

# YUKON FISHERIES NEWS

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WINTER 2009



YUKON RIVER  
DRAINAGE  
FISHERIES ASSOCIATION

A United Voice for  
Downriver and Upriver  
Fishermen

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## SUMMER SEASON PREPAREDNESS TELECONFERENCES: FISHERS SHARE THEIR IDEAS FOR MANAGING THE 2009 CHINOOK SALMON SEASON

By Jason Hale, Communications Director

After the disappointing Chinook salmon run last year, there were rumblings of concern for the 2009 fishing season. By late fall of 2008, management agencies in Alaska and Canada were projecting another poor run for 2009. Partnering with the Yukon River Panel, YRDFA set into motion a plan to inform fishers and communities about this projection so that they could prepare and to give them a chance to share ideas about how to manage the run. This plan involved teleconferences in January and February, followed by an in-person meeting in April.

In January 2009, YRDFA facilitated three teleconferences—one each for the lower, middle, and upper river. A total of 25 villages, along with fisheries managers, other agency representatives, and other interested people and groups, actively participated in these calls.

Many discussions focused on possible causes of the poor runs, including salmon bycatch, problems in the ocean, and quality of past escapement.

In the end, the conversation came around to what can be done in the Yukon River drainage to help meet escapement while minimizing hardships on local subsistence users. The chart below shows the most popular ideas (in no particular order) from each region of the river.

In February 2009, another set of teleconferences was held to continue the discussions from January. Active participants include a total of 24 villages, along with several representatives of agencies and other groups. The ideas presented by participants are listed on page 4.

.....  
*Fisheries managers are using these  
recommendations to develop a draft  
management plan...*  
.....

IDEAS FROM JANUARY TELECONFERENCES	LOWER RIVER	MIDDLE RIVER	UPPER RIVER
Begin voluntary catch reductions/closures	X	X	X
Limit fishing time		X	X
Limit mesh size/depth		X	X
Install more sonars	X	X	
Prepare for the worst—talk to your community		X	
Reduce sport, personal use, bycatch	X		
Look at customary trade	X	X	X
Disallow sale of Chinook in chum fishery			X

"Summer Season Prep..." continued on page 4

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\*Welcome to our newest associate members!

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YRDEFA would like to give special thanks to our board members for their recent financial donations to the organization, as well as for their time, energy, and expertise.

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 and the management of Yukon River salmon.

# A MESSAGE FROM THE DIRECTOR

by Jill Klein, Executive Director

As we move forward in discussing the projected poor Chinook salmon return and potential actions to address it, we have to look at all aspects of how the resource is used because



every fish counts. The salmon are used by many different groups and in many different ways, yet there is a similarity among all the user groups—for each, the salmon are valuable. The fish are valuable as a source of food, as a source of limited income, as a source of trade, and as an integral part of the ecosystem.

When we begin talking about conservation, one approach is to look back to the way things have been done historically. The prac-

tice of customary trade is one way salmon has been used along the Yukon River and has been practiced for many generations, from before Russian contact until today. The topic of customary trade has sparked a lot of emotional discussion, and any conservation measures targeting customary trade will require healthy debate and understanding.

Similarly, changes in gear or fishing time will affect users in different ways. With so many differences along the Yukon River, it is challenging to find a way to unite in how we conserve the resource. If the regulatory systems will allow, perhaps it is best to enable the various regions and even communities to determine how they would like to conserve the resource. If all agree that it is important to con-

serve, then how it is done and differences in method seemingly should be acceptable. But, if user groups are only suggesting conservation measures for the practices that are not their own, to save their own salmon uses, then that is going to divide instead of unite.

During the face to face meeting in Fairbanks next month with user groups river-wide, the regional differences will need to be brought up and the common ground found. The managers will be working toward their draft management plan for the 2009 Chinook salmon fishery with input from the people. This meeting is where we will begin to formulate one working document that people along the Yukon River can support. ☞

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## YRDFA WELCOMES NEW MEMBERS

By Lauren Sill, Program Coordinator

YRDFA extends a warm welcome to our newest members! As always, our annual meeting provided a great chance to give gift memberships to friends and family. Thanks to everyone who renewed their membership for another year and we welcome the following people to YRDFA:

Nellie Bell (Hooper Bay), Martin Hunt (Kotlik), Clarence Alexander (Fort Yukon), Nemy Armstrong (Hooper Bay), Natalia Ballard (Hooper Bay), Sarah Bass (Hooper Bay), Lucia Bedoya-Friday (Hooper Bay), Carlton A. Bell (Hooper Bay), Elena Bell (Hooper Bay), Joe Bell (Hooper Bay), Raymond Bell (Hooper Bay), Clifford Bunyan (Hooper Bay), Chanesa Chayalkun (Hooper Bay), Dane Durrant (Hooper Bay), John T. Friday (Hooper Bay), Gladys Hale-Abraham (Hooper Bay), Rich Hamilton (Lawton), Janice Hamrick (Bethel), Catherine Henzie (Allakaket), Heather Hildebrand (Anchorage), Agnes Hoelscher (Hooper Bay), James Hoelscher (Hooper Bay), Annie Hunter (Hooper Bay), Deena Jallen (Fairbanks), Paul Joe, Jr. (Hooper Bay), Inez Joseph (Hooper Bay), Virginia May (Hooper Bay), Raphael Murrin (Hooper Bay), Tina Nelson (Hooper Bay), Mary Ann Nukusuk, (Hooper Bay), Paul Nukusuk (Hooper Bay), Aloysius Olson (Hooper Bay), Christine M. Olson (Hooper Bay), Ignatio Seton (Hooper Bay), Peter Seton, Sr. (Hooper Bay), Elvena Smart (Hooper Bay), Irene Tall (Hooper Bay), Blaise Tinker (Hooper Bay), Caroline Tomaganuk (Hooper Bay), Marissa Tomaganuk (Hooper Bay), and Clarence Wilson (Hooper Bay).

If there's someone you think would like to be a member, let us know. And we always welcome comments and suggestions to help us serve you better. ☞

## Yukon River Fisheries Meetings Spring 2009

**March 24 – 27**

Yukon River Panel  
Whitehorse

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**March 30 – April 7**

North Pacific Fishery Management Council  
Anchorage

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**April 8 – 9**

Tanana Chiefs Conference Transboundary Tribal Symposium  
Fairbanks

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**April 10**

YRDFA Summer Season Preparedness Meeting  
Fairbanks

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**May 29 – June 1**

River Rally  
Baltimore, MD

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**June 1 – 9**

North Pacific Fishery Management Council  
Anchorage

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#### LOWER RIVER

- Address customary trade first.
- Establish mandatory measures with clear enforcement strategies, as opposed to voluntary measures.
- Establish time limits for fishing (windows) that follow the run up the river. Whether to fish on the first pulse was debated. Those who wanted to lay off that pulse sought to get more fish to Canada. Those who wanted to fish evenly throughout the run were concerned about being able to dry fish in the rainy season and overharvesting the Alaska portion of the run in favor of the Canadian portion. Also, timing of windows should take into account whitefish harvests.
- Install more sonars or give additional atten-

tion to assessment projects to be sure the fish are not being illegally harvested.

#### MIDDLE RIVER

- Establish voluntary reductions.
- Hold community meetings to decide what each village can/should do (see Koyukuk Tribal Council Resolution on this page for an example).
- Close the entire fishery, in both the river and the Bering Sea, for at least one salmon life cycle (5–6 years).
- Do not rely on limiting fishing time; it does not work. Fisher buy-in is critical.
- Look at customary trade, but remember rural-to-rural customary trade is very important in many villages.

- Establish harvest quotas based on past percentage of harvest.
- Consider limiting gear size, but remember that in the middle river some fishers do not have the gear, overharvesting of poor quality chum is a concern, and large kings may drop out of gear.

#### UPPER RIVER

- Establish community-based management plans, as opposed to district-based plans.
- Hold community meetings to decide what each village can/should do.
- Establish mandatory measures with clear enforcement strategies, as opposed to voluntary measures.
- Close the first pulse of Chinook salmon run or close entire run (and be careful with any part of the run not closed).
- Allow Eagle to fish on only the first pulse to get small males.
- Do not focus on customary trade.
- Establish true windows that do not get interrupted for commercial harvest.
- Do not allow the sale of commercially caught Chinook salmon.
- Establish harvest quotas based on past percentage of harvest.

Fisheries managers are using these recommendations to develop a draft management plan for the 2009 Chinook salmon fishery. Meanwhile, YRDFA is planning an in-person meeting to bring together people from the lower, middle, and upper river to further discuss and refine their ideas, and to review the draft management plan with fisheries managers.

The meeting is scheduled for April 10 in Fairbanks. Participants will include tribal representatives, city representatives, Regional Advisory Council representatives, processors, inter-tribal consortiums, and agency staff. The end goal is a thoroughly discussed, narrowed list of alternatives for managing the 2009 Chinook salmon run throughout the drainage.

For more information, contact Jason Hale at 877-999-8566, extension 105, or [jason@yukon-salmon.org](mailto:jason@yukon-salmon.org).

*This article was prepared by YRDFA under award number CC-03-08 from the Yukon River Panel. The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of the Yukon River Panel.*

### Koyukuk Tribal Council Resolution

Yukon River-wide Voluntary Closure of Harvest  
First Pulse of 2009 Chinook Salmon Run

#### RESOLUTION 09-10

WHEREAS, The Koyukuk Tribal Council is a Federally Recognized Tribe, and the local governing body for the Tribal Membership in Koyukuk, Alaska, and;

WHEREAS, recent projections suggest that the 2009 Chinook salmon run will be below average and may not cover subsistence needs, and;

WHEREAS, the Koyukuk Tribe is willing to participate in a voluntary harvest closure of the first pulse of the 2009 Chinook salmon run on the Yukon River to meet the escapement goal and provide a subsistence harvest for the Indigenous Tribes of Alaska and Canadian First Nations, and;

WHEREAS, the Koyukuk Tribal Council is seeking support for a river-wide voluntary closure of the first pulse of the Chinook salmon, and;

WHEREAS, the Athabascan People have practiced harvesting and conservation methods for thousands of years to protect the resources and allow resources for future generations, and;

WHEREAS, with the projection of a below-average Chinook salmon run, we need to practice the methods that were taught to us by our ancestors to protect the future of the Chinook salmon for the Yukon River and to help increase the stock for future generations to use.

NOW THEREFORE BE IT RESOLVED that the first pulse of the 2009 Chinook salmon run in the Yukon River be voluntarily closed for harvest to help meet escapement goals to the spawning grounds and the Indigenous Tribes of Alaska and Canadian First Nations.

# YRDFA ANNUAL MEETING CONVENED IN HOOPER BAY

By Jill Klein, Executive Director

YRDFA takes great pride in visiting the various villages along the Yukon River for a 4 day annual meeting to discuss fisheries issues important to Yukon River residents. This year, it was time to head to the lower river coast, where the community of Hooper Bay welcomed us for our meeting from March 2 through March 5, 2009.

A beautiful spring day greeted our arrival, and from the village we could see as far as the horizon would show us along the Bering Sea coast. Members of the upper Yukon River delegation, as well as the Anchorage-based staff and the federal and state managers from both Fairbanks and Anchorage, were able to land during relatively calm weather for the Yukon delta coast and were transported by snow machine from the runway to the school. With winter white expanses surrounding us, we could only imagine the bay, the sea, and the rivers that frame the community.

Unfortunately, inclement weather stopped our lower Yukon River delegation from leaving their communities. We teleconferenced in the missing delegates, but the phone connection was poor, and after a couple of hours, we abandoned the approach. Without a quorum for most of the meeting, YRDFA was unable to take official actions related to the meeting procedures and fisheries issues we had planned to discuss.

Some discussions about the important issues of salmon bycatch and the upcoming summer 2009 run of Chinook salmon did take place. These discussions will continue because the YRDFA annual meeting is in recess and will resume on April 11, 2009, in Fairbanks. At that time, we will take actions and pass resolutions.

The March meeting was held in the Hooper Bay School, which welcomed us with open arms. The open atrium, comfortable library, and many classrooms pro-

vided us with several spaces for the meeting and accommodated our meals and lodging.

The annual meeting is a time to share with other fishers and with local communities. We were able to participate in school activities such as entering classrooms to work with students on fish biology as well as reading and story telling. YRDFA also hosted a community event for which approximately 200 people showed up to join us for a meal. The event included a raffle that offered items such as Athabascan paddles and gloves as well as a new fish net and lodging in Anchorage. The community graciously performed an Eskimo dance and drumming while YRDFA board member Benedict Jones of Koyukuk sang Athabascan songs to the crowd.

We thank the community of Hooper Bay for hosting those of us who were able to spend a week there. The people were friendly, the school withstood 60-mile-per-hour gusts of wind, and the cooks kept us full. We learned about life along the remote coast of the Bering Sea and how weather and wind play an integral role affecting daily activities and connections to the outside world. The memories will stay with us for a lifetime.

*This article was prepared by YRDFA under award number 701818G494 from the U.S. Fish & Wildlife Service and award number NA06FP0387 from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, administered by the Alaska Department of Fish and Game. The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of the U.S. Fish & Wildlife Service, the National Oceanic and Atmospheric Administration, the U.S. Department of Commerce, or the Alaska Department of Fish and Game.*



YRDFA board member Benedict Jones from Koyukuk sings traditional Athabascan songs at a potluck held during the meeting.



Joseph Bell, Mayor of Hooper Bay, shares his views.



The Hooper Bay traditional dance and drum troupe performs at a potluck held during the meeting.

## YRDFA Holds Successful Raffle

YRDFA would like to sincerely thank the following companies and individuals for donating raffle items for the annual meeting raffle, which generated nearly \$1,000!

Historic Anchorage Hotel

Crowley Petroleum Distribution, Inc.

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Reed's Snowmachine & Marine

Wells Fargo Bank N.A.

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Katie Sevigny Studios

Sam's Club

Leroy Peters, Holy Cross

## “NOTHING BUT GOOD NEWS”

An Editorial by Charlie Campbell, Tanana Fisher

Our denial of shrinking king salmon size is human nature at work. This denial is a bad idea for both the fish and the fishermen. Here is why we need to do something about it.

A few fishing seasons ago, YR DFA convened a meeting in Anchorage to discuss the possibility that king salmon were undergoing a distinct and possibly irreversible trend to smaller individuals, something that upriver fishermen, particularly fishwheel operators, have been noticing for the past decade.

The meeting started amicably enough, with the upriver folks presenting their case and the lower river fishers asking intelligent questions. It seemed like everybody was actually considering the possibility. Then, a few opinion leaders began to stir—a stir of resistance. Someone stood up and said, “This is probably just a natural cycle...” And it seemed from that moment on, this statement—there is no problem—was the party line.

Sensing the possibility of a serious split, YR DFA scheduled another meeting later to discuss the topic. That went nowhere, so the matter was shelved, where it remains.



In the November 2008 “The Fair Advocate” newsletter, the Bering Sea Fishermen’s Association took a timid poke at the topic in an article reporting the results of the recent USFWS computer modeling study on whether gillnet mesh size influences king salmon size and age.

The study was a set-piece of scientific caution, hedged with careful verbiage, and the recommendation to “reduce or eliminate the directional selection” (that is, killing) “for the larger and more fecund individuals.”

Okay, get some big ones on the spawning ground. We understand.

So, why aren’t we doing anything about it? Why are we denying king shrinkage? Some convenient excuses:

1) ***It is not my fault.*** I respect the king salmon. (Insert: Atlantic salmon, Columbia River king salmon, Atlantic cod, and every other failed fishery.) Since I use them for food and have a sacred relationship with the fish, what I am doing in my fishing practices can’t possibly be wrong.

2) ***It is someone else’s fault.*** We need to look for villains elsewhere because we are obviously on moral high ground here. It’s the pollock fishermen. It’s the fishwheels. It’s the drift netters. If we could blame the Canadians, that’d be handy, but because we are not delivering any kings for them to fish, the Canadians are unavailable.

3) ***What if we restricted ourselves?*** Disaster! Bankruptcy! The end of our lifestyle! Out of the question!!

4) ***For Managers only:*** Show of hands, who wants to preside over the demise of a fishery?? Okay, everyone with their hand not in the air, let’s ride this out. Retirement or promotion in two years—let’s not rock the boat.

5) ***For YR DFA staff only:*** The state of this consensus-driven organization (and its funding) is fragile. Better stick with the feel-good stuff. Nothing but good news! And if things get too hot in the teleconferences, quick, change the subject.

So, what to do?

The most encouraging sign that a grassroots change might be coming is what an

ADF&G subsistence-survey taker told me last fall: they are starting to hear reports in many villages from the rank-and-file fishermen about the shrinking size of the kings.

The first step: get out of denial. What possible ulterior motive could upriver fishwheel fishermen have in reporting something that will result in

restrictions to them? Do folks think that we enjoy being the bearers of bad tidings? Please, believe us.

The second step: do something about it. ADF&G obviously can’t be counted on to show any political leadership. It is up to ALL of us fishermen, and it is going to result in some short-term pain. Folks, stand up and talk about this at the next YR DFA meeting. Don’t sweep it under the rug.

Or, consider the alternative: how do you feel about explaining to your grandkids how you just didn’t quite see the demise of the big kings until it was too late—and that it was someone else’s fault? Wake up! ☘

*Charlie Campbell is a subsistence and commercial wheel fisherman in District 5B and lives in Tanana. He served on the U.S. delegation of the U.S.-Canada Yukon Salmon Treaty negotiations, and remembers the day when a group of upriver and downriver fishermen conceived the revolutionary idea of a river-wide fishermen’s organization that became YR DFA—and hopes the organization still has the gumption to tackle this thorny issue.*

# CLIMATE CHANGE CONCERN FOR CHINOOK SALMON

By Lauren Sill, Program Coordinator

Climate change is affecting our lives and the environment we live in, and can be expected to continue to do so in the future. Its impacts will be variable, not always predictable or well understood. Climate change will affect both terrestrial and aquatic ecosystems and all the species therein. Although scientists are beginning to understand how climate change may affect some plant and animal species, it is still an unknown factor in future salmon survival. Salmon are expected to be affected during both their ocean and freshwater life stages. These effects on salmon and their habitat may vary within and between years. At the far reaches of migration by Yukon River salmon in Canada, changes in the rivers and land are being observed. Air temperatures in the Canadian portion of the Yukon River are warming, and in general, river flows are decreasing. The short-term implications of these trends are not clear.

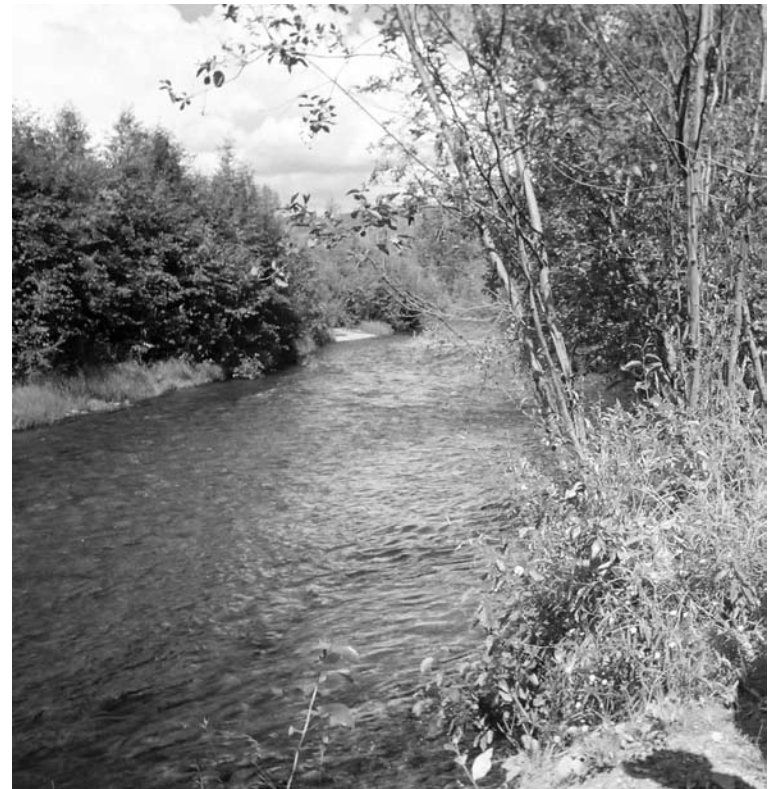
In the upper Yukon River basin, almost all salmon are either Chinook or fall chum salmon. Fall chum is a more resilient species in terms of a changing climate, given that these fish enter the river later in the year, spawn in groundwater discharge areas, and migrate to the ocean soon after they hatch in the spring. The life history of Chinook salmon makes the species somewhat less resilient. These salmon migrate upstream during the warmest part of the year and spawn in more than a hundred water courses, ranging from small tributary streams to the mainstem of the Yukon River. Some of these water courses are more resistant to change than others. Chinook salmon fry rear in either the streams of their birth or migrate downstream to enter other small streams. They feed and grow during the summer and fall, then overwinter in the streams. Not until the following spring do the juvenile Chinook salmon leave for the ocean.

Climate change can cause increased variability in temperature and precipitation, during a single season or from year to year. For

example, a warm, dry spring may be followed by a wet, cold summer. Or, one or more warm dry summers may be followed by one or more wet, cold summers. Some winters will have heavy snow, and some will have hardly any snow. Each type of habitat used by Chinook salmon will be more productive during one set of climatic conditions and less productive during another. For example, a small stream that begins at a lake will be most productive in a cool, wet year. Water flow will be high enough to water all of the spawning habitat, beaver will be discouraged from damming the stream, and water temperatures will be cool enough for the spawning salmon. If a stream does not have a lake as a buffer, a cool, wet year may cause high sediment loads and bed erosion, resulting in poor spawning success.

Awareness of the potential for climate change to affect freshwater salmon habitats is increasing. Evidence of the awareness includes annual assessments of the potential effects of climate change and related environmental conditions, which have been presented to the Yukon River Joint Technical Committee at its fall meetings in recent years.

Some changes have been clearly observed, as well. Scientists know that the air temperatures in the Canadian portion of the upper Yukon River basin are warming. Researchers at the University of British Columbia have determined that flows in most rivers are trending slowly downward, resulting in less water. (Glacier-fed rivers are an exception.) Another indicator of less available water is that spruce forests destroyed by wildfire are being replaced by grasslands and aspen groves, which are more tolerant to drought. The Yukon Geological Survey has determined that melting permafrost is contributing to increasing land-



A Chinook salmon spawning stream in Canada, near Dawson City.

slides. Some of these landslides are huge and affect salmon spawning streams. Other potential impacts of climate change on salmon, such as changing water temperatures, are less well understood.

Salmon are cold-blooded animals that rely on the right water temperatures to carry out their life processes. Different temperatures are required for different stages of the salmon life cycle. Unfortunately, right now the data to determine trends in water temperature do not exist. Although water temperatures are being recorded in some smaller and mid-sized spawning and rearing streams, no similar data are being collected on major migration rivers.

Many factors, both external and internal, need to be considered when assessing climate change impacts on Yukon River salmon. As the amount of data collected on salmon and their habitat grows, the findings can be used to inform future management. Through continued studies and data collection, we can better understand how a changing climate will affect salmon survival, and attempt to mitigate any adverse impacts. 🐟

# TRANS-BOUNDARY TRIBAL SYMPOSIUM HOSTED BY TANANA CHIEFS CONFERENCE

By Paige Drobny, Fisheries Biologist, Tanana Chiefs Conference

For some time now, aboriginal and native people in both Canada and Alaska have expressed serious concerns about the continued viability of Yukon River Chinook salmon. For years traditional knowledge and observations have indicated low numbers of returning salmon, a continuing decline in the size of those fish, and a smaller percentage of females, with few "big ones" reaching the spawning grounds. These are all indicators of a run in crisis.

Tanana Chiefs Conference (TCC) is convinced that Yukon River Chinook salmon are in a serious biological decline and that the aboriginal and native people's ability to maintain their age old traditions of harvest is in jeopardy. On both sides of the Alaska-Canada border, various organizations and governmental bodies are directing efforts at Yukon River salmon issues. The fragmented nature of the representation does not lend itself to building a unified voice for all aboriginal and native people. Rather, such fragmented representation works to segregate and divide the native voice into one of many, to the detriment of the native people and their common interest in protecting the cultures and the fish on which they depend.

TCC hosted a gathering in Fairbanks of Canadian First Nations people and Alaska native tribal representatives from the Yukon River on December 10 to 12, 2008, to discuss the future of Yukon River salmon and what might be done to protect the inherent rights of the native people.

On the first day, the symposium focused on current salmon research in the ocean. Andy Seitz presented a brief rundown on salmon



Mike Smith of TCC moderates discussions during the meeting.

life history. Ed Farley talked about the impacts of warm years, in comparison to cold years, on juvenile Chinook diet and the location of these fish in the Bering Sea. Jim Murphy's research showed that juvenile Chinook in the Bering Sea stay within 160 feet of the coast in the summer and fall and that the northern shelf region can be used as an abundance index for the Yukon River. Kate Myers provided updates on the seasonal migration patterns of adult Chinook in the Bering Sea and on find-

ings about the effect of climate on their return to spawning grounds. Becca Robbins-Gisclair informed the delegates about the salmon bycatch in the pollock fishery and the North Pacific Fishery Management Council's timeline for implementing new regulations for salmon bycatch.

The second day featured a variety of research presentations focusing on salmon returning to spawn. Jeff Hard talked about fishing-induced evolution and how fishing hard can produce genetically undesirable traits. He also gave Jeff Bromaghin's presentation on potential effects of net-size selectivity on Yukon River Chinook. This model showed how fishing with a large-mesh gillnet over time would reduce the size of the fish in the population. Interestingly, the model also showed that with a simple reduction in mesh size, the population may be able to regain its size and thus its genetic diversity. Terry Beachum described some of the ongoing genetic work, and Lara Dehn provided an update on the *Ichthyophonus* infection. Bruce McIntosh familiarized the

delegates with the Pilot Station sonar and how fish are counted and divided by species, and Mary-Ellen Jarvis explained how the Canadian Department of Fisheries and Oceans manages the Chinook salmon run with input from its aboriginal people.

On the third and last day, Emmie Fairclough and James MacDonald, Canadian aboriginal fishers, described how their communities are working together with Canadian fisheries managers to reduce the amount of Chinook salmon they take in poor run years. Conservation of the remaining salmon that return to spawn in Canada was stressed. Steve Hayes, ADF&G Yukon River manager, gave a recap of the Chinook runs from previous years, indicated that the 2009 fishing season would be another below-average to poor run, and answered questions on management actions.

At this point, the delegates decided to come up with a resolution on the bycatch of salmon in the pollock fishery. That resolution, which was signed and sent to the North Pacific Fishery Management Council and the National Oceanic and Atmospheric Administration, demanded that the Council not accept a salmon bycatch hard cap of more than 32,482 fish, the 10-year average. It also specified that the salmon destined for the Yukon River that were caught in the pollock fishery be equitably distributed among the Yukon River drainage communities at cost to the industry.

Next the focus of the delegates turned to conversations about what to do next year, in the face of another poor Chinook salmon run. Many good ideas came out of these discussions, and TCC agreed to host another meeting in the spring to continue the dialog. The dates for that meeting at the Westmark in Fairbanks are April 8 to 9. Contact Paige Drobny for more information at 800-478-6822, extension 3488, or [paige.drobny@tananachiefs.org](mailto:paige.drobny@tananachiefs.org). ☛



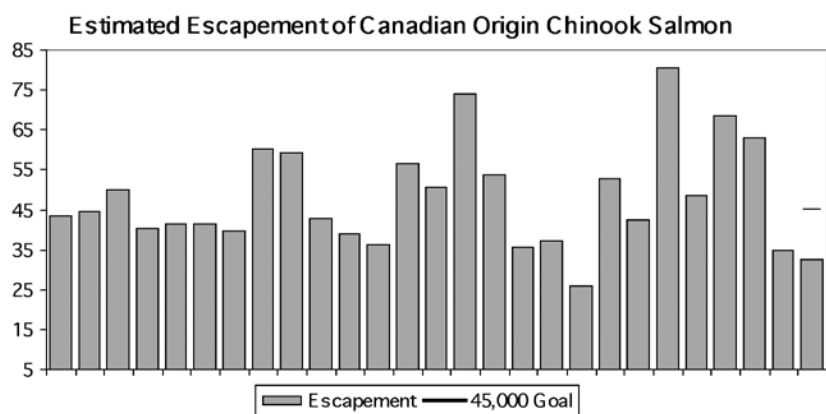


## 2009 YUKON RIVER CHINOOK SALMON RUN

The 2007 and 2008 Chinook salmon runs were below preseason run projections. The 2007 run was approximately 75,000 fish fewer than anticipated, and the 2008 run was approximately 65,000 to 75,000 fish fewer than anticipated. Whether below-projection runs are attributable to dramatically increasing bycatch harvest in the Bering Sea pollock trawl fishery, ocean conditions, or some other suite of environmental factors remains unknown.

Despite good parent year escapements, the 2007 and 2008 runs were poor and the escapement goal in Canada was not met. Preliminary analyses suggest the 2009 Yukon River Chinook salmon run will likely be below average to poor based on anticipated low production. If average productivity is experienced in 2009, the run would be expected to provide for escapement and subsistence uses. This outcome is unlikely, however, because of the poor production experienced in recent years. Therefore, it is prudent to enter the 2009 season, which also had good parent year escapements, with the expectation that conservation measures may be required in an effort to share the available subsistence harvest amount and meet escapement goals.

In these years of poor returns, every fish counts. Because nearly half the Yukon Chinook salmon harvested in Alaska are spawned in Canada, it is very important to keep Canadian escapements healthy. Conservation of our fisheries resources by all users is extremely important for ensuring future salmon runs.



Recognizing that about 50 percent of the Chinook salmon production typically occurs in Canada, the U.S.-Canada Yukon River Panel agreed to a one-year Canadian Interim Management Escapement Goal (IMEG) of more than 45,000 Chinook salmon based on the Eagle sonar program as a top management priority for 2008. The preliminary estimate of 2008 escapement into Canada was approximately 32,000 Chinook salmon, or 28 percent, below the goal.

Yukon River fisheries managers need your assistance to identify options and management strategies for 2009 that will assist in getting fish to the spawning grounds if the 2009 Chinook salmon run is similar to those of 2007 and 2008. Yukon River fisheries managers are encouraging users of the resource to contribute practical ideas for reducing Chinook salmon harvests. All people who depend on Yukon River salmon have an interest in trying to maintain these special fish for future generations.

For additional information:

ADF&G: Steve Hayes in Anchorage, 907-267-2383

USFWS: Russ Holder in Fairbanks, 907-455-1849; 800-267-3997

## WHITEFISH PLANNING ON THE YUKON AND KUSKOKWIM RIVER DRAINAGES

By Caroline Brown, ADF&G, and Randy Brown, USFWS

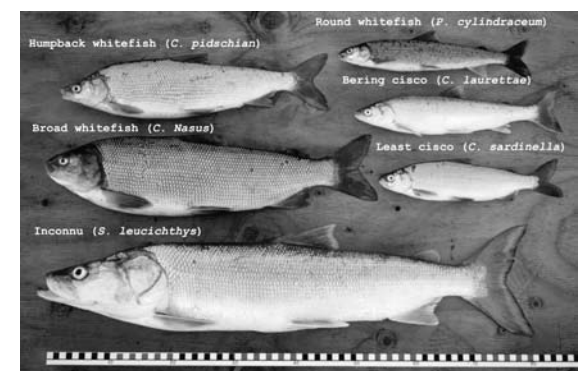
In November 2008, ADF&G and USFWS convened the first working group meeting of whitefish experts—a total of approximately 30 local subsistence fishermen, social scientists, biologists, and managers—to begin talking about whitefish research needs and management in the Yukon and Kuskokwim river drainages. Six whitefish species are commonly recognized in the Yukon and Kuskokwim rivers: sheefish, broad whitefish, humpback whitefish, Bering cisco, least cisco, and round whitefish. Major subsistence fisheries take place for sheefish, broad whitefish, humpback whitefish, and Bering cisco at various locations and seasons.

With increasing commercial opportunities offered, but little research available about whitefish life history, the Office of Subsistence Management at the USFWS requested the development of a strategic action plan for whitefish species to provide direction for research on this important subsistence resource.

Strategic planning for whitefish research on both the Kuskokwim and Yukon river drainages involves a lot of country, many communities, and multiple fish populations with different life histories. To kick off this effort, scoping meetings were conducted in the lower Yukon River (Emmonak) and central Kuskokwim River (Sleetmute and Aniak) to learn about specific concerns in areas where ADF&G and USFWS had little to no research about local uses or concerns. These results were combined with other available research on the subsistence uses and biology of whitefish into a preliminary paper. Working with the Regional Advisory Councils and other interested parties, ADF&G and USFWS brought together the working group for its first meeting in November 2008 to discuss the existing information, identify additional local concerns, and talk about management needs. A second meeting

of the same group will occur in April 2009 to prioritize the research needs identified in the November meeting. Ultimately, an improved understanding of these whitefish species will enable the development of effective monitoring and management plans.

If you have questions or concerns about this planning process, or would like to be kept informed about the strategic planning process, contact Randy Brown at 907-456-0295 or [randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov) or Caroline Brown at (907) 459-7319 or [caroline\\_brown@alaska.gov](mailto:caroline_brown@alaska.gov).



# SPOTLIGHT ON HOOPER BAY

By Lauren Sill, Program Coordinator

*In each issue of Yukon Fisheries News YRDFA highlights a different village. We hope these descriptions will give readers a glimpse into life and history in different areas of the Yukon River drainage.*

Hooper Bay is a large central Yup'ik Eskimo community located on the coast of the Bering Sea, in the Yukon-Kuskokwim Delta. The city has two sections: an older, built-up townsite on two hills and a newer section in the lowlands. Early Eskimo names for Hooper Bay were "Askinuk" and "Askinaghamiut", and the present-day Eskimo name is "Naparyarmiut." Members of Paimiut village also live in Hooper Bay, bringing its current population to at least 1,149 (DCCED 2007).



Hooper Bay was first reported in 1878 by E.W. Nelson of the U.S. Signal Service (DCCED 2007). In 1911 the Bureau of Education opened and ran the village's first school, and in 1928 the Catholic Church established a year-round mission at Hooper Bay. Euroamerican observers in 1918 documented a period of starvation during late winter and early spring, when a low abundance of spring seals failed to supplement the depleted winter food supply. Then in 1919 an influenza epidemic killed 12 percent of Hooper Bay's population (Stickney 1984).

Residents of Hooper Bay fish for salmon, whitefish, blackfish, flat fish, devil fish, hump fish, tomcod, and herring. They hunt for seal, sea lion, walrus, beluga whale, swan, goose, duck, ptarmigan, and waterfowl (Stickney 1984; DCCED 2007). In the fall they harvest blackberries, blueberries, cranberries, and salmon berries from the surrounding tundra. Residents also sell grass baskets and ivory handicrafts for income. Other sources of employment are local stores, the school, the Bureau of Land Management (fire-fighting), and commercial fisheries (DCCED 2007).

From early June through July, salmon are present in Hooper Bay, the bay on which the

community lies, beginning with chum and Chinook salmon, then pink salmon, and finally silver salmon (Stickney 1984). The majority of salmon in the area appear to be Yukon River stocks. Because chum and Chinook salmon arrive at the same time, nets with different mesh sizes are set simultaneously. Residents of Hooper Bay use 20- to 24-foot-long homemade wooden skiffs to set their nets. Common fishing locations are the tidal flats inshore of Nuok Spit and east of Napayaraq Slough's channel, where residents set their nets perpendicular to the shoreline (Stickney 1984). Coastal Villages Seafood Inc., a subsidiary of the Community Development Quota (CDQ) group Coastal Villages Region Fund, processes salmon and halibut in the village (DCCED 2007).

YRDFA has been working with active fishers and knowledgeable elders in Hooper Bay in an attempt to document and analyze local and traditional ecological knowledge on the historical abundance, distribution and health of salmon populations in the lower Yukon River drainage. YRDFA and ADF&G staff have traveled to Hooper Bay and the other study communities, first in the summer of 2006 and again in the summer of 2008. Most recently, YRDFA traveled to Hooper Bay to present the preliminary results of the documentation and analysis project to the community. A final report will be prepared by the summer of 2009.

For more information on the above-mentioned project, contact Catherine Moncrieff at the YRDFA office at 907-272-3141, extension 104, or [catherine@yukonsalmon.org](mailto:catherine@yukonsalmon.org).

## REFERENCES CITED:

Department of Commerce, Community and Economic Development (DCCED), Division of Community and Regional Affairs. 2007. "Alaska Community Database: Community Information Summaries," online summary of Hooper Bay. Available at [http://www.commerce.state.ak.us/dca/comddb/CF\\_CIS.htm](http://www.commerce.state.ak.us/dca/comddb/CF_CIS.htm) (updated 2007, accessed June 2008).

Stickney, Alice. 1984. Coastal Ecology and Wild Resource Use in the Central Bering Sea Area: Hooper Bay and Kwigillingok. Alaska Department of Fish and Game, Division of Subsistence. 🐟



# YUKON RIVER PANEL NEWS

## *Lower than expected return of Canadian-origin Chinook salmon a major concern at semiannual meeting of the international Yukon River Panel in Anchorage*

PRESS RELEASE—The Yukon River Panel, established by the U.S.-Canada Yukon River Salmon Agreement, met in Anchorage from December 8 through 12, 2008, to review the status of the 2008 salmon runs and the management actions used in 2008. The Panel also considered research proposals for 2009.

The 2008 run of Yukon River Chinook salmon that originated in the Yukon Territory of Canada was late and weaker than anticipated. The Panel review of the Chinook salmon run and fisheries found that conservation of these salmon stocks required the very conservative management measures that were implemented in 2008. Fisheries managers closed commercial fishing in the United States and Canada; reduced fishing time in the U.S. subsistence fisheries; allowed only smaller-mesh gillnets for use in the lower river districts of those U.S. subsistence fisheries; reduced the sport fishing bag limit in the United States; and closed sport fishing in Canada. In addition, Canadian First Nations voluntarily reduced aboriginal fishing by more than 50 percent. Even with these severe reductions, spawning escapement of Canadian-origin Chinook was 28 percent below the interim management escapement goal of 45,000.

During the meeting, the Panel heard a presentation from the North Pacific Fishery Management Council on the draft environmental impact statement on bycatch of Chinook salmon in the Bering Sea pollock trawl fishery. The Panel reiterated its concern about marine catches of Yukon River salmon stocks to the Council and urged the Council to take all measures necessary to reduce bycatch to the lowest levels, specifically, similar or lower bycatch levels than those existing at the signing of the Yukon River Salmon Agreement in 2002.

Reports from the Panel's Joint Technical Committee indicate that the 2009 Chinook salmon run is expected to be poor. As a pre-

cautionary approach, Panel members and managers will be gathering input from local fishers on salmon management strategies and options to assist in getting adequate numbers of Canadian-origin Chinook to the spawning grounds. The Panel approved an outreach effort to be conducted between January and May, prior to the season, to obtain recommendations. This outreach activity is expected to be a challenging endeavor and extremely important for sustaining future runs.

Since signing of the Yukon Agreement in 2002, the Panel has set an example for cooperation in the sharing and management of international salmon stocks.

The Panel, which operates under the umbrella of the Pacific Salmon Treaty, consists of 12 Alaska and Yukon Territory residents from throughout the Yukon River system, and is supported by regional advisers and by scientists and managers from Canadian and U.S. agencies.

The Panel has allocated more than \$2 million (U.S. dollars) from its Restoration and Enhancement Fund since 2002 to community-based projects, including stewardship projects that directly support the management and recovery of Yukon River salmon stocks originating in Canada. In 2008, these projects included test fisheries and population monitoring projects in the Alaska communities of Marshall, Kaltag, and Ruby and in Yukon Territory communities within the Yukon River

drainage, including those along the Yukon River mainstem and tributaries such as the Porcupine River. These Yukon Territory communities include Dawson, Mayo, Minto, Old Crow, Teslin, and Whitehorse.

Restoration and Enhancement Fund projects also involve the application of technologies to support fishery management. These projects



*Dan Bergstrom of ADF&G leads a discussion among U.S. Panel members, advisors, and others about options and management strategies for the 2009 Chinook salmon run.*

include advanced technology for genetic stock identification and techniques that rely on sonar stations to count runs at the U.S.-Canada border and within the Canadian portion of the Yukon River system. All of the funded projects have assisted with monitoring the escapement objectives set by the Panel.

At its spring meeting in March, the Panel will allocate \$1 million (U.S. dollars) for salmon and habitat Restoration and Enhancement Fund projects in both Alaska and Yukon Territory. The Panel will also establish specific escapement guidelines for management of the Chinook and fall chum salmon stocks in 2009.

For more information, contact Frank Quinn at 867-393-6719. ☛

## SALMON BYCATCH ACTION ALERT

# Last Chance to Comment on Salmon Bycatch in the Pollock Fishery!

**COMMENTS DUE MARCH 25, 2009**

By Becca Robbins Gisclair, Policy Director

The North Pacific Fishery Management Council is currently considering management measures to reduce salmon bycatch in the Bering Sea pollock fishery. Every year, the pollock fishery intercepts Chinook and chum salmon bound for Western and Interior Alaska. In 2007, more than 122,000 Chinook salmon were caught as bycatch. These numbers are of particular concern to Western Alaskans because studies show that more than 56 percent of the Chinook salmon caught as bycatch are of Western Alaska origin, and more than 40 percent of those Western Alaska Chinook are Yukon River stocks.

The Council is considering several options, including a range of caps. The caps would either close the entire pollock fishery or close an area when a set amount of Chinook salmon has been caught. The hard cap options range from 29,000 to 87,500 Chinook salmon. The Council will make a final decision at its April 2009 meeting, which will take place at the Hilton Hotel in Anchorage from March 30 to April 7, 2009. The agenda for the April meeting is available on the Council website at <http://www.fakr.noaa.gov/npfmc>. You can also submit written comments to the Council. Comments for the April meeting must be received by March 25, 2009. Send your comments to:

North Pacific Fishery Management Council  
605 West 4th Avenue, Suite 306  
Anchorage, AK 99501-2252  
Fax: 907-271-2817

The Council will consider measures to reduce chum salmon bycatch at a later meeting. Stay tuned for details.

### KEY POINTS TO INCLUDE IN COMMENTS ARE:

- The importance of Chinook salmon to you and the people of your region for subsistence fisheries, commercial fisheries, or both.
- The impacts on you, your family, and your community from recent years of low Chinook salmon runs.
- The Council and the National Marine Fisheries Service (NMFS) should adopt a hard cap of no more than 32,500 Chinook salmon immediately to protect Western Alaska Chinook salmon.

For more information, contact YRDFA at 877-999-8566, extension 105, or 907 272 3141, extension 105, or see the YRDFA website: [www.yukonsalmon.org](http://www.yukonsalmon.org).

### WHAT COMES NEXT?

After the Council takes final action in April, the regulation process begins. First, the Secretary of Commerce will review the decision from the April meeting. Next, the NMFS, an agency within the Department of Commerce, will develop the regulations that put the Council's decision into effect. Another public comment period will be announced to permit comments on the regulations. After public comments are reviewed, final regulations will be issued. Because the alternatives pose annual caps, the regulations need to go in place at the beginning of the year (January 1). The NMFS won't have time to develop the regulations by January 1, 2010, because of the time required for the process of developing the regulations. Therefore, final regulations on salmon bycatch will be in place and effective by January 1, 2011.

### BYCATCH POSITIONS

Here is a list of the hard caps being recommended by other groups to the North Pacific Fishery Management Council:

Eastern Interior Regional Advisory Council	29,323
Federal Subsistence Board	29,323
Western Interior Regional Advisory Council	29,323
Yukon-Kuskokwim Delta Regional Advisory Council	29,323
Alaska Federation of Natives (AFN)	30,000
Alaska Marine Conservation Council	30,000
Association of Village Council Presidents (AVCP)	30,000
Kawerak, Inc	30,000
Oceana	32,500
Tanana Chiefs Conference	32,500
World Wildlife Fund	32,500
Yukon River Drainage Fisheries Association	32,500
Bristol Bay Economic Development Association (CDQ)	47,591
Yukon Delta Fisheries Development Association (CDQ)	47,591

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