3

Effect of 50% Exploitation with 7.5" mesh

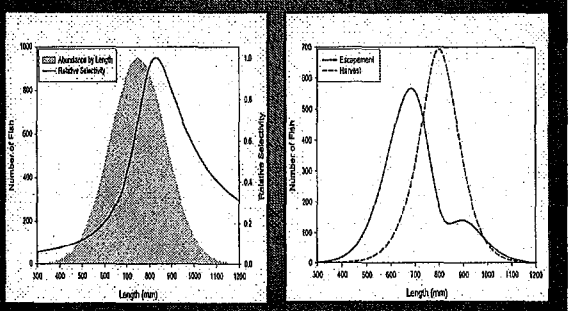


Greater harvest of smaller jacks
Better conservation of larger fecund fish.
More effective gear to stop current trend

POTENTIAL CAUSES OF
SIZE TRENDS IN YUKON RIVER
CHINOOK SALMON
POPULATIONS/adf&g

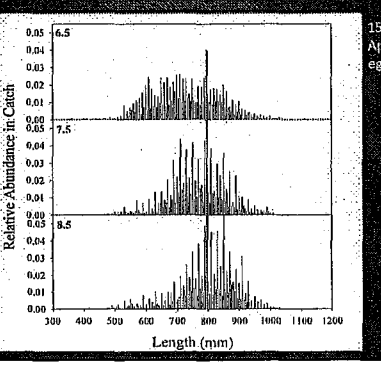
Example 4

Effect of 50% Exploitation with 8.5" mesh



Example 1

Lengths of Chinook Caught by Different Mesh Sizes



15 lbs
Approx. 6,000 eggs

Quality of Escapement

- Escapement is measured by numbers of fish i.e. Target or Range (40,000-48,000)
- A Larger % of small females or males will have a dramatic effect on productivity, providing reduced eggs to spawning events
- Fewer Larger fish are needed to put number of eggs in gravel.
- Larger fish offspring have greater survival /Deeper Redds, which help to protect from effects of climate change. i.e. freeze out
- Big fish produce big fish/genetics

Conservation

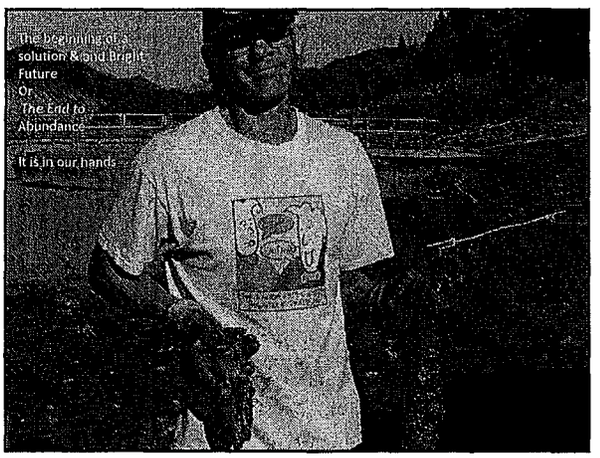
- Smaller mesh gear to reduce harvest of larger Fecund fish
- Depth of net restriction to reduce harvest of larger fecund fish./ Deeper Swimmers
- Protect the First Pulse river wide from harvest. Large Canadian Component
- Encourage shift from Chinook to more Chum use on years of lower abundance

Conservation

- Increase Law enforcement on Illegal sale of subsistence caught fish
- Work closely with Federal Subsistence board to stop Customary Trade until Yukon Chinook Runs recover to 20 year average for two life cycles

Conclusions

- Protect 1st pulse from harvest river wide.
- Create smaller Fishing Zones within Districts for better closure effectiveness.
- Reduce mesh size River wide (all fishers)
- Reduce depth of nets river wide (all fishers)
- Stop incentives to catch and sell Chinook during Chum directed fishery
- Stop illegal sales of Chinook


The beginning of a
solution & and bright
Future
Or
The End to
Abundance
It is in our hands

ID	Date	Sex	Length [mm]	Girth [mm]	Weight [lbs]	Gear Type
B-2-09	7/11/2009	F	835	435	17.2	6" setnet
B-6-09	7/11/2009	F	900	543	25.05	8" setnet
B-16-09	7/12/2009	F	855	465	19.55	8" setnet
B-17-09	7/12/2009	F	900	480	21.55	8" setnet
B-30-09	7/13/2009	F	908	502	22.95	8" setnet
B-31-09	7/13/2009	F	930	543	28.75	8" setnet
B-33-09	7/13/2009	F	965	570	31.50	8" setnet
B-34-09	7/13/2009	F	930	537	24.70	6" setnet
B-44-09	7/14/2009	F	935	537	25.40	8" setnet
B-46-09	7/14/2009	F	830	423	16.30	8" setnet
B-57-09	7/15/2009	F	875	485	21.20	8" setnet
B-58-09	7/15/2009	F	890	490	22.05	8" setnet
B-59-09	7/15/2009	F	873	480	20.40	8" setnet
B-60-09	7/15/2009	F	865	460	18.20	8" setnet
B-61-09	7/15/2009	F	950	509	25.80	8" setnet
B-74-09	7/15/2009	F	813	435	15.85	FW
B-80-09	7/15/2009	F	729	381	10.85	FW
B-84-09	7/15/2009	F	857	424	15.55	6.5" driftnet
B-85-09	7/16/2009	F	777	382	12.30	FW
B-88-09	7/16/2009	F	910	511	24.60	8" setnet
B-89-09	7/16/2009	F	854	446	17.15	8" setnet
B-90-09	7/16/2009	F	910	480	20.90	8" setnet
B-96-09	7/16/2009	F	777	403	13.05	FW
B-101-09	7/27/2009	F	840	450	17.10	FW
B-102-09	7/27/2009	F	775	383	11.35	FW
B-116-09	7/27/2009	F	774	368	11.10	FW
B-135-09	7/28/2009	F	804	441	14.35	FW
B-136-09	7/28/2009	F	789	388	13.95	FW
B-159-09	40023	F	875	489	21.3	FW
B-173-09	7/29/2009	F	776	378	11.85	6" setnet
B-175-09	7/30/2009	F	910	493	20.25	FW
B-180-09	7/30/2009	F	795	438	14.85	FW
B-181-09	7/30/2009	F	765	403	13.00	FW
B-183-09	7/31/2009	F	892	480	21.50	FW
B-184-09	7/31/2009	F	858	494	20.20	FW
B-189-09	40025	F	753	358	10.1	6" setnet
B-190-09	8/1/2009	F	813	433	15.76	FW
B-193-09	8/2/2009	F	834	428	15.20	FW
B-194-09	8/2/2009	F	840	454	18.05	FW
B-195-09	8/2/2009	F	832	446	16.70	FW
B-196-09	8/2/2009	F	860	425	16.30	FW
B-197-09	8/2/2009	F	850	424	16.35	FW
B-198-09	8/2/2009	F	887	484	21.05	FW
B-199-09	8/2/2009	F	826	400	14.05	FW

Fisherman	Age	Sum of Eggs
Ron McGowen	-	5801
Paul Brinkman	6	10547
Paul Brinkman and Chuck Collins	6	7450
Paul Brinkman and Chuck Collins	6	9341
Paul Brinkman	6	8062
Paul Brinkman	6	10872
Paul Brinkman	6	12895
Mike Seger	6	9524
Paul Brinkman and Chuck Collins	6	10387
Paul Brinkman and Chuck Collins	6	9781
Paul Brinkman and Chuck Collins	6	8337
Paul Brinkman and Chuck Collins	6	9086
Paul Brinkman and Chuck Collins	6	6996
Paul Brinkman and Chuck Collins	6	8811
Paul Brinkman and Chuck Collins	6	8407
Andy Bassich	-	6705
Andy Bassich	5	4431
Testfish	6	5655
Andy Bassich	6	5959
Paul Brinkman and Chuck Collins	6	9597
Paul Brinkman and Chuck Collins	6	6649
Paul Brinkman and Chuck Collins	6	7241
Andy Bassich	6	5728
Andy Bassich	6	9374
Andy Bassich	6	4557
Andy Bassich	6	5591
Andy Bassich	7	6425
Andy Bassich	7	6728
Andy Bassich	6	8828
Mike McDougall	-	4223
Andy Bassich	7	10596
Andy Bassich	6	5168
Andy Bassich	6	5884
Andy Bassich	6	9349
Andy Bassich	6	9975
Mike McDougall	6	4496
Andy Bassich	6	6133
Andy Bassich	6	7036
Andy Bassich	6	7512
Andy Bassich	6	8831
Andy Bassich	6	6560
Andy Bassich	6	5105
Andy Bassich	6	7959
Andy Bassich	6	5618

Eagle AC RC 67

ALASKA BOARD OF FISHERIES
Arctic-Yukon-Kuskokwim Finfish Meeting
January 26-31, 2010, Fairbanks, Alaska

Support **PROPOSAL 81** – Clarify subsistence fishing schedule in Subdistricts 4-B and 4-C

Support **PROPOSAL 82** – Modify subsistence fishing schedule in Subdistrict 4-A

Support **PROPOSAL 83** – Require recording subsistence harvest on catch calendars

oppose **PROPOSAL 84** – Extend Subdistricts 4-B and 4-C drift gillnet area for king salmon

oppose **PROPOSAL 85** – Extend Subdistricts 4-B and 4-C drift gillnet area for kings and fall chum

Support **PROPOSAL 86** – Allow set gillnets to be tied up during closures in Subdistrict 5-D

Support **PROPOSAL 87** – Review triggers, GHR, fishing schedule in king salmon management plan

_____ **PROPOSAL 88** – Prohibit drift gillnet gear for subsistence and commercial fishing

Support **PROPOSAL 89** – Restrict depth of subsistence and commercial 6 inch mesh to 35 meshes

strong Support **PROPOSAL 90** – Prohibit subsistence and commercial gillnets over 6 inch mesh size

Support **PROPOSAL 91** – Limit commercial king salmon harvest during chum salmon directed fisheries

strong Support **PROPOSAL 92** – Prohibit sale of king salmon during non-king salmon directed fisheries

strong Support **PROPOSAL 93** – Prohibit retention of king salmon during chum salmon directed main stem fisheries

strong Support **PROPOSAL 94** – Require windows schedule during lower river commercial fishery

Support **PROPOSAL 95** – Reallocate commercial king salmon harvest

_____ **PROPOSAL 96** – Reallocate commercial summer chum salmon harvest

Support **PROPOSAL 97** – Reallocate commercial fall chum salmon harvest

RC67

ALASKA BOARD OF FISHERIES
Arctic-Yukon-Kuskokwim Finfish Meeting
January 26-31, 2010, Fairbanks, Alaska

_____**PROPOSAL 98** – Open commercial fishing between Black River and Chris Point

Support **PROPOSAL 99** – Open Andreafsky River to commercial fishing

_____**PROPOSAL 100** – Close the Tok River drainage to sport fishing for salmon

_____**PROPOSAL 193** – Revise management triggers in Yukon River Summer Chum Management Plan

_____**PROPOSAL 194** – Revise management triggers in Yukon River Fall Chum Management Plan

_____**PROPOSAL 199** – Modify Yukon River Coho Salmon Management Plan for late season harvest

NC 68

Thank you Mr. Chairman, and members of the Board. I am Marvin Okitkun from Kotlik. I was born in Emmonak which is basically the hub of the Lower Yukon commercial fishing industry. I've been fishing both subsistence and commercially my whole life. My parents fished their whole lives as well as both side of grandparents.

Salmon is a very important source of our daily diet and most of these proposals set before you are out to change the way we have fished and lived for generations.

We have complied with changes set before – and salmon numbers continue to decline. Changes in the Bering Sea are to blame, not the people of the Lower Yukon. Yukon salmon was harvested in the Arctic Ocean at Barrow in recent years, and numbers continue to grow each year.

Proposal 89 – No! This kills too many Kings.

Proposal 90, 91, 92 – No

Proposal 93 – Oppose. Why waste Kings unnecessarily?

Proposal 94 – Oppose. Windows can wipe out all salmon returning during that specific time.

Proposal 95, 96, 97 – No

Proposal 98 – Yes

The numbers of people here supported by the company Kwikpak Fisheries, shows that it is concerned about the way of life in the Lower Yukon. Kwikpak was created by the people in the region for the people and not for one persons gain. Thank you.

RC 69

To: Federal Subsistence Board
From: Virgil L. Umphenour, Eastern Interior Alaska Subsistence Regional Advisory Council
Ref: FP08-13 and FP08-14

This issue has been before the State of Alaska board of fisheries since January 2001 when the board implemented windows. The board in January 2004 modified the windows regulation and made it optional at the discretion of the manger. The Eastern Interior RAC and Fairbanks, Tanana, Rampart, Manley, and Eagle A/C have been trying to get positive action for the conservation of Yukon River Chinook salmon ever since.

In the Department staff comments they point out that the Yukon River Chinook "harvest has been foregone in a number or recent years because of conservative management since 2000." They fail to mention that the foregone harvest has been identified in past season summaries. The Department is foregoing harvest because their management tools are imprecise. In excess of 70% of the Chinook salmon past the Tozitna River weir, districts 5 & 6 commercial fisheries, and Rapids test fisheries are jacks which 8" and 8 ½" mesh will pass. In other words at least 70% of this foregone harvest were JACKS, which large mesh nets are ineffective at catching.

The Department neglects to state that the treaty with Canada's obligation goals for both 2006 and 2007 were not met for harvest and escapement . The border passage goal for 2007 was 45,500 Chinook salmon and only 23,000 Chinook salmon crossed the border. The Canadians curtailed commercial fishing both years. The Department also failed to mention the fact that commercial fishing for Chinook was curtailed in district 6 of the Yukon River fishing district, which is the Tanana River, in both 2006 and 2007, in order to make escapement on the Chena River.

The eight year old Chinook have been exterminated, the seven year old Chinook have went from over 28% of the harvest in the early 1980's to less than 2% in 2005-2007. The seven year old Chinook are less then 1% in the upriver weir projects and the district 5 harvests.

We don't need to reinvent the wheel. The board needs to demonstrate moral courage and apply the precautionary principle and pass proposals FP08-13 and FP08-14.

Respectfully,

Virgil L. Umphenour

Virgil L. Umphenour
Vice Chair, E.I.R.A.C.

RC 69

Section
281. (Repealed)
290. Closed waters
291. Boundary markers
292. (Repealed)

5 AAC 39.220. POLICY FOR THE MANAGEMENT OF MIXED STOCK SALMON FISHERIES. (a) In applying this statewide mixed stock salmon policy for all users, conservation of wild salmon stocks consistent with sustained yield shall be accorded the highest priority. Allocation of salmon resources under this policy will be consistent with the subsistence preference in AS 16.05.258, and the allocation criteria set out in 5 AAC 39.205, 5 AAC 75.017, and 5 AAC 77.007.

(b) In the absence of a regulatory management plan that otherwise allocates or restricts harvest, and when it is necessary to restrict fisheries on stocks where there are known conservation problems, the burden of conservation shall be shared among all fisheries in close proportion to their respective harvest on the stock of concern. The board recognized that precise sharing of conservation among fisheries is dependent on the amount of stock-specific information available.

(c) The board's preference in assigning conservation burdens in mixed stock fisheries is through the application of specific fishery management plans set out in the regulations. A management plan incorporates conservation burden and allocation of harvest opportunity.

(d) Most wild Alaska salmon stocks are fully allocated to fisheries capable of harvesting available surpluses. Consequently, the board will restrict new or expanding mixed stock fisheries unless otherwise provided for by management plans or by application of the board's allocation criteria. Natural fluctuations in the abundance of stocks harvested in a fishery will not be the single factor that identifies a fishery as expanding or new.

(e) This policy will be implemented only by the board through regulations adopted (1) during its regular meeting cycle; or (2) through procedures established in the Joint Board's Petition Policy (5 AAC 96.625), Subsistence Petition Policy (5 AAC 96.625(f)), Policy for Changing Board Agenda (5 AAC 39.999), or Subsistence Proposal Policy (5 AAC 96.615). (Eff. 5/29/93, Register 126)

Authority: AS 16.05.251(h)

5 AAC 39.222. POLICY FOR THE MANAGEMENT OF SUSTAINABLE SALMON FISHERIES. (a) The Board of Fisheries (board) and Department of Fish and Game (department) recognize that

(1) while, in the aggregate, Alaska's salmon fisheries are healthy and sustainable largely because of abundant pristine habitat and the application of sound, precautionary, conservation management practices, there is a need for a comprehensive policy for the regulation and management of sustainable salmon fisheries;

(2) in formulating fishery management plans designed to achieve maximum or optimum salmon production, the board and department must consider factors including environmental change, habitat loss or degradation, data uncertainty, limited funding for research and management programs, existing harvest patterns, and new fisheries or expanding fisheries;

(3) to effectively assure sustained yield and habitat protection for wild salmon stocks, fishery management plans and programs require specific guiding principles and criteria, and the framework for their application contained in this policy.

(b) The goal of the policy under this section is to ensure conservation of salmon and salmon's required marine and aquatic habitats, protection of customary and traditional subsistence uses and other uses, and the sustained economic health of Alaska's fishing communities.

(c) Management of salmon fisheries by the state should be based on the following principles and criteria:

(1) wild salmon stocks and the salmon's habitats should be maintained at levels of resource productivity that assure sustained yields as follows:

(A) salmon spawning, rearing, and migratory habitats should be protected as follows:

(i) salmon habitats should not be perturbed beyond natural boundaries of variation;

(ii) scientific assessments of possible adverse ecological effects of proposed habitat alterations and the impacts of the alterations on salmon populations should be conducted before approval of a proposal;

(iii) adverse environmental impacts on wild salmon stocks and the salmon's habitats should be assessed;

(iv) all essential salmon habitat in marine, estuarine, and freshwater ecosystems and access of salmon to these habitats should be protected; essential habitats include spawning and incubation areas, freshwater rearing areas, estuarine and nearshore rearing areas, offshore rearing areas, and migratory pathways;

(v) salmon habitat in fresh water should be protected on a watershed basis, including appropriate management of riparian zones, water quality, and water quantity;

(B) salmon stocks should be protected within spawning, incubating, rearing, and migratory habitats;

(C) degraded salmon productivity resulting from habitat loss should be assessed, considered, and controlled by affected user groups, regulatory agencies, and boards when making conservation and allocation decisions;

(iii) management programs and decision-making procedures are able to clearly distinguish, and effectively deal with, biological and allocation issues;

(I) the board will recommend to the commissioner and legislature that adequate staff and budget for research, management, and enforcement activities be available to fully implement sustainable salmon fisheries principles;

(J) proposals for salmon fisheries development or expansion and artificial propagation and enhancement should include assessments required for sustainable management of existing salmon fisheries and wild salmon stocks;

(K) plans and proposals for development or expansion of salmon fisheries and enhancement programs should effectively document resource assessments, potential impacts, and other information needed to assure sustainable management of wild salmon stocks;

(L) the board will work with the commissioner and other agencies to develop effective processes for controlling excess fishing capacity;

(M) procedures should be implemented to regularly evaluate the effectiveness of fishery management and habitat protection actions in sustaining salmon populations, fisheries, and habitat, and to resolve associated problems or deficiencies;

(N) conservation and management decisions for salmon fisheries should take into account the best available information on biological, environmental, economic, social, and resource use factors;

(O) research and data collection should be undertaken to improve scientific and technical knowledge of salmon fisheries, including ecosystem interactions, status of salmon populations, and the condition of salmon habitats;

(P) the best available scientific information on the status of salmon populations and the condition of the salmon's habitats should be routinely updated and subject to peer review;

(4) public support and involvement for sustained use and protection of salmon resources should be sought and encouraged as follows:

(A) effective mechanisms for dispute resolution should be developed and used;

(B) pertinent information and decisions should be effectively disseminated to all interested parties in a timely manner;

(C) the board's regulatory management and allocation decisions will be made in an open process with public involvement;

(D) an understanding of the proportion of mortality inflicted on each salmon stock by each user group, should be promoted, and the burden of conservation should be allocated across user groups in a manner consistent with applicable state and federal statutes, including AS 16.05.251(e) and AS 16.05.258; in the absence of a regulatory management plan that otherwise allocates or restricts harvests, and when it is necessary to restrict fisheries on salmon stocks where there are known conservation problems, the burden of conservation shall be shared among all fisheries in close proportion to each fisheries' respective use, consistent with state and federal law;

(E) the board will work with the commissioner and other agencies as necessary to assure that adequately funded public information and education programs provide timely materials on salmon conservation, including habitat requirements, threats to salmon habitat, the value of salmon and habitat to the public and ecosystem (fish and wildlife), natural variability and population dynamics, the status of salmon stocks and fisheries, and the regulatory process;

(5) in the face of uncertainty, salmon stocks, fisheries, artificial propagation, and essential habitats shall be managed conservatively as follows:

(A) a precautionary approach, involving the application of prudent foresight that takes into account the uncertainties in salmon fisheries and habitat management, the biological, social, cultural, and economic risks, and the need to take action with incomplete knowledge, should be applied to the regulation and control of harvest and other human-induced sources of salmon mortality; a precautionary approach requires

(i) consideration of the needs of future generations and avoidance of potentially irreversible changes;

(ii) prior identification of undesirable outcomes and of measures that will avoid undesirable outcomes or correct them promptly;

(iii) initiation of any necessary corrective measure without delay and prompt achievement of the measure's purpose, on a time scale not exceeding five years, which is approximately the generation time of most salmon species;

(iv) that where the impact of resource use is uncertain, but likely presents a measurable risk to sustained yield, priority should be given to conserving the productive capacity of the resource;

(v) appropriate placement of the burden of proof, of adherence to the requirements of this subparagraph, on those plans or ongoing activities that pose a risk or hazard to salmon habitat or production;

(B) a precautionary approach should be applied to the regulation of activities that affect essential salmon habitat.

(d) The principles and criteria for sustainable salmon fisheries shall be applied, by the department and the board using the best available information, as follows:

(1) at regular meetings of the board, the department will, to the extent practicable, provide the

Fm: Fairbanks A/C & EIRAC Fm Virgil Umphenour

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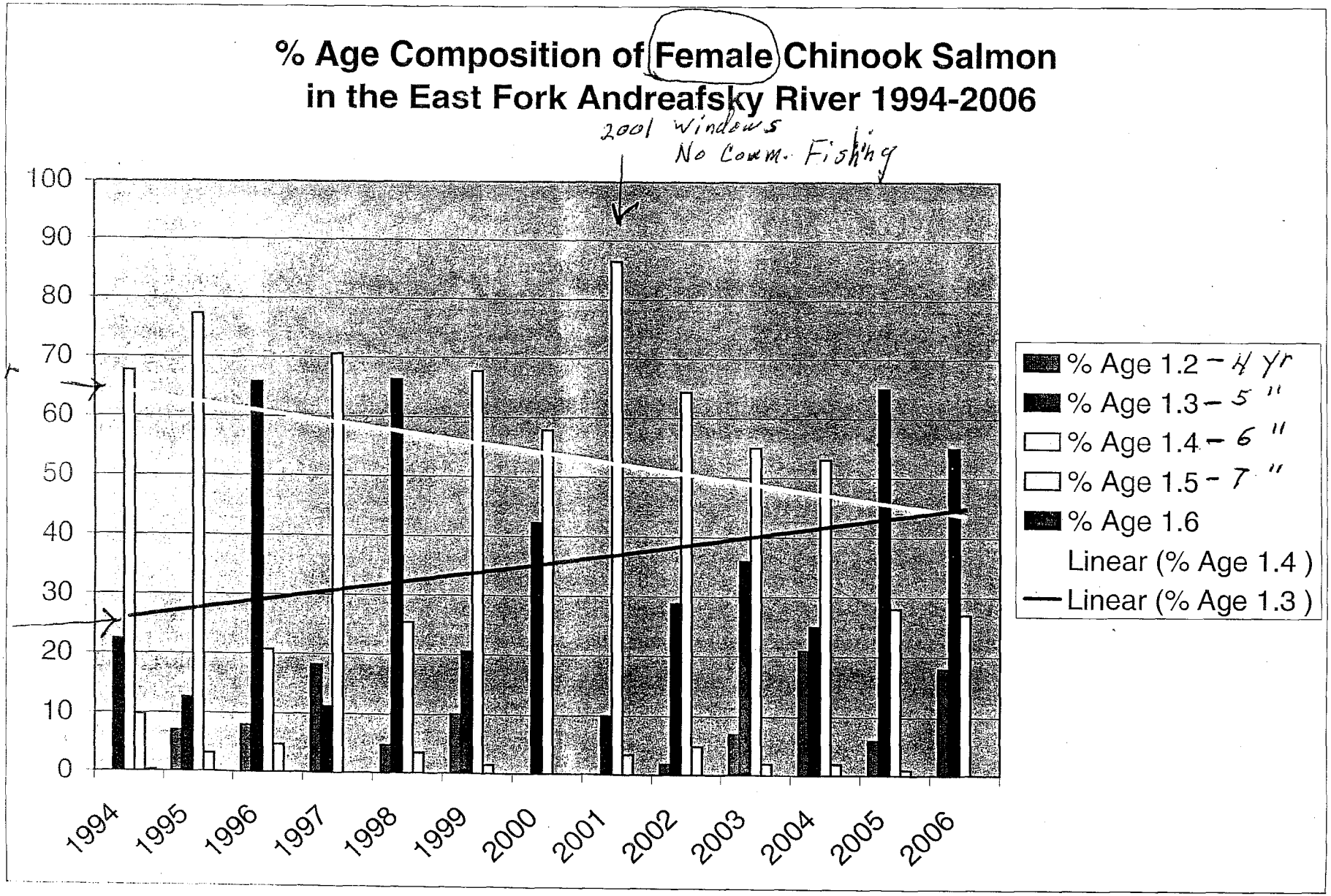

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Table 9. Comparison of preliminary Chinook salmon age composition by sex at the East Fork Andreafsky River, Gisasa River, Henshaw Creek, and the Tozitna River, Alaska, 2004.

				Brood year and Age					
				2001	2000	1999	1998	1997	Total
		Sample		1.1	1.2	1.3	1.4	1.5	
Location	River (km) [a]	Size	Sex	%	%	%	%	%	%
EF Andreafsky			Males	0.0	29.9	33.2	1.9	0.0	65.0
Weir	167	508 [b]	Females	0.0	9.1	10.3	15.3	0.3	35.0
			Subtotal	0.0	39.0	43.5	17.2	0.3	100.0
Gisasa			Males	0.5	39.6	26.7	3.0	0.0	69.8
Weir	908	540 [b]	Females	0.0	1.6	6.2	22.2	0.2	30.2
			Subtotal	0.5	41.2	32.9	25.2	0.2	100.0
Henshaw			Males	0.1	44.2	24.9	9.4	0.0	78.6
Weir	1,539	637 [b]	Females	0.0	1.5	2.5	16.6	0.8	21.4
			Subtotal	0.1	45.7	27.4	26.0	0.8	100.0
Tozitna			Males	0.4	38.5	38.5	5.1	0.0	82.5
Weir	1,096	416	Females	0.0	0.0	2.0	14.7	0.8	17.5
			Subtotal	0.4	38.5	40.5	19.8	0.8	100.0

[a] Kilometers from the Flat Island test fishing site near the south mouth of the Yukon River to the confluence of the listed tributary.
[b] Age data (preliminary) obtained from ADF&G, 2004.

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Table 9. Comparison of preliminary Chinook salmon age composition by sex at the East Fork Andreafsky River, Gisasa River, Henshaw Creek, and the Tozitna River, Alaska, 2005.

				Brood year and Age						7 yr o/d
				2002	2001	2000	1999	1999	1998	Total
		Sample		1.1	1.2	1.3	1.4	2.3	1.5	
Location	River (km) [a]	Size	Sex	%	%	%	%	%		%
EF Andreafsky			Males	0	12.2	31.2	6.4	0	0	49.8
Weir	167	389 [b]	Females	0	2.8	33.1	13.8	0	0.5	50.2
			Subtotal	0	15	64.3	20.2	0	0.5	100
Gisasa			Males	0	25.1	37	3.9	0	0	66
Weir	908	591 [b]	Females	0	3.4	18.3	11.7	0.2	0.4	34
			Subtotal	0	28.5	55.3	15.6	0.2	0.4	100
Henshaw			Males	0	21.9	29.2	7.5	0	0	58.6
Weir	1,539	127 [b]	Females	0	6	20.1	15.3	0	0	41.4
			Subtotal	0	27.9	49.3	22.8	0	0	100
Tozitna			Males	0.1	26.4	33.1	10.3	0	0	69.9
Weir	1,096	296	Females	0	0	12.5	17.6	0	0	30.1
			Subtotal	0.1	26.4	45.6	27.9	0	0	100

[a] Kilometers from the Flat Island test fishing site near the south mouth of the Yukon River to the confluence of the listed tributary.

[b] Age data (preliminary) obtained from ADF&G, 2005.

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Table 8. Comparison of preliminary Chinook salmon age composition by sex at the East Fork Andreafsky River, Gisasa River, Henshaw Creek, and the Tozitna River, Alaska, 2006.

				Brood year and Age 7Yr old							
				2003	2002	2001	2000	2000	1999	1999	Total
		Sample		1.1	1.2	1.3	1.4	2.3	1.5	2.4	
Location	River (km) [a]	Size	Sex	%	%	%	%	%	%	%	%
EF Andreafsky			Males	0	14.2	36.2	7	0	0	0	57.4
Weir	167	454 [b]	Females	0	2.8	18.7	21.1	0	0	0	42.6
			Subtotal	0	17	54.9	28.1	0	0	0	100
Gisasa			Males	0	13.5	54.3	3.5	0.4	0.1	0	71.8
Weir	908	530 [b]	Females	0.1	5.4	12.9	9.5	0.2	0	0.1	28.2
			Subtotal	0.1	18.9	67.2	13	0.6	0.1	0.1	100
Henshaw			Males								
Weir	1,539	0	Females								
			Subtotal								
Tozitna			Males	0	13	72.5	2.9	0	0	0	88.4
Weir [c]	1,096	69	Females	0	0	10.1	1.5	0	0	0	11.6
			Subtotal	0	13	82.6	4.4	0	0	0	100

[a]Kilometers from the Flat Island test fishing site near the south mouth of the Yukon River to the confluence of the listed tributary.
[b]Age data (preliminary) obtained from ADF&G, 2006.
[c]Tozitna Weir calculations were determined with partial escapement data because of high stream discharge.

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5yr 6yr 7yr

Summary Y5 from 2002 through 2006

Yukon River District 5 Tanana, Rampart chinook salmon commercial catch age and sex composition by stratum, and mean length (mm), 2002.a

Sample Dates	Sample Size		Brood Year and (Age Group) 1999 (1.1) No.	Per.	1998 (1.2) No.	Per.	1997 (1.3) No.	Per.	(2.2) No.	Per.	1996 (1.4) No.	Per.	(2.3) No.	Per.	1995 (1.5) No.	Per.	(2.4) No.	Per.	1994 (1.6) No.	Per.	(2.5) No.	Per.	Total No.	Per.
Seasonal Tota	338	Males	0	0.0	26	7.7	79	23.4	0	0.0	70	20.7	0	0.0	3	0.9	0	0.0	0	0.0	0	0.0	178	52.7
		Females	0	0.0	0	0.0	24	7.1	0	0.0	115	34.0	0	0.0	21	6.2	0	0.0	0	0.0	0	0.0	160	47.3
		Total	0	0.0	26	7.7	103	30.5	0	0.0	185	54.7	0	0.0	24	7.1	0	0.0	0	0.0	0	0.0	338	100.0

Yukon River District 5BC chinook salmon commercial harvest age and sex composition and mean length (mm), 2003.a

Sample Dates	Sample Size		Brood Year and (Age Group) 2000 (1.1) No.	Per.	1999 (1.2) No.	Per.	1998 (1.3) No.	Per.	(2.2) No.	Per.	1997 (1.4) No.	Per.	(2.3) No.	Per.	1996 (1.5) No.	Per.	(2.4) No.	Per.	1995 (1.6) No.	Per.	(2.5) No.	Per.	Total No.	Per.
Total All Periods	368	Males	0	0.0	49	4.3	310	27.4	0	0.0	317	28.0	0	0.0	24	2.2	6	0.6	0	0.0	0	0.0	708	62.4
		Females	0	0.0	7	0.7	83	7.3	0	0.0	279	24.5	3	0.2	53	4.6	3	0.2	0	0.0	0	0.0	426	37.6
		Total	0	0.0	56	5.0	393	34.7	0	0.0	596	52.5	3	0.2	77	6.8	9	0.8	0	0.0	0	0.0	1,134	100.0

Yukon River District 5BC Chinook salmon commercial harvest age and sex composition and mean length (mm), 2004.a

Sample Dates ab	Sample Size		Brood Year, Age, and (European Age Formula) 2001 3 yrs. (1.1) No.	%	2000 4 yrs. (1.2) No.	%	1999 5 yrs. (1.3) No.	%	(2.2) No.	%	1998 6 yrs. (1.4) No.	%	(2.3) No.	%	1997 7 yrs. (1.5) No.	%	(2.4) No.	%	1996 8 yrs. (1.6) No.	%	(2.5) No.	%	Total No.	%
Total All Periodsd	450	Males	0	0.0	277	17.9	442	28.5	0	0.0	233	15.0	0	0.0	22	1.4	0	0.0	0	0.0	0	0.0	973	62.9
		Females	0	0.0	2	0.2	67	4.4	0	0.0	480	31.1	0	0.0	23	1.5	0	0.0	0	0.0	0	0.0	573	37.1
		Total	0	0.0	279	18.1	509	32.9	0	0.0	713	46.1	0	0.0	45	2.9	0	0.0	0	0.0	0	0.0	1,546	100.0

Yukon River, District 5 (Subdistricts 5-B and 5-C), Chinook salmon commercial harvest age and sex composition and mean length (mm), 2005.

Sample Dates a	Sample Size		Brood Year (Age) 2002 (1.1) No.	%	2001 (1.2) No.	%	2000 (1.3) No.	%	(2.2) No.	%	1999 (1.4) No.	%	(2.3) No.	%	1998 (1.5) No.	%	(2.4) No.	%	1997 (1.6) No.	%	(2.5) No.	%	Total No.	%
Total All Periods	441	Males	0	0.0	171	11.6	595	40.5	0	0.0	267	18.2	7	0.5	0	0.0	3	0.2	0	0.0	0	0.0	1,042	71.0
		Females	0	0.0	0	0.0	89	6.1	0	0.0	318	21.7	6	0.4	6	0.4	6	0.4	0	0.0	0	0.0	427	29.0
		Total	0	0.0	171	11.6	685	46.6	0	0.0	585	39.8	13	0.9	6	0.4	9	0.6	0	0.0	0	0.0	1,469	100.0

Yukon River, District 5 (Subdistricts 5-B and 5-C), Chinook salmon commercial harvest age and sex composition and mean length (mm), 2006.

Sample Dates a	Sample Size		Brood Year (Age) 2003 (1.1) No.	%	2002 (1.2) No.	%	2001 (1.3) No.	%	(2.2) No.	%	2000 (1.4) No.	%	(2.3) No.	%	1999 (1.5) No.	%	(2.4) No.	%	1998 (1.6) No.	%	(2.5) No.	%	Total No.	%
Total All Periods	449	Males	0	0.0	131	7.1	887	48.2	0	0.0	111	6.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1,130	61.4
		Females	0	0.0	57	3.1	361	19.6	0	0.0	276	15.0	0	0.0	8	0.4	7	0.4	0	0.0	0	0.0	709	38.6
		Total	0	0.0	188	10.2	1,248	67.9	0	0.0	387	21.1	0	0.0	8	0.4	7	0.4	0	0.0	0	0.0	1,839	100.0
Average 2002-2005		Males	0.0		10.4		30.0		0.0		20.5		0.1		1.1		0.2		0.0		0.0		62.2	
		Females	0.0		0.2		6.2		0.0		27.8		0.2		3.2		0.2		0.0		0.0		37.8	
		Total	0.0		10.6		36.2		0.0		48.3		0.3		4.3		0.4		0.0		0.0		100.0	

6 yr old went from 54.7 % to 21.1 % in last 5 years

5 yr old went from 30.5 % to 67.9 % in last 5 years

7 yr old have went from 7.1 % to .8 % in last 5 years

over 50% of 6yr old don't get to wiers

Appx 80% of 7yr old don't get to Wiers

Table 1. Yukon River chinook salmon, percent by age and females, from commercial, subsistence, test, and escapement projects, 2003.

Project Type and Location	Sample Size	Age 3	4	5	6	7	8	Females
Commercial								
District 1 (8.0" ≥ mesh)	1,405	0.0	0.5	26.1	65.4	7.9	0.1	53.3
District 2 (8.0" ≥ mesh)	779	0.0	0.9	30.9	60.3	7.6	0.0	55.1
District 4C (fishwheel)	191	2.6	23.7	54.9	15.5	3.4	0.0	15.3
District 5BC (gillnet and fishwheel)	368	0.0	5.0	34.7	52.7	7.6	0.0	37.6
District 6 (gillnet and fishwheel)	464	1.0	11.4	41.2	40.0	6.3	0.0	41.0
Subsistence								
District 1 (5.5" mesh)	90	0.0	11.1	47.8	38.9	2.2	0.0	42.2
District 1 (8.5" mesh)	156	0.0	0.6	30.8	62.2	6.4	0.0	42.9
District 1 (mixed mesh)	84	0.0	2.4	42.9	46.4	8.3	0.0	50.0 [a]
District 3, Holy Cross (8.5" mesh)	59	0.0	3.4	15.3	74.6	6.8	0.0	57.6
District 4, Kaltag (8.5" mesh)	209	0.0	1.0	18.2	67.9	13.0	0.0	43.9
District 4, Ruby (fishwheel)	45	0.0	13.3	68.9	13.3	4.4	0.0	8.9
Test [b]								
Big Eddy (7.5" set gillnet)	16	0.0	0.0	75.0	25.0	0.0	0.0	18.7
Big Eddy (8.25" drift gillnet)	203	0.0	0.5	30.5	62.1	6.9	0.0	52.2
Big Eddy (8.5" set gillnet)	602	0.0	0.5	26.2	68.3	5.0	0.0	50.7
Middle Mouth (8.25" drift gillnet)	103	0.0	0.0	27.2	64.1	8.7	0.0	54.4
Middle Mouth (8.5" set gillnet)	798	0.0	0.8	22.3	67.9	8.9	0.1	54.4
Pilot Station (2.75-8.5" mesh combined)	827	0.4	5.8	49.2	42.9	1.7	0.0	46.2
Russian Mission (8.5" mesh)	268	0.0	0.7	18.7	74.3	6.3	0.0	52.8 [c]
Dogfish (8.5" mesh)	729	0.0	0.3	23.3	67.5	8.8	0.1	51.7 [d]
Canada (fishwheel)	1,096	0.0	11.2	48.1	36.9	3.8	0.0	27.6
Escapement								
Andreafsky River, East Fork [e] wier	533	0.5	16.0	51.9	30.7	0.8	0.0	46.2
Anvik River [f]	428	0.2	8.9	54.7	33.2	3.0	0.0	37.6
Chena River [f]	370	0.0	5.1	46.5	41.6	6.8	0.0	44.9
Gisasa River [e] wier	472	0.4	5.5	67.8	25.4	1.0	0.0	35.3
Henshaw Creek [e] wier	304	1.4	19.4	45.7	31.8	1.7	0.0	38.4
Salcha River [f]	151	0.7	7.3	42.4	42.4	7.3	0.0	42.4
Toziina River [e] wier	501	0.4	26.9	51.9	20.4	0.4	0.0	18.6
Average Escapement [g]		0.5	12.7	51.6	32.2	3.0	0.0	37.6
Total All Projects [h]	11,251							

[a] Sex data refers to 16 of 84 aged fish.
[b] Includes radio tagging projects at Russian Mission and Dogfish and Canadian fishwheels.
[c] Sex data refers to 233 of 268 aged fish.
[d] Sex data refers to 656 of 729 aged fish.
[e] Samples were collected from a weir trap. Total age and sex composition were weighted by escapment estimates in each sampling period.
[f] Samples were collected from carcasas.
[g] Sampling biases between weir and carcass collection methods is considered minimal.
[h] Sampling biases among the different gear types used influence age and sex composition, therefore only averages from similar gear types are presented.

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6yr Y1 2003 65.4%, 2006 49.7%
6yr Y2 2003 60.3%, 2006 43.7%
See previous page

6yr old

No Chinook Comm Fishery Dist Y6

7yr old

Updated 12-27-06 Distributed at Fall Staff Meeting 11/8/2006

Table 2. Preliminary Yukon River Chinook salmon commercial, subsistence, test fish, and escapement age and sex composition, 2006.

Project Location	Sample Size		Brood Year (Age) 2003 (1.1) No.	%	2002 (1.2) No.	%	2001 (1.3) No.	%	(2.2) No.	%	2000 (1.4) No.	%	(2.3) No.	%	1999 (1.5) No.	%	(2.4) No.	%	1998 (1.6) No.	%	(2.5) No.	%	Total No.	%
Commercial [a]	1,788	Males	0	0.0	423	1.7	7,245	29.5	0	0.0	3,341	13.6	0	0.0	122	0.5	0	0.0	0	0.0	0	0.0	11,131	45.3
District Y1		Females	0	0.0	19	0.1	4,243	17.3	0	0.0	8,867	36.1	5	0.0	261	1.1	20	0.1	0	0.0	0	0.0	13,414	54.7
		Total	0	0.0	442	1.8	11,488	46.8	0	0.0	12,208	49.7	5	0.0	382	1.6	20	0.1	0	0.0	0	0.0	24,545	100.0
Commercial	1,462	Males	0	0.0	362	1.8	7,576	38.2	0	0.0	3,724	18.8	54	0.3	71	0.4	0	0.0	0	0.0	0	0.0	11,786	59.4
District Y2		Females	0	0.0	0	0.0	2,968	15.0	0	0.0	4,948	24.9	0	0.0	131	0.7	0	0.0	0	0.0	0	0.0	8,048	40.6
		Total	0	0.0	362	1.8	10,544	53.2	0	0.0	8,672	43.7	54	0.3	202	1.0	0	0.0	0	0.0	0	0.0	19,834	100.0
Commercial	101	Males	0	0.0	6	2.0	122	38.6	0	0.0	65	20.8	3	1.0	3	1.0	3	1.0	0	0.0	0	0.0	203	64.4
District Y3		Females	0	0.0	0	0.0	44	13.9	0	0.0	65	20.8	0	0.0	3	1.0	0	0.0	0	0.0	0	0.0	112	35.6
		Total	0	0.0	6	2.0	165	52.5	0	0.0	131	41.6	3	1.0	6	2.0	3	1.0	0	0.0	0	0.0	315	100.0
Commercial	449	Males	0	0.0	131	7.1	887	48.2	0	0.0	111	6.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1,130	61.4
District Y5		Females	0	0.0	57	3.1	361	19.6	0	0.0	276	15.0	0	0.0	8	0.4	7	0.4	0	0.0	0	0.0	709	38.6
		Total	0	0.0	188	10.2	1,248	67.9	0	0.0	387	21.1	0	0.0	8	0.4	7	0.4	0	0.0	0	0.0	1,839	100.0
Commercial	3,351	Males	0	0.0	922	2.0	15,829	34.0	0	0.0	7,242	15.6	57	0.1	196	0.4	3	0.0	0	0.0	0	0.0	24,250	52.1
Total Y1, Y2, Y3, Y5		Females	0	0.0	76	0.2	7,616	16.4	0	0.0	14,157	30.4	5	0.0	403	0.9	27	0.1	0	0.0	0	0.0	22,283	47.9
		Total	0	0.0	999	2.1	23,445	50.4	0	0.0	21,398	46.0	62	0.1	599	1.3	30	0.1	0	0.0	0	0.0	46,533	100.0
Subsistence [b]	74	Males	0	0.0	0	0.0	29	39.2	0	0.0	16	21.6	0	0.0	1	1.4	0	0.0	0	0.0	0	0.0	46	62.2
District Y1		Females	0	0.0	0	0.0	11	14.9	0	0.0	17	23.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	28	37.8
"king gear"		Total	0	0.0	0	0.0	40	54.1	0	0.0	33	44.6	0	0.0	1	1.4	0	0.0	0	0.0	0	0.0	74	100.0
Subsistence	211	Males	0	0.0	14	6.7	43	20.4	0	0.0	10	4.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	67	31.8
Kaltag Y4-A		Females	0	0.0	1	0.4	68	32.2	0	0.0	73	34.6	0	0.0	2	1.0	0	0.0	0	0.0	0	0.0	144	68.2
8.5 inch gillnet		Total	0	0.0	15	7.1	111	52.6	0	0.0	83	39.3	0	0.0	2	1.0	0	0.0	0	0.0	0	0.0	211	100.0
Lower Yukon	987	Males	0	0.0	22	2.2	340	34.4	0	0.0	136	13.8	2	0.2	7	0.7	1	0.1	0	0.0	0	0.0	508	51.5
Test Fishery		Females	0	0.0	0	0.0	159	16.1	0	0.0	306	31.0	0	0.0	11	1.1	3	0.3	0	0.0	0	0.0	479	48.5
8.5 inch set gillnet		Total	0	0.0	22	2.2	499	50.6	0	0.0	442	44.8	2	0.2	18	1.8	4	0.4	0	0.0	0	0.0	987	100.0
Pilot Station Sonar	108	Males	0	0.0	2	1.9	36	33.3	0	0.0	25	23.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	63	58.3
Test Fishery		Females	0	0.0	0	0.0	17	15.7	0	0.0	27	25.0	0	0.0	1	0.9	0	0.0	0	0.0	0	0.0	45	41.7
8.5 inch drift gillnet		Subtotal	0	0.0	2	1.9	53	49.1	0	0.0	52	48.1	0	0.0	1	0.9	0	0.0	0	0.0	0	0.0	108	100.0
Marshall	309	Males	0	0.0	1	0.3	108	35.1	0	0.0	34	11.1	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	145	46.8
Test Fishery		Females	0	0.0	0	0.0	53	17.1	0	0.0	112	36.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	164	53.2
8.25 inch drift gillnet		Total	0	0.0	1	0.3	161	52.2	0	0.0	146	47.2	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	309	100.0
Subsistence and	1,689	Males	0	0.0	39	2.3	557	32.9	0	0.0	221	13.1	3	0.2	8	0.5	1	0.1	0	0.0	0	0.0	829	49.1
Test Fish		Females	0	0.0	1	0.0	308	18.2	0	0.0	535	31.6	0	0.0	14	0.8	3	0.2	0	0.0	0	0.0	860	50.9
Total Large Mesh		Total	0	0.0	40	2.4	864	51.2	0	0.0	756	44.7	3	0.2	22	1.3	4	0.2	0	0.0	0	0.0	1,689	100.0
Chena River	362	Males	0	0.0	46	12.7	115	31.8	1	0.3	29	7.9	1	0.3	3	0.8	0	0.0	0	0.0	0	0.0	195	53.8
Carcass		Females	0	0.0	0	0.0	49	13.5	0	0.0	117	32.4	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	167	46.2
		Total	0	0.0	46	12.7	164	45.3	1	0.3	146	40.3	1	0.3	4	1.1	0	0.0	0	0.0	0	0.0	362	100.0
Salcha River	509	Males	0	0.0	28	5.5	157	30.8	0	0.0	94	18.5	1	0.2	3	0.6	0	0.0	0	0.0	0	0.0	283	55.6
Carcass		Females	0	0.0	1	0.2	93	18.3	0	0.0	125	24.5	0	0.0	7	1.4	0	0.0	0	0.0	0	0.0	226	44.4
		Total	0	0.0	29	5.7	250	49.1	0	0.0	219	43.0	1	0.2	10	2.0	0	0.0	0	0.0	0	0.0	509	100.0
Weight (lbs)		Males			7.1		16.7				21.5				27.8								467	
Lower Yukon TF		Females					19.5				22.4				21.3								495	

[a] Includes fish sold in District 1 by test fish.
[b] exed fish are not included.

6yr Y5 2003 52.7%, 2006 21.1%

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beginning in District 2 with a 2-hour commercial period on June 19. Because of the uncertainty about the Chinook salmon run strength, only restricted mesh openings were allowed after June 25. Additionally, the department attempted to schedule these chum-directed commercial periods when Chinook abundance was low. Additionally, three commercial periods were established in Subdistrict 4-A and seven commercial periods were established in District 6 which were directed at summer chum salmon.

The Pilot Station sonar project summer chum cumulative passage estimate through July 18 was 1,726,885 fish. The first quarter point, midpoint, and third quarter point were on June 21, June 27, and July 2 respectively.

The total commercial harvest was 198,201 summer chum salmon for the Yukon River drainage (Table 1). The summer chum salmon harvest was the tenth lowest since 1967, but 274% above the 1997-2006 average harvest of 53,014 fish (Table 3).

2007 Fishing Effort and Exvessel Value

A total of 591 permit holders participated in the Chinook and summer chum salmon fishery, which was 4% below the 1997-2006 average of 614 permit holders (Table 4). The Lower Yukon Area (Districts 1-3) and Upper Yukon Area (Districts 4-6) are separate Commercial Fisheries Entry Commission (CFEC) permit areas. A total of 564 permit holders fished in the Lower Yukon Area in 2007, which was 4% below the 1997-2006 average of 585. In the Upper Yukon Area, 27 permit holders fished, which was 16% below the 1997-2006 average of 32.

Yukon River fishermen in Alaska received an estimated $2.2 million for their Chinook and summer chum salmon harvest in 2007, approximately 28% below the 1997-2006 average of $3.1 million (Table 5). Five buyer-processors operated in the Lower Yukon Area. Lower Yukon River fishers received an estimated average price per pound of $3.73 for Chinook and $0.19 for summer chum salmon. The average price paid for Chinook salmon in the Lower Yukon Area was 19% above the 1997-2006 average of $3.14 per pound. Prices paid for summer chum salmon in the round continued to be low as observed since 1995. The average income for Lower Yukon Area fishers in 2007 was $3,829. Upper Yukon Area fishers received an estimated average price per pound of $1.33 for Chinook and $0.25 for summer chum sold in the round and $2.36 for summer chum roe. The average price paid for Chinook salmon in the Upper Yukon Area was 42% above the 1997-2006 average of $0.93 per pound. The average price paid for summer chum sold in the round in the Upper Yukon Area was 18% above the 1997-2006 average of $0.21 per pound. The average income for Upper Yukon Area fishers that participated in the 2007 fishery was $2,282.

2007 Age and Sex Composition

The LYTF Chinook salmon age composition through July 15 was 4.7% age-4, 14.4% age-5, 80.1% age-6, and 0.8% age-7 fish. The sample size was 1,031 fish. The average percentage of females was 52.6%. The percentage of age-6 Chinook salmon, the dominant age class in the Yukon River, was 16% above average while the age5 Chinook salmon was 12% less than average.

The weighted Chinook salmon age composition from six unrestricted commercial fishing periods in Districts 1 and 2 was 3.0% age-4, 16.9% age-5, 78.1% age-6, and 2.1% age-7 fish. The sample size was 2,288 fish. The average percentage of females was 52.2%.

The weighted Chinook salmon age composition from fifteen restricted (6-inch or smaller mesh size) commercial fishing periods in Districts 1 and 2 was 35.3% age-4, 30.9% age-5, 33.4% age-6, and 0.4% age-7 fish. The sample size was 1,091 fish. The average percentage of females was 27.7%.

The chum salmon age composition from fifteen restricted (6-inch or smaller mesh size) commercial periods in Districts 1 and 2 is 32% age-4, 52% age-5, 16.0% age-6, and 0.1% age-7 fish. The sample size was 1,722 fish. The average percentage of females was 48%.

2007 Escapement

Chinook Salmon

All spawning escapement goals were met in Alaska (Table 2). The Chena River tower finished counting on August 4 with a cumulative estimate of 3,576 Chinook salmon. The Chena River exceeded the lower end of the biological escapement goal (BEG) of 2,800 on July 22. The Salcha River tower estimated a minimum of 5,712 Chinook salmon through August 6 and exceeded the lower end of its BEG of 3,300 Chinook salmon on July 22.

Aerial survey sustainable escapement goals (SEGs) have been established in the East and West Fork Andreafsky, Anvik, Nulato and Gisasa Rivers. Successful aerial survey observations were made in all 5 Yukon River index tributaries used for escapement assessment. The department conducted aerial surveys of the Andreafsky, Anvik, Nulato, and Gisasa Rivers from July 22-July 24; all of these index rivers met or exceeded their sustainable escapement goals (SEGs) for Chinook salmon. The 2007 aerial survey estimates were as follows:

W.F. Andreafsky River	976	(SEG: 640-1,600)
E.F. Andreafsky River	1,758	(SEG: 960-1,700)
Anvik River	1,529	(SEG: 1,100-1,700)
Gisasa River	593	(SEG: 420-1,100)
Nulato River	2,583	(SEG: 940-1,900)

The Eagle sonar cumulative estimated passage was 41,182 Chinook salmon.

In summary, it appears the 2007 Yukon River Chinook salmon run was approximately 60,000 to 70,000 fish less than projected preseason. It is noteworthy that the Chinook runs in the Kuskokwim and Nushagak rivers were approximately 100,000 fish less than projected preseason in 2007 in each system. In all three of these large river systems, preliminary information indicates that more than one age class was less than expected preseason. The cause of this discrepancy is unknown.

Summer Chum Salmon

Preliminary post-season analysis indicates summer chum escapements were generally good in the East Fork Andreafsky and Anvik rivers, and in the Koyukuk River drainage (Table 3). Escapement goals have been established for the Andreafsky and Anvik Rivers. There is also a drainage wide optimum escapement objective for the Yukon River, based on the Pilot Station sonar project of 600,000 summer chum salmon.

Table 1. Preliminary summer season commercial harvest summary, Yukon Area, 2007.

District 1

Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished	Mesh Size	Number of Fishermen	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Average Weight	Summer Chum Salmon Number	Summer Chum Salmon Pounds	Summer Chum Salmon Average Weight
1	5:00 PM	18-Jun	2:00 AM	19-Jun	9	U	306	4,291	87,364	20.4	1,011	6,663	6.6
2	11:00 AM	20-Jun	1:00 PM	20-Jun	2	R	87	261	3,399	13.0	1,855	12,505	6.7
3	6:00 PM	21-Jun	3:00 AM	22-Jun	9	U	326	5,885	121,611	20.7	4,009	26,607	6.6
4	6:00 PM	22-Jun	10:00 PM	22-Jun	4	R	140	632	7,929	12.5	8,104	53,921	6.7
5	9:00 PM	25-Jun	3:00 AM	26-Jun	6	U	309	3,382	69,417	20.5	3,771	24,501	6.5
6	12:00 PM	27-Jun	6:00 PM	27-Jun	6	R	174	1,064	13,807	13.0	16,995	114,321	6.7
7	12:00 PM	30-Jun	6:00 PM	30-Jun	6	R	197	1,247	15,318	12.3	17,332	112,334	6.5
8	6:00 PM	2-Jul	12-Midnight	2-Jul	6	R	207	821	11,160	13.6	28,304	184,759	6.5
9	12:00 PM	6-Jul	6:00 PM	6-Jul	6	R	160	395	5,534	14.0	5,888	38,036	6.5
10	6:00 PM	9-Jul	3:00 AM	10-Jul	6	R	172	397	5,460	13.8	9,195	59,575	6.5
11	12-Midnight	12-Jul	6:00 AM	13-Jul	6	R	131	151	2,078	13.8	5,912	37,818	6.4
12	12-Midnight	14-Jul	6:00 AM	15-Jul	6	R	80	89	1,326	14.9	4,414	28,726	6.5
			Unrestricted Mesh Subtotal:		24			13,558	278,392	20.5	6,791	57,771	6.6
			Restricted Mesh Subtotal:		48			5,057	66,011	13.1	97,999	641,995	6.6
District 1 Subtotals:					72		359	18,615	344,403	18.5	106,790	699,766	6.6
Current as of:		15-Jul											

District 2

Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished	Mesh Size	Number of Fishermen	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Average Weight	Summer Chum Salmon Number	Summer Chum Salmon Pounds	Summer Chum Salmon Average Weight
1	6:00 PM	15-Jun	9:00 PM	15-Jun	3	U	166	2,081	41,589	20.0	142	985	6.9
2	8:00 PM	19-Jun	10:00 PM	19-Jun	2	R	91	702	7,454	10.6	7,470	50,071	6.7
3	6:00 PM	20-Jun	12-Midnight	20-Jun	6	U	196	3,932	74,811	19.0	922	6,271	6.8
4	12:00 PM	21-Jun	4:00 PM	21-Jun	4	R	44	415	4,036	9.7	3,341	22,364	6.7
5	6:00 PM	24-Jun	12-Midnight	24-Jun	6	U	199	3,225	63,367	19.6	1,456	9,704	6.7
6	12:00 PM	26-Jun	6:00 PM	26-Jun	6	R	89	848	9,641	11.4	14,210	91,578	6.4
7	12:00 PM	28-Jun	6:00 PM	28-Jun	6	R	101	805	8,954	11.1	21,439	136,509	6.4
8	12:00 PM	3-Jul	6:00 PM	3-Jul	6	R	119	902	10,651	11.8	12,232	78,149	6.4
9	6:00 PM	8-Jul	12-Midnight	8-Jul	6	R	93	392	4,923	12.6	8,220	51,459	6.3
			Unrestricted Mesh Subtotal:		15			9,238	179,767	19.5	2,520	16,960	6.7
			Restricted Mesh Subtotal:		30			4,064	45,659	11.2	66,912	430,130	6.4
District 2 Subtotals:					45		220	13,302	225,426	16.9	69,432	447,090	6.4
Current as of:		8-Jul											

District 3

Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished	Mesh Size	Number of Fishermen	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Average Weight	Summer Chum Salmon Number	Summer Chum Salmon Pounds	Summer Chum Salmon Average Weight
1	2:00 PM	22-Jun	8:00 PM	22-Jun	6	U	1	74	1,484	20.1	0	0	-
2	12:00 PM	25-Jun	9:00 PM	25-Jun	9	U	3	116	2,112	18.2	1	6	6.0
District 3 Subtotal:					15		3	190	3,596	18.9	1	6	6.0
Current as of:		25-Jun											

	Hours Fished	Number of Fishermen	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Average Weight	Summer Chum Salmon Number	Summer Chum Salmon Pounds	Summer Chum Salmon Average Weight
Lower Yukon Area, Summer Season, Districts 1, 2, and 3 Subtotal:	132	564	32,107	573,425	17.9	176,223	1,146,862	6.5

Districts 1 and 2 Combined Guideline Harvest Range: 60,000 to 120,000 Chinook salmon.
District 3 Guideline Harvest Range: 1,800-2,200 Chinook salmon.

U=UNRESTRICTED, R=6" MAXIMUM MESH SIZE

Table 1. Preliminary summer season commercial harvest summary, Yukon Area, 2007.

District 4

Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished 4-A	Hours Fished 4-BC	Number of Fishermen	Chinook Salmon Number	Chinook Salmon Pounds of Roe	Chinook Salmon Estimated Harvest \a	Summer Chum Salmon Number	Summer Chum Salmon Pounds of Roe	Summer Chum Salmon Estimated Harvest \a
1	6:00 PM	3-Jul	6:00 PM	10-Jul	168		4	0	0	0	5,359	4,232	5,359
2	6:00 PM	10-Jul	6:00 PM	15-Jul	120		0	-	-	-	-	-	-
3	6:00 PM	21-Jul	6:00 PM	26-Jul	120		1	0	0	0	1,945	1,706	1,945
District 4 Subtotal:			Current as of:	15-Jul	408	-	5	0	0	0	7,304	5,938	7,304

District 4 Guideline Harvest Range: 2,250-2,850 Chinook salmon.

Subdistricts 5-B and 5-C

Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished	Number of Fishermen	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Average Weight	Summer Chum Salmon Number	Summer Chum Salmon Pounds	Summer Chum Salmon Average Weight
1	6:00 PM	3-Jul	6:00 AM	4-Jul	12	9	330	4,810	14.6	0	0	0
2	6:00 PM	4-Jul	6:00 AM	5-Jul	12	9	533	7,523	14.1	0	0	0
3	6:00 PM	10-Jul	6:00 AM	11-Jul	12	10	378	5,417	14.3	0	0	0
Subdistricts 5-B and 5-C			Current as of:	11-Jul	36	12	1,241	17,750	14.3	0	0	0

Subdistricts 5-B and 5-C Guideline Harvest Range: 2,400 to 2,800 Chinook salmon.

Subdistricts 6-A, 6-B, and 6-C

Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished 6-A	Hours Fished 6-BC	Number of Fishermen	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Avg Weight	Summer Chum Salmon Number	Summer Chum Salmon Pounds	Summer Chum Salmon Avg Weight
1	6:00 PM	21-Jul	12:00 PM	22-Jul	18	18	6	27	212	7.9	454	2,724	6.0
2	6:00 PM	23-Jul	12:00 PM	25-Jul	42	42	6	133	1,082	8.1	1,491	8,946	6.0
3	6:00 PM	27-Jul	12:00 PM	29-Jul	42	42	3	91	1,091	12.0	2,437	14,782	6.1
4	6:00 PM	30-Jul	12:00 PM	1-Aug	42	42	7	30	364	12.1	4,059	22,449	5.5
5	6:00 PM	4-Aug	12:00 PM	5-Aug	18	18	8	0	0	-	1,291	6,537	5.1
6	6:00 PM	6-Aug	12:00 PM	8-Aug	42	42	8	0	0	-	2,063	10,875	5.3
7	6:00 PM	10-Aug	12:00 PM	12-Aug	42	42	6	0	0	-	2,879	14,639	5.1
District 6 Subtotal:			Current as of:	25-Jul	246	246	10	281	2,749	9.8	14,674	80,952	5.5

Subdistricts 6-A, 6-B, and 6-C Guideline Harvest Range: 600-800 Chinook salmon.

Upper Yukon Area, Summer Season, Districts 4, 5, and 6 Subtotals:						282	27	1,522	20,499	1,522	21,978	80,952	21,978
Yukon Area, Summer Season, Districts 1 Through 6 Total:						414	591	33,629	593,924	33,629	198,201	1,227,814	198,201

Table 2. Chinook salmon commercial harvest and escapement comparisons, Yukon River, 1997-2007.

		Chinook Salmon Commercial Harvest a												
District/Subdistrict	Guideline Harvest Range	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Comparison of 2007 to 10-Yr. Average	Recent 10-Year Average (1997-2006)
Y-1		66,384	25,413	37,161	4,735		11,159	22,750	28,401	16,694	23,748	18,615	-29%	26,272
Y-2		39,363	16,806	27,133	3,783		11,434	14,178	24,164	13,413	19,843	13,302	-30%	18,902
Subtotal Y1 & Y2	60,000-120,000	105,747	42,219	64,294	8,518		22,593	36,928	52,565	30,107	43,591	31,917	-29%	45,174
Y-3	1,800-2,200			538							315	190		
Y-4A														
Y-4BC		1,457		1,437				562						1,152
Subtotal Y-4	2,250-2,850	1,457		1,437				562						1,152
Y-5ABC	2,400-2,800	3,071	475	2,189			564	908	1,546	1,469	1,839	1,241	-18%	1,508
Y-5D	300-500	607	42	415			207	226						299
Subtotal Y-5		3,678	517	2,604			771	1,134	1,546	1,469	1,839	1,241	-27%	1,695
Y-6	600-800	2,728	963	689			1,066	1,813	2,057	453	84	281	-77%	1,232
Total Alaska	67,350-129,150	113,610	43,699	69,562	8,518		24,430	40,437	56,168	32,029	45,829	33,629	-30%	48,254
Canada b		15,717	5,838	12,354	4,829	9,769	9,069	9,446	10,946	10,680	8,758	4,000 m	-59%	9,741

		Chinook Salmon Escapement												
Project	Escapement Goal	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Comparison of 2007 to 5-Yr. Average	Recent 5-Year Average (2002-2006)
East Fork Andreafsky River Weir		3,186	'4,011	3,347	1,380	n	4,106	4,383	7,912	2,239	6,463	4,504	-10%	5,021
East Fork Andreafsky River Aerial c	960-1,700 SEG j,r	1,140	1,027		1,018	1,065	1,447		2,879	1,492	591 g	1,758		
West Fork Andreafsky River Aerial c	640-1,600 SEG j,r	1,510	1,249 g	870 g	427	570	977	1,578	1,317	1,715	824	976	-24%	1,282
Pilot Station Sonar		195,647	87,852	144,723	44,428	99,403	123,213	268,537	156,606	159,441	169,403	123,795	-29%	175,440
Anvik River Index Aerial c	1,100-1,700 SEG j,r	2,690	648 g	950 g	1,394	1,430	1,713		3,681	2,421	1,886	1,529		
Nulato River Tower		4,766	1,536	1,932	908	o	2,532	1,716	p	p	p	p		
Nulato River Aerial c	940-1,900 SEG j,s		1,053			1,884	1,584				1,292	2,583		
Gisasa River Weir		3,764	2,356	2,631	2,089	3,052	1,931	1,873	1,774	3,111	2,851	1,425	-38%	2,308
Gisasa River Aerial c	420-1,100 SEG j,r	144 g	889 g			1,298	506		731	950	843	593		
Chena River Tower/MR Tagging	2,800-5,700 BEG k f	13,390	4,745	6,485	4,707 f	9,209 f	6,967 f	8,739 f	9,645	o	2,936	3,576 t	-49%	7,072
Salcha River Tower/MR Tagging	3,300-6,500 BEG k	18,396	5,027	9,198	4,595	13,328	4,644 f	11,758 f	15,761	5,988	10,679	5,712 t	-42%	9,766
Eagle Sonar										81,527	74,000	41,182		
Canadian Estimated Escapement	33,000-43,000 u	37,683	16,750	11,362	11,344	42,438	40,145	47,486	37,165	31,268	27,990	24,000 m	-35%	36,811
ESCAPEMENT INDEX h		81,185	34,425	34,955	25,023	68,027	60,325	75,955	72,257	42,606	50,919	39,217	-35%	60,412

a Commercial harvest includes the estimated harvest of females to produce roe sold.
b Total harvest for all fisheries in Canadian mainstem Yukon River.
c Aerial surveys rated good to fare unless noted otherwise.
f Mark and recapture tagging estimate; tower counts were minimum/incomplete due to late installation and/or early removal of project, or high water events/weather conditions.
g Aerial surveys rated poor/incomplete; data not comparable to other years.
h The escapement index is the summed escapements for East Fork Andreafsky weir, Nulato tower, Gisasa weir, Chena and Salcha towers, and Canada mainstem tagging.
j SEG = "Sustainable escapement goal", as defined by the Sustainable Fisheries Policy
k BEG = "Biological escapement goal", as defined by the Sustainable Fisheries Policy. Range established in 2001.
m DATA ARE PRELIMINARY.
n Weir counts incomplete due to late start-up. On average, missed approximately 75% of chinook passage. Total counts for 2001 were 1,148 chinook salmon.
o No data due to incomplete operations.
p Did not operate.
r In 2001, the escapement goals were revised.
s In 2001, the Nulato River escapement goal was establesd for both forks combined.
t M Tower counts were minimum due to high water events/weather conditions.
u In 2007, the escapement goals were revised.

RC 69

FECUNDITY

(AVERAGE NUMBER EGGS PER FEMALE)

- 1989 Avg. Y6 = 9,150 Eggs per female
- 2005 Avg. Y6 = 6,999 Eggs per female
- 2005 Avg. Y5 = 5,551 Eggs per female

- SMALLER FISH HAVE FEWER EGGS

weighing Eggs

PETITION FOR REGULATION CHANGE

The Fairbanks Advisory Committee petitions the Board of Fisheries under authority of 5AAC 96.625(f) to amend 5 AAC 05.360 Yukon River Salmon Management plan as follows:

1. Gillnets in the Yukon River shall be no larger than 7½ inches stretched mesh. Effective date 2008 commercial season; effective date 2009 subsistence season.

2. No gillnets larger than 6 inches stretched mesh shall be no more than 35 meshes deep. Effective 2007 in both the commercial and subsistence fisheries. The 7 year old Chinook salmon in the Yukon River are threatened with extinction. They have declined from 28% of the commercial harvest in the lower Yukon 1979-82 to 1 – 1½ % in 2006. The two upriver weirs on the Yukon River counted no 7 year old Chinook salmon in 2005.

The fecundity (average egg counts) of Chinook salmon has decreased by 23.41% in the Tanana River Y-6 from 1989 to 2005. In Y-5 from the village of Tanana to the bridge (which are primarily Canadian stocks), the fecundity was 20.6% less than the Tanana River stocks.

The 6 year old Chinook salmon in the commercial harvest have decreased significantly from 2003 to 2006 a period of four years:

	2003	2006
Y-1	65.4%	49.7%
Y-2	60.3%	43.7%
Y-5	52.7%	21.1%

In 1980 the 8 year old fish made up 3.24% of the Canadian component, today they are extinct. We do not want the 7 year old Chinook to go extinct.

The ages of fish caught by gear types as charted in the 2003 ADFG Yukon Salmon ASL Notebook (attached) prove 7½ inch gill nets would catch less 6 and7 year old fish, giving those fish the opportunity to spawn and perpetuate their unique genetics and preserve the diversity of Yukon River Chinook stocks.

Threatened extinction of a genetically unique fish stock justifies a finding of emergency under AS 44.62.270. We ask the Board to accept this petition, and amend the regulation to phase in smaller nets.

Submitted by
Fairbanks A.C. through Mike Kramer, Chair

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