

YUKON FISHERIES NEWS

A Publication of the Yukon River Drainage Fisheries Association

Spring 2012



Yukon River Drainage Fisheries Association

A United Voice for Yukon River Fishers

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Yukon River Chinook Salmon Fishing and Tier II?

By Caroline Brown & Alida Trainor, Alaska Department of Fish & Game

As many of you already know, salmon fishing defines summer subsistence activity on the Yukon River. Historically, the Yukon River was dotted with hundreds of fish camps during the salmon season. Fish camps are in decline in all parts of the Yukon, but many are still remain operational for parts of each summer while other families have moved their processing operations to their home villages. While fishing practices have changed through time, the essential activity remains important to the livelihoods and cultures of Yukon area villages.

Fluctuations in subsistence Chinook salmon harvests have been documented since the early 1900s. In recent years, however, declines in returning king salmon have led to more conservative management. In 2000, there were restrictions on subsistence fishing during the summer season for the first time and the Alaska Board of Fisheries (BOF) declared Yukon Chinook salmon a “stock of concern”.

Beginning in 2009, subsistence fishing pulse closures have been enacted to achieve Chinook salmon escapement goals. Pulse closures that restricted subsistence fishing times for Chinook salmon were seen again in 2011 and will likely be implemented in 2012. In 2009, another poor return of Chinook salmon, along with additional restrictions, led the U.S. Secretary of Commerce to declare Chinook salmon fishing on the Yukon River a disaster.

Additionally, poor Chinook salmon runs have affected commercial fishermen, primarily in the lower river. According to the state subsistence statute, commercial fishing must be restricted or closed prior to restrictions on subsistence opportunity. For many people, the lack of a directed king salmon commercial fishery has limited their primary source of income and hampered their ability to afford participation in other subsistence activities.



Subsistence law

In Alaska, the BOF is charged with determining the customary and traditional (C&T) uses of fish populations, and providing for those uses first before allowing for other uses, such as commercial or recreational uses. Eight criteria are used to make these determinations (a description of this process can be found on the ADF&G website at <http://www.adfg.alaska.gov/index.cfm?adfg=subsistence.faqs#QA3>). Once a C&T finding is made, the BOF sets an “amount reasonably necessary for subsistence,” or ANS, and makes regulations that provide for “reasonable opportunity,” which allow a subsistence user to participate in a subsistence fishery that provides an average, active user a reasonable expectation of success in harvesting the fish they need.

In 2001, the BOF set a species-specific ANS amounts; the ANS for Chinook salmon is 45,500-66,704 fish for the entire U.S. portion of the river. Poor runs and increasing restrictions have resulted in subsistence harvests that have fallen below the ANS range since 2008.

“...Tier II?” continued on page 5

associate members	
Interior Alaska Fish Processors Inc.	Kotlik Traditional Council
Boreal Fisheries	Asa'carsarmiut Tribal Council
Holy Cross Traditional Council	Allakaket Traditional Council
Koyukuk Tribal Council	Beaver Village Council
Ruby Marine	Birch Creek Tribal Council (Dendu Gwich'in)
City of Nulato	Nulato Tribal Council
Pitka's Point Tribal Council	Ruby Tribal Council
Yupit of Andreafski	Evansville Tribal Council
Ohogamiut Traditional Council	City of Hooper Bay

board of directors	
District / Seat #	Representative
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Y-1, Seat 2	Michael Jimmy
Y-1, Seat 3	Ephrim Thompson
Y-2, Seat 1	Alexie Walters, Sr.
Y-2, Seat 2	Mike Peters
Y-2, Seat 3	William Alstrom
Y-3, Seat 1	Leroy Peters
Y-4, Seat 1	Fred Huntington, Sr.
Y-4, Seat 2	Richard Burnham
Y-5, Seat 1	Charlie Wright
Y-5, Seat 2	Stan Zuray
Y-6, Seat 1	Philip 'Jeep' Titus
Y-6, Seat 2	Victor Lord
Koyukuk, Seat 1	William Derendoff
Yukon Flats, Seat 1	Jan Woodruff
Canadian (non-voting)	Ron Chambers

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Cooper Landing Robert Gibson	Nome Frank Carruthers	Tok Bronk Jorgensen Thor Jorgensen
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*sponsored by Alakanuk Native Corp. **sponsored by Kotlik Yupik Corp. ***sponsored by Pilot Station Inc.		

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A Message From the Director

By Jill Klein, Executive Director



What does it mean when we have the worst published king salmon outlook on record? We gathered together a river-wide group, mainly made up of Tribal fisheries delegates, to discuss this (thanks to funding and support from the Yukon River Panel). For the past 4 years, we have been hosting what we call the summer preparedness meetings to discuss pre-season management strategies that will determine potential courses of action for the fisheries managers and fishing families based on the pre-season projection of salmon returns. This is with the caveat that there is a range predicted

... *we know that the world is now full of complexities that impact Yukon River salmon stocks*

for king salmon returns, and management decisions will change from pre-season to in-season once the fish show up.

We hope for the best, but we also need to be prepared for the worst. It will be hard on fishing families if the run comes in at the lower end of the projection. The lower end this year is lower than the past couple of years, and during the past couple of years it has been difficult to harvest the amounts necessary for subsistence.

At the summer preparedness meeting we are focused on the mechanics of how to implement fisheries during times of low salmon returns, but equally important is the bigger picture of why this is happening. Recent scientific information shows that the productivity of salmon is low. We have just about 1 fish that returns from every spawning salmon. We reviewed and discussed when we have and have not met escapement goals and

Canadian border passage, and also discussed our harvest rates and conservation strategies. The salmon spend a majority of their time in the marine environment, and there is no clear answer as to what the true impacts are at this stage of their lifecycle. We are working vigilantly on reducing the amount of salmon bycatch and as one fisher expressively stated, “Can the world live without fake crab and fish sticks for a year?” While we wish it were this simple, we know that the world is now full of complexities that impact Yukon River salmon stocks.

Fishers at this meeting expressed their concern for other salmon species, too, such as summer chum that their children will also need to rely on. They discussed how they are all in this together and that they, the fishers will need to be the ones who solve this problem of low king salmon runs, not the managers. Many fishers noted that fishing families need to continue to reduce their harvests.

These are key messages we want to remember from this year’s meeting:

- Sustain the salmon for the future generations,
- Fishers need to work together to address the low salmon runs, and
- Fishers have been voluntarily reducing their harvests and will continue to do so.

These messages are helpful and useful for this coming season and for the future. We need to look at the future needs of fishing families on the Yukon River, identify and address the challenges ahead, look at the existing trends in the data to help us learn more, and then look at the capacity of the Tribes, municipalities, non-profits, and agencies to address the needs and challenges ahead. At YRDFA we will be strategizing on how to go beyond planning for each season as it comes and truly be prepared for the future. 🐟

Yukon River Fisheries Meetings Calendar

DATE	MEETING	LOCATION
June 4-12	North Pacific Fishery Management Council	Kodiak
June 5	In-Season Management Teleconferences begin	800-315-6338; code: YUKON#
October 1-9	North Pacific Fishery Management Council	Anchorage
October 10-11	YK Delta RAC	St. Mary’s
October 10-11	Western Interior RAC	Holy Cross
October 16-17	Eastern Interior RAC	Fairbanks
December 3-11	North Pacific Fishery Management Council	Anchorage
January 2013	Federal Subsistence Board	Anchorage
January 15-20, 2013	Alaska Board of Fisheries - AYK	Anchorage

McIntyre Creek Restoration Project: Willows, Spruce, and Canada World Youth

By Dennis Zimmermann, Executive Director, Yukon Salmon Sub-Committee

This past September the Yukon Fish and Game Association organized the restoration of a small section of McIntyre Creek next to the Army Pumphouse Pond. Central to the effort was a dedicated and diverse group of volunteers and community partners. All mixed in together were biologists, fish-loving community residents, anglers, and a dedicated group of Canadian World Youth.

Like the creek itself, the restoration was teeming with life. Groups spread out and were delegated the responsibility of digging and planting native vegetation, cutting willows, making fences, or shoveling dirt. The objective was to replant a small section of creek that has been used as a crossing by motorized vehicles since the 1970's. The 2010 building of the Trans-Canada Trail Bridge by the Klondike Snowmobile Association makes this water crossing no longer necessary.

It was a mixed bag of volunteers, with the majority coming from the Ukraine and the Canada World Youth program. Not only was the project supporting a local creek, these overseas volunteers now made it a global initiative. As one of the

Ukrainian Canada World Youth volunteers stated, "This is very Canadian to be outside and helping the environment. We don't do this in our country."

The majority of work by these rubber-booted volunteers involved the replanting of willows and spruce along the damaged sections. Reintroducing these native plants assists in restoring the riparian plant communities, increasing bank stability, creating cover and connectivity for small animals, increasing nutrient influx, and providing more food for fish, birds, mammals and amphibians.



This urban stream in the centre of the city is used by many residents and has a high recreational and educational value. While there are limited fishing opportunities, the creek provides habitat for numerous fish species including Chinook salmon, arctic grayling, rainbow trout, long-nosed dace, and slimy sculpin. The fish in

this system rely on the bugs, riffles, runs, and nutrients for their daily survival. As Coralee Johns, Fish and Wildlife Steward from the Ta'an Kwach'an Council states "McIntyre Creek is right out our back doors here in Whitehorse. It's a pristine and beautiful ecosystem to experience! It's a tourist attraction and a reliable natural resource that we are blessed to have."

Understanding the connection between things like fish habitat, fish diet, fish holding and feeding patterns makes better anglers. It also makes anglers more active environmental stewards. Who is to better understand and monitor the natural environment than those out fishing and hunting in it? The McIntyre Creek restoration offers a glimpse of many of these factors in a wide-open community classroom.

A 2011 Special Report on Fishing and Boating in the United States confirmed that anglers are 10% more likely than the general population to have volunteered or donated to support environmental and conservation efforts. As Gord Zealand confirms, "anglers are out there enjoying the Yukon and interacting with these habitats. If they are informed and understand what it takes to maintain and enhance them, they can make a difference."

The project has a broad range of community partners and was undertaken with the financial support from the Government of Canada. The Yukon Salmon Sub-Committee, Yukon College, Environment Yukon, and Friends of McIntyre Creek have all pledged to assist the project.

For more information on this project, please visit the McIntyre Creek Restoration Blog at: www.yukonfga.ca/blog. ☾

Western Alaska Salmon Stock Identification Project Nearly Done

By Jill Klein, Executive Director

The project is almost complete, with public release of the final report to be out in September 2012. This will be followed by presentations and public outreach to take place at the Board of Fisheries Work Session in October 2012 and then at Board of Fisheries meetings, including: December 2012 for Bristol Bay, January 2013 for the Arctic-Yukon-Kuskokwim, and February 2013 for the Alaska Peninsula region.

To learn more about WASSIP and to read technical documents, reports, meeting minutes and agendas, please

visit <http://www.adfg.alaska.gov/index.cfm?adfg=wassip.main> or just Google "WASSIP" and you will find it on the internet. Here is an overview from the website:

In May, 2006, a group of eleven signatories to a memorandum of understanding created WASSIP. Signatories include Alaska Department of Fish and Game, Aleut Corporation, Aleutians East Borough, Association of Village Council Presidents, Bering Sea Fishermen's Association, Bristol Bay Native Association, Concerned Area

M Fishermen, Kawerak, Lake and Peninsula Borough, Tanana Chiefs Conference, and Yukon River Drainage Fisheries Association. WASSIP is a comprehensive program to sample commercial and subsistence chum and sockeye salmon fisheries in coastal marine areas of western Alaska, from 2006 through 2009. This program is unprecedented in its magnitude and scope, including salmon fisheries from Chignik Bay to Kotzebue Sound, stretching over 3,000 km of shoreline. During the four years of fishery sampling, approximately 320,000 samples were

collected and some 156,000 samples will be analyzed by the ADF&G Gene Conservation Laboratory to estimate stock composition of fishery harvests with the finest resolution possible. Additional populations have been added to the genetic baselines for both species and the number of DNA markers has been greatly expanded to provide for increased stock resolution. WASSIP will help all stakeholders better understand the composition of harvests in western Alaska fisheries and the effects that these fisheries have on salmon stocks in this vast region. ☾

Voices from the River

This spring, YRDLA communications director Jason Hale asked this question of fishers from up and down the Yukon River. Here are their thoughts:

“This coming summer, what is the biggest challenge you think you’ll face to getting your king salmon?”

James Landlord, Mountain Village

We won’t fish for the first pulse. That’s going to be a challenge. We don’t know how many fish are coming in, so I’m worried about that, too.

Brewster Fields, Ft. Yukon

If they don’t open the windows. That’s about it. You don’t know how the run will do ‘til the fish hit the mouth [of the river].

Esau Schafer, Old Crow

All our life we depend on the land. We depend strongly on caribou. In the summertime we depend strongly on fish. I look forward to [getting fish in the summer] all the time. Sometimes I’m busy working and can’t fish and I don’t mind that. But some people can’t afford to not get fish; they have to depend on it. There’s all kinds of hardship around it, because of economy, because of lack of fish coming up. I also know how strongly downriver people depend on the salmon. As long as I have 2 or 3 salmon in the freezer, I’m happy. If it’s a low run this year, I think we can get by somehow.

Oona Edwardson, Tanana

Hopefully they open it up enough so we can catch the fish we need. I won’t be mad if they don’t open it up as much as most people wish if the fish don’t come back, because the only way to bring them back is if we don’t fish. Still, king salmon is the best fish out there. Not having it for a couple years would be better than not having it forever. Until last year, I never knew how good chum were for eating.

Sharon Kozevnikoff, Russian Mission

The number of openings are limited, and you never know, what if they open it when all the fish are past... we wouldn’t get any. And the size of the mesh, and fuel prices are going to go up. There are lots of concerns. Fuel might go up to \$8 to \$10 per gallon.

“...Tier II?” continued from page 1

Extended periods of low harvest and unmet ANS levels, along with other factors such as poor returns or additional restrictions may lead the BOF to consider implementing a Tier II fishery. Tier II regulations go into effect when the harvestable portion of a stock is not sufficient to provide a reasonable opportunity for subsistence uses. The BOF is charged with making this determination and adopting regulations to eliminate non-subsistence, consumptive uses and distinguish between subsistence users. Under Tier II, fishing is permitted only with a Tier II permit. Permits are issued based on a point system and the number of permits issued is determined by ADF&G. Under Tier II, not everyone who wants to fish is able to do so. The subsistence law directs the BOF to give a priority to those who have the greatest customary and

direct dependence and the fewest alternative resources.

The only example of a Tier II fishery in Alaska comes from the Nome Subdistrict for chum salmon from 1999 to 2005, after that fishery experienced extensive restrictions to subsistence harvesting, including bag limits, gear type reductions, closed areas, and fishing time restrictions and closures. Nome Subdistrict fishers were scored on their answers to two questions: 1) How many years have you fished or processed subsistence caught chum salmon from the Nome Subdistrict and 2) Of the total amount of subsistence caught chum salmon your household has caught over the last 4 years, how much has come from the Nome Subdistrict? The individuals who scored the

highest number of points based on these two questions were awarded a Tier II permit to fish.

The Yukon River offers several challenges to the implementation of a Tier II fishery. The Yukon River is an extremely large and complex system with overlapping runs of different salmon species and fisheries that cross multiple cultural, linguistic, and socio-economic profiles. Subsistence patterns along the Yukon River differ between regions and from village to village making it difficult to find one solution. Questions about how fish would be allocated between individuals, villages, or districts, as well as how these rules might be enforced are significant and challenging. However, they are ones we will likely have to face if Chinook salmon runs remain poor. 🐟



2012 Alaskan Management Strategies



This information describes the anticipated management strategies for the 2012 season.

Run and Harvest Outlook

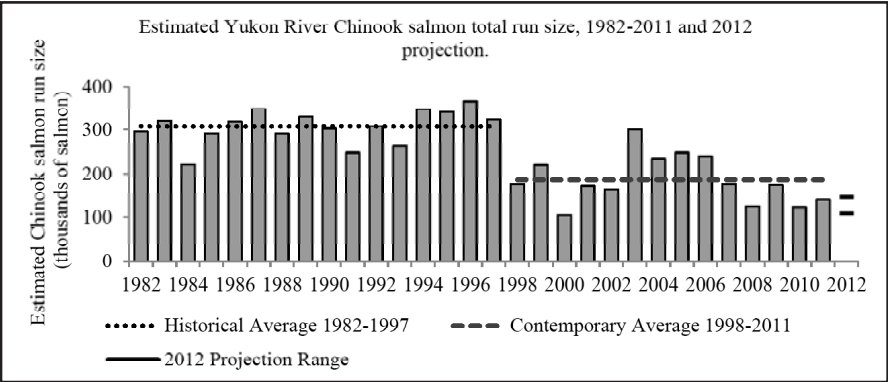
	CHINOOK	SUMMER CHUM	FALL CHUM	COHO
Projection:	Below average to poor	Average to above average	Average to above average	Average to below average
Escapement:	Expect to meet goals	Expect to meet goals	Expect to meet goals	Expect to meet goals
Subsistence:	Conservation measures necessary to share available harvest	Expect to provide for normal harvest	Expect to provide for normal harvest	Expect to provide for normal harvest
Commercial:	No fishery anticipated	0.5 to 1 million potentially available for harvest	500,000 to 700,000 potentially available for harvest	10,000 to 70,000 potentially available for harvest

Management Strategies

- Initial management will be based on preseason projections and shift to inseason run assessment as runs develop.
- The regulatory windowed subsistence salmon fishing schedule will begin May 31 in District Y-1 and will be implemented chronologically with the upriver migration.
- To conserve Chinook salmon, subsistence fishing on the first pulse will be closed. Beginning in District Y-1 (and the northern portion of the Coastal District), one fishing period will be closed (approximately 5-day closure) and this action will be similarly implemented in upriver fishing districts and subdistricts based on migratory timing.
- Due to the considerable distance between the upper and lower boundaries in some districts and subdistricts it is anticipated that these areas will be further subdivided and managed separately.
- If inseason assessment indicates Chinook salmon run strength continues to be poor after the first pulse closure, an additional subsistence fishing period may be closed or fishing time may be reduced.
- In the sport fishery, retention of Chinook salmon will not be permitted in the mainstem Yukon River. In the Yukon River tributaries (excluding the Tanana River drainage) the Chinook salmon bag and possession limit will be reduced from three to one fish.
- All Tanana River fisheries will be managed to meet Chinook salmon escapement goals for the Chena and Salcha rivers.
- Chinook salmon directed commercial fishing is not anticipated.
- A surplus of summer chum salmon is anticipated above escapement and subsistence needs. However, the extent of the summer chum salmon directed commercial fishery will be dependent upon the strength of the overlapping Chinook salmon run.
- It is anticipated that the sale of incidentally harvested Chinook salmon during summer chum directed commercial fishing periods will be prohibited.

The US/Canada Yukon River Panel agreed to Interim Management Escapement Goals (IMEG) of 42,500-55,000 Chinook salmon and 70,000-104,000 fall chum salmon based upon the Eagle sonar program in 2012. In addition, approximately 5,000 Chinook and 10,000 fall chum salmon will be allowed to cross the border to fulfill harvest sharing commitments specified in the US/Canada Yukon River Agreement. For the Fishing Branch River, the IMEG of 22,000-49,000 fall chum salmon based upon the Fishing Branch River weir count will continue through 2012.

The 2012 Chinook salmon projection is for a run size range of 109,000 to 146,000. The following chart shows the historical estimated Yukon River Chinook salmon total run size, illustrating the drastic decline in production beginning in 1998.



The cause of this drop in production remains largely unknown. Though parent year escapement objectives were generally achieved throughout the drainage, Chinook salmon returns since 2007 have been much lower than expected. As in recent years, fishery managers will begin the season using conservative management strategies. One subsistence fishing period will be closed on the first pulse of Chinook salmon and additional periods are likely to be closed or restricted to attain management objectives. The schedule below is subject to change depending upon run strength.

Subsistence Fishing Schedule

AREA	REGULATORY SUBSISTENCE FISHING PERIODS	DATE SCHEDULE TO BEGIN	OPEN FISHING TIMES
Coastal District	7 days/week	All Season	M/T/W/TH/F/SA/SU – 24 hours/day
District Y-1	Two 36-hour periods/week	May 31	Mon. 8 pm to Wed. 8 am /Thu. 8 pm to Sat. 8 am
District Y-2	Two 36-hour periods/week	June 3	Wed. 8 pm to Fri. 8 am / Sun. 8 pm to Tue. 8 am
District Y-3	Two 36-hour periods/week	June 6	Wed. 8 pm to Fri. 8 am / Sun. 8 pm to Tue. 8 am
Subdistrict Y-4A	Two 48-hour periods/week	June 10	Sun. 6 pm to Tue. 6 pm / Wed. 6 pm to Fri. 6 pm
Subdistricts Y-4B, C	Two 48-hour periods/week	June 17	Sun. 6 pm to Tue. 6 pm / Wed. 6 pm to Fri. 6 pm
Koyukuk & Innoko Rivers	7 days/week	All Season	M/T/W/TH/F/SA/SU – 24 hours/day
Subdistricts Y-5A, B, C	Two 48-hour periods/week	June 22	Tue. 6 pm to Thu. 6 pm /Fri. 6 pm to Sun. 6 pm
Subdistrict Y-5D	7 days/week	All Season	M/T/W/TH/F/SA/SU – 24 hours/day
District Y-6	Two 42-hour periods/week	All Season	Mon. 6 pm to Wed. Noon /Fri. 6 pm to Sun. Noon
Old Minto Area	5 days/week	All Season	Friday 6 pm to Wednesday 6 pm

For additional information:

- ADF&G Steve Hayes, Anchorage 907-267-2383; Jeff Estensen, Fairbanks 907-459-7217; or contact the Emmonak office 907-949-1320.
- Subsistence fishing schedule: 1-866-479-7387 (toll free outside of Fairbanks); in Fairbanks, call 907-459-7387.
- USFWS: Fred Bue, Fairbanks 907-455-1849 or 1-800-267-3997; or contact the Emmonak office 907-949-1798.

Canadian Management Strategies



The Department of Fisheries and Oceans Canada (DFO) is responsible for the

conservation and sustainable use of Canada's fisheries resources and is the management authority for Yukon River salmon in Canada.

What follows is a brief overview of the 2012 outlooks for the Canadian portion of the Yukon River fisheries, together with the corresponding proposed management plans.

Outlooks

Upper Yukon River Chinook Salmon

- The 2012 Canadian-origin upper Yukon Chinook salmon run is expected to be poor to below average, with a precautionary outlook of 54,000-73,000 salmon.
- The lower range is based on recent experience where runs have returned much lower than pre-season outlooks have projected.
- In addition, the models do not account for environmental factors, bycatch, reductions in productivity, and other phenomena.
- This year's Interim Management Escapement Goal is 42,500-55,000.

Upper Yukon River Fall Chum Salmon

- The 2012 Canadian-origin upper Yukon chum salmon run is projected to be a below average to average, with a run size of 247,000-300,000 salmon.
- This is based on the expectation that 25% of the Alaska Department of Fish & Game drainage wide outlook will be upper Yukon River fall chum salmon.
- This year's Interim Management Escapement Goal is 70,000-104,000.

Fishing Branch Fall Chum Salmon

- The 2012 Fishing Branch River (tributary to the Porcupine River) chum salmon run is projected to be 49,300 - 60,000 salmon. However, recent returns to the Fishing Branch River have been well below the lower end of the outlooks.
- This is based on the assumption that 5% of the drainage wide outlook will be Fishing Branch River fall chum salmon.
- This year's Interim Management Escapement Goal is 22,000-49,000.

Management Strategies

The Eagle Sonar will be used to determine

escapement into the upper Yukon River in Canada. Canadian fishers should enter the 2012 Chinook season with the expectation that conservation measures may be required. With that in mind, it is unlikely that there will be opportunities for the recreational, commercial, and domestic fisheries in 2012. Restrictions may be required in the First Nation fisheries unless run abundance is toward the upper end of the outlook range. For upper Yukon chum salmon, it is expected that the First Nation fishery will be unrestricted and opportunities in the commercial and domestic fisheries are likely. A sonar counter will be deployed on the Porcupine River near Old Crow; this combined with in-season genetic information will be used to monitor the abundance of chum salmon and guide management actions should the run be lower than the pre-season outlook.

In-season Canadian management actions are outlined in the Yukon River Chinook and Fall Chum Salmon Integrated Fisheries Management Plan (the "Management Plan"). This Management Plan is revised and approved annually after the conclusion of yearly meetings with Yukon First Nations, the Public, the Yukon Salmon Sub-Committee, and other stakeholders.

Decision guidelines have been a feature of the Management Plan for some years now. Decision guidelines are reviewed and modified annually, if necessary, to reflect new considerations and changing escapement goals.

Management actions outlined in this plan are subject to change in response to in-season variables such as salmon migration timing, abundance, and environmental conditions. While fishing opportunities outlined in this plan are anticipated based on pre-season information, they are not guaranteed. DFO will consult with First Nations, commercial, domestic and recreational fishers throughout the season regarding detailed fishing plans, particularly when in-season revisions are required to address specific conservation concerns or when observed in-season conditions are not covered in the decision guidelines.

The Management Plan will be available online at: <http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/mplans/mplans.htm>. 🐟

Estimating Annual Subsistence Harvest

By Deena Jallen, Fishery Biologist,
Alaska Department of Fish & Game

Since 1961 the Alaska Department of Fish and Game (ADF&G) has collected information on subsistence salmon harvests in the Yukon Area (within Alaska), providing a valuable record of historical harvest and trends. Subsistence salmon harvest estimates, along with other sources of data, such as salmon harvest from permits, test fishery projects, sonar passage estimates, and salmon genetics, are used to calculate how many salmon of each species return to the Yukon River each year, and to predict how many salmon will be in next year's run. Documentation of subsistence salmon harvests is also important for treaty negotiations with Canada regarding harvest allocation and in ensuring that enough salmon are protected for escapement and subsistence harvests before commercial fisheries can take place.

The primary method of estimating salmon harvest in most of the Yukon Area is the annual subsistence salmon harvest survey. It would not be possible to survey every household in every community every year, so the survey project is based on a stratified random sampling of households.

Our goal is to collect surveys from 80% of selected households. All households that harvest more than 100 salmon a year or have an unknown harvest history are selected to be surveyed. Additionally, depending on the size of the community, 30% or 50% of households that harvest less than 100 salmon or do not fish are selected. In the smallest communities (40 households or less), surveyors try to contact every household.

Survey questions cover household contact information, number of people, salmon harvest, fishing gear, other fish species, dogs and salmon fed to dogs. Surveyors also ask whether households fished in a group or gave or received salmon. These questions help to make sure that salmon are not double counted and that enough information is collected to estimate the total number of salmon harvested for subsistence by the entire community. Households are also asked if they were able to harvest enough salmon and if they have any comments or questions about subsistence fishing.

Household surveys start in Emmonak and continue through the Lower Yukon Area during September. Surveys take place in the upper Yukon, above Grayling, during October. Surveyors work with local residents hired by YRDFA to update community maps and lists of households. In 2011, more than 1,090 households in 33 communities were contacted during the survey or through follow-up calls or letters.

"Estimating..." continued on page 8



Interactive Workshops Bring Salmon Science to Life

By Heather Leba and Stephanie Schmidt, Alaska Department of Fish & Game

This spring we presented a special salmon science workshop at the YRDFA annual meeting in Galena (February 13-15), the Eastern Interior Regional Advisory Council (EIRAC) meeting in Fairbanks (February 29), and the pre-season planning meeting operated by YRDFA in Anchorage (April 4). Supported by the Yukon River Panel's Restoration and Enhancement fund, our goals with this project were to advance information and increase awareness of salmon topics, and enable more community participation in the management of Yukon River salmon stocks and habitats. The workshop was designed to be interactive to facilitate knowledge sharing among participants and workshop leaders. With declines in Yukon River king salmon runs, we wanted to provide a forum for sharing relevant scientific and traditional knowledge to form hypotheses that might explain the declines.

The workshop explored five life history stages of Pacific salmon: eggs, fry, age-2 (juveniles at sea), age-5 (adults about to return), and spawners (adults that actually make it to the spawning grounds). To illustrate rates of mortality at each life history stage, we used jars of M&M's candy that represented numbers of individuals at each stage (Figure 1). For example, the first jar of M&M's was full and represented about 4,000 eggs – typical of an average-sized female, while the final spawner jar had just a sliver of an M&M to represent the single individual from those 4,000 eggs that makes it to the spawning grounds. To begin the workshop we described what the jars of M&M's represented and framed the discussion to answer the question: "What is happening at each life history stage that is causing us to go from approximately 4,000 eggs to just one individual surviving to the spawning grounds?" To facilitate and record the discussion, we hung large poster paper on the wall for each life history stage (Figure 2). We went through each life history stage individually and asked participants to reflect on their experiences and traditional knowledge

and describe all potential factors that impact salmon at that stage, and we recorded comments on the poster paper.

After going through each stage, we highlighted common factors, identified which factors were potentially most important, and discussed which of them we have control over as stakeholders. At the conclusion of the workshop, we emphasized the abundance of issues impacting salmon at all life history stages and stressed the complexity of the issue for scientists, managers, and fishers alike.

Some of the common factors participants mentioned included food availability, temperature, oxygen, habitat, and disease. The role of flooding and other disturbances (fires, boating activity) were also highlighted in the egg and spawner life history stages. Discussions of bycatch and escapement quality were surprisingly replaced with talk about climate change and food availability in the ocean. Other factors discussed included predators and competition with hatchery fish.

Feedback from participants in each workshop was recorded verbally and through questionnaires. Participation at the YRDFA meeting was particularly high and engaged workshop attendees provided a productive and thorough discussion. One participant later in the meeting said "[the workshop] was eye-opening" and several others throughout the next two days referenced either the visual display of mortality across life history stages with the jars of M&M's or the complexity of factors impacting salmon displayed on the wall. In general, workshop participants at the EIRAC meeting liked the interactive nature and involvement the best. One participant noted that they "would have liked to see studies with data". Another participant noted it was a "great presentation and needs to be presented river wide".

Building on the success and feedback from the two meetings, we plan to travel to several more meetings over the next year to implement the workshop to a wider audience up and down the river. We also plan to find and have on hand scientific studies that address some of the factors brought up in discussion for interested participants to take home and read further.

Since reaching stakeholders throughout the drainage is a priority, we will focus our initial efforts on more meetings. However, we will also begin developing a workshop for grades K-12. If you think your school or community would like to have us come and give our workshop, please contact us. We'd love to hear from you! 🐟



Figure 1. Workshop visual aid of life history stages for Pacific salmon.

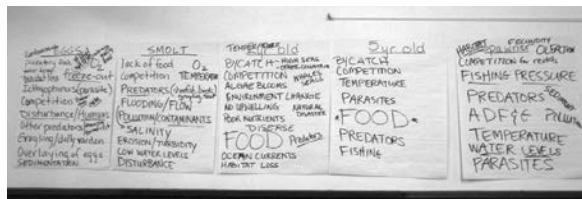


Figure 2. List of factors impacting salmon life history stages generated through the workshop discussion at the YRDFA annual meeting.

"Estimating..." continued from page 7

Harvest calendars supplement information collected during the survey. Calendars with complete and accurate harvest information improve the quality of data. Calendars and surveys are confidential; results from these sources are summarized by community or fishing district. To encourage household participation, returned calendars are entered into a drawing for prizes. Of the over 1,600 calendars mailed in 2011 only about 15% were returned. To boost calendar return rates in 2012 additional money has been donated to the calendar reward fund.

To qualify for the drawing, households must return their original calendar to ADF&G by December 31, 2012 with the questions on the inside cover filled out. In January 2013, winning calendars will be drawn at random and households will be notified. Households are eligible to win one prize each and do not need to fish or harvest salmon to be selected. Calendars can be returned by mail (postage is free), or given to one of the salmon resource surveyors.

Results from the subsistence harvest estimation project are published in an annual report. Historical tables in the report can be used to illustrate trends in the fishery and compare results from year to year. Yukon Area harvests include an average (2001–2010) of 49,300

Chinook, 87,600 summer chum, 67,600 fall chum, and 19,500 coho salmon. The 2011 report is currently in review and will be published later this year; the 2010 report can be downloaded from www.adfg.alaska.gov/FedAidpdfs/FDS12-18

We appreciate and thank you for your participation in the annual harvest calendar and survey projects! Estimated harvest information is used to manage for the subsistence use priority. Help protect your salmon and subsistence harvests by providing good data to support good fisheries management. 🐟

Yukon Delta CDQ Works to Improve Regional Economies

By Jack Schultheis, General Manager, Kwikpak Fisheries

Due to the fisheries disasters in western Alaska in the late 1990's, Yukon Delta Fisheries Development Association, the regional CDQ company representing the Lower Yukon, become directly involved in the region from an economic stand point. The collapse of the salmon fisheries in the late 90's affected just about every fishery from Bristol Bay northward, with the Yukon being one of the

most affected. Most Yukon River processors could not withstand the run failures, and by 2002 the Yukon fishery was down to barely two processors from an historic high of 18 companies operating throughout the drainage. The CDQ company formed Kwikpak Fisheries

at Emmonak in 2002 for two basic reasons: Commercial fishing is the economic foundation on the Delta and to ensure that fishers would be provided a fair market for their catch.

During the past 10 years the company grew from a fledgling fish buying station at Emmonak into the principle economic driver on the Yukon Delta. It has steadfastly committed itself to maintaining the commercial fisheries of the Yukon River and has chosen to set a course of corporate social responsibility in Western Alaska that has never before been seen.

The company has embraced its region in a number of ways. First and foremost is its dedication to the sustainability of Yukon salmon runs. The company has sponsored numerous research projects in cooperation with ADF&G. Most notable was the mesh size study, which produced the data that eventually led to the Board of Fisheries decision restricting mesh size for king salmon gill nets. This was a historic conservation measure that, based on current data, is producing a higher quality spawning population of king salmon. The company has also supplied boats, gear, technicians, crew, and funding for monitoring projects on the lower river, including Pilot Station sonar.

The CDQ company has profoundly affected the regional economy. While going through

years of sporadic chum runs and no commercial king fishery, the overall regional economy had been ruined. Through Kwikpak Fisheries, the company began a major marketing campaign that substantially bolstered the value of Yukon chum salmon. At the same time, the company emphasized quality, starting with fishers handling on up through value added processing. These

efforts resulted in Yukon salmon having an extremely good reputation in the marketplace.

The company has also kick started several business ventures in the region to combat high unemployment and lack of local commerce. Notable

among them are skiff building, aluminum fabrication, gravel hauling by barge, construction, "logging" drift logs, fur buying, and a retail store that also serves to train young people on how to run a small business in the area. These businesses have furnished well over 450 local villagers with jobs during any given year. The company represents the largest private employment sector in the Lower Yukon region.

Ever since getting directly involved in the region, the company has demonstrated a strong awareness of corporate social responsibility. It has consistently compensated fishers at fair market value regardless of there being no other market competition in region. It maintains a fleet of over 400 permit holders and supports them with gear and interest free loan programs for outboards and fishing vessels.

The company has a strict policy of soliciting workers only from regional communities and brings in outside workers only if specific skilled workers are unavailable locally. It provides training and education for its work force and places them throughout the company. The company has sponsored a number of community projects including suicide awareness and prevention events, construction of a Boys &

Girls Club facility at Emmonak, maintenance of community facilities such as churches and women's shelters. It has help and supported food banks and provided fish for school lunch programs on the Yukon Delta.

It has assisted communities in the region with grant applications and has provided matching funds for economic development projects in villages. It provided substantial working capital funding and in-kind contributions of materials and equipment to the fish plants in Kaltag and Anvik to get them operational.

It has processed, transported, and donated salmon to villages on the Koyukuk, middle and upper Yukon River, and to First Nations in Canada. The company has provided salmon for potlatches across the state, including events at both UAA and UAF for Native students, at no cost. It has a community casket making shop in Emmonak and furnishes the facility and materials at no cost for families who have lost loved ones.

On average it has between 30 and 50 students a year enrolled in colleges and vocational trainings

schools on scholarship programs. The company has established a Youth Employment Program, providing job opportunities for high school age kids who have no other place to work in the villages. With over 100 students enrolled in this program in 2011, it was critically acclaimed by the State as the largest youth employment project in the state, and one of the most successful.

The prevailing attitude of the CDQ company

has been to improve the economic conditions on the Yukon Delta by helping to build onto the skills of the local people with community based development, which it believes will lead to sustainable development and economic growth. This is what the Yukon Delta CDQ company does.



Waiting to off-load summer chum at Kwikpak in Emmonak



Youth Employment Program workers at Kwikpak Fisheries



Off-loading summer chum

Fish Monitoring: What We Count On

By Carl Pfisterer, Fishery Biologist, Alaska Department of Fish & Game

Monitoring the abundance of salmon returning to the Yukon River is critical for effective fisheries management and a variety of tools are used. These include sonar, weirs, counting towers, mark-recapture projects, test fisheries, and aerial and ground surveys. This article describes these methods and discusses the strengths and weaknesses of each.

Weirs

A fish weir is essentially a fence installed across flowing water to funnel fish passage into confined areas so they can be counted. Weir crews open gates to release them through an opening in the weir. As the fish pass through the opening, the technician can count each fish by species, both salmon and non-salmon. Weirs provide the most accurate method of counting returning salmon. They are also cost effective and can be easily used to collect age-sex-length data and tissue samples from salmon. But weirs can only be used to count salmon in narrow, shallow streams and are typically restricted to smaller spawning tributaries.

Counting towers

Counting towers are installed alongside clear water streams to provide an unobstructed view of migrating fish. Generally, a technician counts fish for 10 minutes each hour on each side of the stream. This number is then expanded to represent a full hour. A team of technicians will monitor the tower in this manner 24 hours a day, seven days a week, for the season. Counting towers have minimal equipment costs and provide reliable counts, but only work in clear, shallow streams where fish swim close to shore and are highly visible.

Aerial and ground surveys

To conduct an aerial survey, biologists fly over a river system in a small low-flying aircraft to estimate the number of fish present and compare it to an existing index for the system. This is a cost-effective method for sampling many streams in a large area, but is not very accurate and is weather dependent. Becoming a good aerial surveyor takes a lot of time and training.

A ground survey is similar to an aerial survey, but conducted on foot. A ground survey is very cost effective and is believed to produce more reliable estimates than an aerial survey. But it cannot be used to cover as many remote streams as quickly as an aerial survey and is limited to streams of a depth and clarity conducive to counting.

Mark-recapture projects

In a typical mark-recapture project, a sample of salmon are captured and tagged as they migrate up a river and are released back into the general population. The salmon population is resampled further upstream, capturing untagged salmon and recapturing some of the tagged salmon. Upstream sampling usually takes place at fish wheels or weirs located in the river’s tributaries. Assuming the proportion of tagged salmon in the upstream sample and the total population is the same, biologists can use the total number of tagged fish and proportion of the upstream sample that is tagged to estimate population size. If, for example, one third of the Chinook salmon caught at a weir are tagged, and 500 Chinook salmon were tagged in the river’s mainstem then a biologist might estimate a total population of 1,500 Chinook salmon entered

the river. Mark-recapture projects work best in rivers where there are tributaries in which a large portion of the run can be recaptured and scanned for tags. The main drawbacks of mark-recapture projects are high cost and the possible bias caused by handling fish.

Test fisheries

Test fishing typically involves calculating the catch per unit effort (CPUE) for salmon species caught in drift or set gillnets and fish wheels. The main utility of this information is the collection of age-sex-length data and determination of run timing, but these indices also provide some information about abundance of fish relative to other years.

Sonar

Here are the basics of how sonar finds fish in a river: First a sonar transducer submerged in the river emits a beam of sound waves into the water. When the sound waves encounter an object with a density different than water, such as a fish’s swim bladder, some of the sound waves bounce back to the transducer as echoes. The transducer detects these echoes, and biologists then analyze transducer data to provide information about fish in the river.

There are currently two types of sonar technologies used on the Yukon River: split-beam and DIDSON. Using split-beam, it is possible to detect fish at long ranges (about 300 m or 1,000 ft.) and to determine the position of a fish in the beam, making it possible to determine direction of travel. DIDSON operates at a much higher frequency than split-beam and uses 48 or 96 beams to create a video image of fish

	WEIR	COUNTING TOWER	AERIAL AND GROUND SURVEYS	MARK-RECAPTURE	TEST FISHERIES	SPLIT-BEAM SONAR	DIDSON
Strengths	Low cost	Low cost	Low cost	Can provide accurate abundance estimates	Low cost	Can be used in turbid water	Can be used in turbid water
	Accurate	Accurate	Cover many tributaries		Timely	Can detect fish out to 300m (1,000 ft)	Determines direction of travel
	Easy collection of age-sex-length				Collection of age-sex-length	Determines direction of travel	Provides video-like video
							Can calculate fish size
Weaknesses	Only practical in small rivers	Only practical in small rivers	Not very accurate	High cost	CPUE does not always correlate to run size	Difficult to operate	Fish detection limited to about 40m (130 ft)
		Can be very affected by changes in water level/turbidity	Weather dependent	Accuracy affected by fish mortality	Can be affected by water level	Does not determine fish species	Limited ability to determine species



Salcha River counting tower.

as they swim through the beam. The higher frequency improves the resolution over split-beam, but tradeoff is that it cannot see out as far (maximum of about 40 m or 130 ft.). The video images of DIDSON make it possible to measure fish length as well as determine direction of travel. In addition, DIDSON is easier to operate than split-beam. One primary weakness of sonar is very limited ability to distinguish fish species, which means a test fish project is often needed to determine species composition.

Summary

When developing projects, biologists take into account the information needs and the strengths and weaknesses of the possible methodologies. There are tradeoffs with each tool that are considered when choosing the method best suited to the particular location, information need, and available funding. ADF&G continues to evaluate new technologies in an effort to improve estimates of salmon returning to the Yukon River. 🐟

Youth-Focused Fish Camps Coming Together

By Catherine Moncrieff, Anthropologist

What does it take to make a fish camp?

A lot of effort by a lot of people, that's what!

All along the Yukon River, people are starting to think about fishing for salmon and going to fish camp. YRDFA is right there with them, focusing on making sure youth go fishing and get out to fish camps in Pilot Station, Nulato, Galena, Nenana, and Tanana. Youth are starting to sign up. Elders and community members are volunteering or taking paid positions to support the camp. Partners are joining and resources are being leveraged.

The first of the five youth-focused fish camps YRDFA is helping to coordinate will take place in Nenana. They have scheduled a 3-week camp effort that will begin with the set up of the campsite and continue with fishing and processing salmon. Their camp will include a community potluck and will end with the sharing of the salmon. Their camp will begin on June 17 and take place right in the village, on the banks of the Tanana River. The Nenana camp will target king salmon.

The next camp will take place in Pilot Station on July 25-29. This camp is building on the existing church-run camp at Saint Vladimir and Yakov campsite, which has been running for more than 30 years. With the support of YRDFA and funds from our Administration for Native Americans grant (ANA), the camp organizers plan to improve some of the facilities, adding a deck for a tent site and other improvements.

In Tanana, the community is planning a seven to ten day fish camp, targeting the king salmon

run in July. Tanana has held a spirit camp in the past and will use this experience to run their fish camp. Youth who attend will have the opportunity to spend time at a traditionally focused fishing camp, where they will learn fish cutting, hanging, smoking, and other processing aspects. They will also get to spend time at a science-focused camp where they will learn about fish disease, computers, and statistical data collection activities.

The Nulato fish camp will take place August 13-17 at the Stickman camp at 4 Mile. Local coordinator Noreen Mountain is working with Elders and knowledgeable fishers in her community to set up a camp targeting the silver (chum) salmon. Participants will get to learn from Elders about traditional fishing and changes over time. They will also learn about preparing Native foods, pressure cookers, boating, gun safety, and other important fish camp activities.

The Galena fish camp committee is building a unique program that will include a Stewardship program for youth employed by Loudon Tribal Council. This small group will build the fish camp

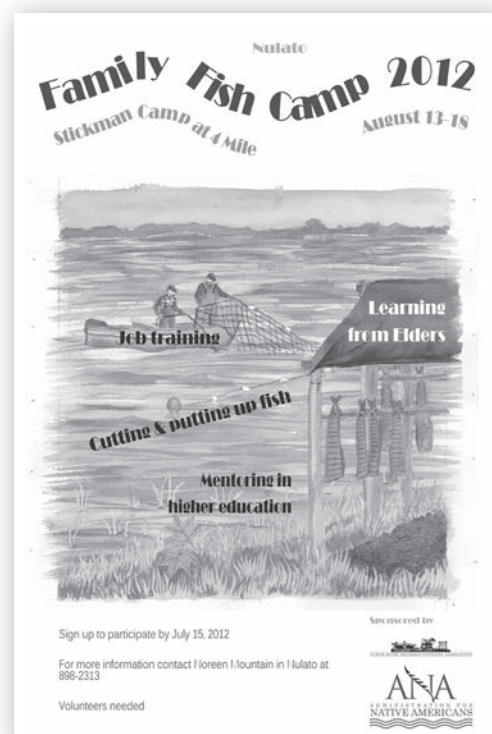
site, harvest and process king salmon, learn leadership skills, and observe fishers. In addition, they will hold a fish camp for the larger group of high school students at the beginning of September, hoping to harvest fall chum salmon for use at the dining hall of the Galena Interior

Learning Academy. GILA is a residential vocational school that educates students from around the state, and fresh salmon caught and processed by students will be a valued addition to the menu.

YRDFA would like to thank the community leaders who are organizing these fish camps, along with their partners and supporters. We would also like to thank all the Elders, fishers, Tribal Councils, and other community members who plan to help at these camps. Finally

we would like to thank ANA for supporting this important project. All of these individuals and organizations make these camps possible. 🐟

YRDFA's work on this project is funded through the Administration for Native Americans. The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of the funder.



Inter-Tribal Roundup

COUNCIL OF ATHABASCAN TRIBAL GOVERNMENTS (CATG)

Venetie Environmental Conference Puts Focus on Protection of Chandalar

In early April, CATG, in association with the Native Village of Venetie Tribal Government, Venetie Village Council, and Arctic Village Council, held the Venetie Environmental and Natural Resources Conference. The conference was a part of the Gwinzii Gwarandaii (Living Good) Initiative; the primary purpose of the conference was to establish priorities to protect the health of traditional lands, waters, and resources that provide the villages' livelihood. Discussion focused on the environmental risks of increased mining activity in the Chandalar watershed.

The Chandalar River is identified by USFWS as the largest fall chum fishery in the Yukon River drainage, documented by a fall chum sonar site in operation since 1995, producing nearly one-third of the overall documented

Yukon River stock. Additionally, local knowledge from residents of the village of Venetie identifies the river as important king salmon habitat. Recent village observations report increased quality and quantity of king salmon stocks in the river.

... *we can still drink*

right from the

river. We want to

keep it that way

environmental experts provided information related to water resources and activities of Goldrich Mining Company near Chandalar Lake, and Thazzik Mountain, near the Venetie Indian Reservation. Goldrich is currently conducting exploratory drilling in hopes of identifying a large-scale, economically viable gold deposit, and has signed an \$8.5 million joint venture agreement with NyacAU, LLC.

As the first community downriver of Chandalar Lake, Venetie depends on clean water from the Chandalar River. "The river is our lifeblood," said Eddie Frank of the Venetie Village Council. "It has supported a productive fishery for as long as we've been here, and we can still drink right from the river. We want to keep it that way."

Pete Dronkers, Clean Water and Mining Program Director with the Northern Alaska Environmental Center, provided an overview of Goldrich and its plans and to presented case studies of mines that have severely impacted fisheries in the US and Canada. "Some mines don't carry high risks for metals leaching, but some do," Dronkers said. "It's important for folks to realize that many mines pollute waters long after they close, requiring water treatment forever to prevent impacts to fish, and it doesn't always work out as planned."

Kendra Zamzow, Ph.D, of the Center for Science in Public Participation, hopes to take a closer look at the type of rock being drilled in the coming months. "Risk assessments for future mines are complicated, but we have reason to

believe that acid drainage may be a problem for Goldrich, and spawning fish are extremely sensitive to that."

Lance Whitwell, an environmental coordinator with the Native Village of Venetie Tribal Government, has studied the proposed road from the Dalton Highway at Coldfoot into Chandalar Lake. "A road like that would allow for district-wide industrial development where we hunt every year," Whitwell said. "And it could also allow for people to launch boats into the river and hunt and fish in places they've never been before. All of that affects us."

"The conference was a huge success and we're already planning another one," said organizer James Kelly of the Council for Athabascan Tribal Governments. We're going to follow this issue very closely, and work with our colleagues to get the information we need to make good decisions to protect the most important thing to our people: clean water, healthy fisheries and wildlife, and intact landscapes." The Tee Drin Jik Coalition was formed at the conclusion of the conference for the purposes of 'Protecting the Chandalar River Watershed in the Yukon Flats.'

The conference was funded in part by the Robert Wood Johnson Foundation, Communities Creating Healthy Environments Program; the Environmental Protection Agency; and the Venetie Village Council.

For more information, contact James Kelly at 907-662-7591 or jkelly@catg.org. 🐟

TANANA CHIEFS CONFERENCE (TCC)

TCC Gears Up for Another Busy Season

By Orville Huntington and Alyssa Frothingham

The TCC Wildlife and Parks Program staff has completed a difficult transition year of project development and administration. However, we look to expand upon past efforts to expand the W&P Program with a more diverse department, one that balances critically important fishery issues with wildlife issues of similar importance to our region. As always, TCC's primary concern is to preserve the interior's subsistence way of life.



Jonathan Henzie at Henshaw Creek weir.
[Photo credit Samuel Cornstock]

For the fourth straight year TCC will be Primary Investigator for the Henshaw Creek weir. Henshaw Creek is located 721 km upriver from the mouth of the Koyukuk River in north central Alaska. By having this weir in place, it creates additional opportunities for community members from Allakaket and Alatna to become involved with the management of their fishery resources. In addition to the weir, The Henshaw Creek Science camp will also take place from July 23-27h with the help of the Kanuti National Wildlife Refuge. Topics

and activities will include a variety of biological and traditional knowledge. The camp is open to students out of Allakaket and Alatna at no cost.

Additionally, former TCC biologist Paige Drobny will assist in the ongoing Chinook salmon subsistence sampling project. This project will be focused around the villages of Holy Cross, Ruby, and Fort Yukon. Local fishers are encouraged to collect biological information, scale samples, and genetic tissue from their Chinook salmon harvest. The data collected will shed light on the stock biology and composition of salmon that are harvested in these communities.



[Photo credit Aaron Dupuis]

Recently departed TCC fisheries biologists Lisa Kangas and Aaron Dupuis continued to build the TCC Fisheries program with limited resources in 2011. The program was most fortunate to have their skills, and wishes them the best of luck in their future endeavors.

Finally, we would like to express immense gratitude to Mike Smith for his service on the Board of Fisheries. He did an outstanding job

to represent the TCC region for the last 3 years. His term recently expired, and the governor nominated Director Orville Huntington to the Board. Huntington will begin the three year term July 1.

We look forward to participating with YRDFA on their teleconferences and outreach during the summer fishing season in the Yukon River drainage. If you have any questions please feel free to give us a call:

Orville Huntington: 1-800-478-6822 ext 3256

Alyssa Frothingham 1-800-478-6822 ext 3318 🐟

ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS (AVCP)

Lower Yukon River King Salmon Subsistence Harvest Composition – Year 2

By AVCP Natural Resources Department

Salmon will soon be returning and staff from AVCP will be ready with an expanded king salmon subsistence sampling program in lower river districts Y1 and Y2. The program began last summer with 16 local residents participating. This summer we plan to have 50!

Like last summer, participants will be paid for each fish sampled. A “sample” includes from each fish 3 scales that are used for determining the age of the fish, length, sex, and a small fin clip that is used to determine the general area where the salmon was born (i.e. lower, middle, or upper Yukon River). Information about the harvest date, general location, and gear type used to catch the fish is also recorded. Participants are asked to sample every king salmon they catch for subsistence use throughout the summer. For one person working alone, it takes about 3-4 minutes to sample a fish. That time can be cut to 1-2 minutes if two people work together, with one person recording while the other samples.

Doug Molyneaux will again be the project leader and assisted by AVCP Fisheries Biologist Casie Stockdale. AVCP will also have community coordinators in Alakanuk, Emmonak, Mountain Village, St. Mary’s, and Marshall as local points of contact.

Doug will be based in Emmonak by late May and both he and Casie will be traveling to various lower Yukon villages to train participants and to provide them with sampling kits. Depending on river breakup, we tentatively plan to arrange pre-season group trainings in Alakanuk, Emmonak, and Kotlik between May 30 and June 2, and in Mountain Village, St. Mary’s, and Marshall between June 3 and 7. Doug and Casie will periodically contact samplers throughout the season to check on their progress, and the community coordinators will be available for support as needed.

Trainings take about an hour, and attending is required to participate in the project. It is very important that a standardized sampling procedure be followed so that the results can be compared with other information collected from throughout the Yukon River, both past and present.

This year the project will be supported by a grant from the Yukon River Panel’s Restoration and Enhancement Fund as part of their annual support of Yukon River salmon management and research, and it will be closely coordinated with staff from ADF&G. Our goal is to estimate the age, sex, length (ASL), and stock composition of the lower Yukon River subsistence king harvest. A similar project is conducted in the middle Yukon River by Tanana Chiefs Conference. We aim to collect samples from at least 900 kings collected across 50 different lower Yukon fishing households. The samples need to be distributed across a large enough group of households that the results are representative of the actual diversity of harvest methods and harvest timings.

The primary value of this project is in its contribution to the collective set of information needed to understand the overall Yukon River king salmon run. From throughout the Yukon River, ASL and stock composition samples are collected from commercial catches and subsistence catches, from test fish projects, and from spawning grounds. Information is also collected about king salmon abundance using sonar, weirs, counting towers, aerial surveys, and from the harvests. These are each like pieces to a puzzle, which when put together reveal some of the mysteries about the Yukon River king salmon that help improve fishery management.



Salmon length is measured from mid-eye to the fork of the tail, here demonstrated by Michael Beans of St. Mary’s.

If you are interested in participating as a sampler, please contact Doug Molyneaux (dmolyneaux@gci.net; 444-8778) or Casie Stockdale (cstockdale@avcp.org, 1-800-478-35210) for details.

Please join with us in celebrating the return of the salmon! The kings may not be as abundant as in the past, but that

makes us all the more grateful for those that do return to us. Let us show the kings that we are good stewards by being modest in our take when we can, and by working together to learn from those that give themselves to us. That is what this project is all about, learning from the salmon so that we can all become better stewards in their behalf.

Quyana to the Councils for their support of this project, and we wish good fishing to all! 🐟

Salmon Bycatch Update

By Becca Robbins Gisclair, Policy Director

Chinook Salmon Bycatch: Low, for Now

When it comes to salmon bycatch, no news is generally good news. It's almost halfway through the year, and Chinook salmon bycatch remains at relatively low levels—through May 5, 2012 the fleet has killed 7,772 Chinook salmon as bycatch. This is slightly higher than last year at this time, when 7,136 Chinook salmon had been killed as bycatch. The big spike in bycatch last year occurred when the pollock fleet kept fishing into October and November even though they know Chinook salmon bycatch is historically high during that time period. Still, total bycatch in 2011 was 25,500 Chinook salmon, which remains well below the regulatory cap and even below the 30,000 fish cap which Western Alaskans requested.

This will be the second year in which the pollock fleet is operating under Amendment 91 (the new Chinook salmon bycatch management measures that include a set of hard caps). The experience this year will provide us with more information about how that system is working. In addition, under Amendment 91 the entire fleet is required to have at least 100% observer coverage, and a new sampling system is providing better numbers and samples for genetic testing. As we gather a few years of samples under this new system we should have better information about the stock of origin of the Chinook salmon taken as bycatch.

Chum Salmon Bycatch: A Work in Progress

Chum salmon bycatch primarily occurs in the fall "B" season, so we won't know how bycatch is looking this year until later in the summer. In 2011 total bycatch was 191,500 chum salmon. This is slightly below the 10-year average (2002-2011) of 208,452 chum salmon.

On the management front, the North Pacific Fishery Management Council (the Council) is still in the process of developing new measures to reduce chum salmon bycatch. They reviewed an analysis of potential actions at their last meeting in Anchorage at the end of March. At that meeting the Council made some changes to the alternatives, or options, under consideration. Hard caps are still an alternative, as is a modified rolling hot spot system. There is also an option to have a modified rolling hot spot system with a triggered area closure operating in addition as a back-stop measure. Any of these options can be combined: for example, you could choose both the hot-spot system and a hard cap as the management measures.

The Council also created a list of potential changes to the hot spot system. The hot spot system is the current measure in place to reduce chum salmon bycatch, but the Council's action recognizes that improvements could be made. In

addition to potential changes that ratchet down the various pieces of the program to reduce bycatch further, the list includes things like prioritizing closures to best protect Western Alaska origin chum and Chinook salmon using identification tools such as genetics, length and weight, and information about which areas are more likely to have higher proportions of Western Alaska salmon. It also includes increasing salmon protection measures in June/July when Western Alaska chum salmon are more common in the bycatch.

Finally, at the March meeting the Council recommended some specific changes to the

chum salmon bycatch analysis. One item to be included is some information YRDFA, BSFA, AVCP, and Kawerak submitted from Dr. Bob Wolfe about increasing future subsistence demand for chum salmon.

With these changes, the Council decided that the issue of chum salmon bycatch is not yet ready for final action, so the analysis will come back to the Council another time for what they call "initial review." This will likely occur in October 2012 at the Anchorage meeting. Final action could then occur in December 2012 at the earliest, but more likely April 2013.

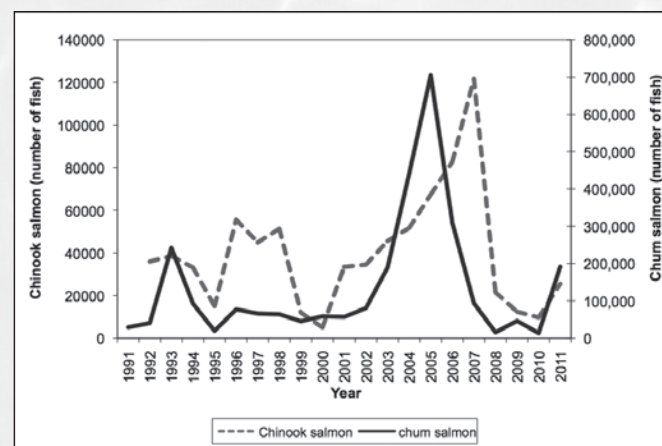
The timeline for action on the chum salmon bycatch may seem extended in comparison to the Council's relatively speedy action on Chinook salmon (remember, the Council's process is often described as "glacial," so speedy is a relative term). However, in large part this is because of the complexity of the action. Chinook salmon remain a conservation priority, so the Council is being very careful that actions taken on chum salmon bycatch do not unintentionally increase Chinook salmon bycatch.

While it's been a long process, it's important to continue to tell the Council how important chum salmon is to Western Alaska

communities and cultures, and how critical it is to reduce chum salmon bycatch. The next opportunity to comment to the Council on this issue will be October 2012. YRDFA will provide updates closer

to the meeting—sign up for our e-news to make sure you get the latest word! 🐟

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Chinook and chum salmon bycatch in the Bering Sea pollock fishery, 1991-2011



Yukon River Panel 2012 Restoration & Enhancement Projects Funded

Country	PROJECT TITLE:	PROJECT PROPONENT
CA	Yukon River Salmon Stock Identification. Year 11	DFO
CA	Collection and Comparison of Chinook Salmon Age, Length, Sex and Genetic data using Fish Wheel. Year 3	Beaudet
CA	Little Salmon chinook salmon escapement survey. Year 3	G. Sandone Consulting
CA	Porcupine River Sonar Program – Fall Chum Salmon. Year 2	VGG
CA	Mainstem Teslin River Sonar Project. Year 2	B. Mercer & Ass.
CA	Blind Creek Chinook Salmon Enumeration Weir.	J. Wilson & Ass.
CA	Sonar Enumeration of Chinook Salmon on the Big Salmon River. Year 8	J. Wilson & Ass.
CA	Whitehorse Rapids Hatchery (Agency only) Coded Wire Tagging and Recovery. Year 16	YFGA
CA	Ta'an Kwäch'än Council Community Stewardship Program. Year 6	TKC
CA	Yukon Schools Fry Releases & Habitat Studies. Year 10	SKNS
CA	McIntyre Creek Salmon Incubation Project . Year 10	Yukon College
CA	KDFN Michie Creek Salmon and Habitat Monitoring. Year 15	KDFN
CA	Yukon River North Mainstem Stewardship. Year 7	DDRRC
CA	Tr'ondëk Hwëch'in First Fish Culture Camp. Year 10	THFN
CA	Collection of ASL Data from Spawning Populations of Chinook Salmon Spawning Escapement in Canada	DFO
CA	Salmon Stewardship Coordinators for Yukon Schools	DFO
CA	Salmon Run Health/Fishing Restrictions Sandwich Board	TTC
US	Technical Assistance, Development, and Support to the Yukon River Fish Wheel Salmon Monitoring. Year 11	USFWS
US	Mountain Village Cooperative Chinook Salmon Drift Test Fishery Project , 2012. Year 3	YDFDA
US	Rampart Rapids all season video monitoring. Year 13	Zuray
US	Temperature Monitoring of Canadian and Alaskan Yukon tributaries. Year 3	ADF&G
US	Science and Salmon Education Outreach Series. Year 2	ADF&G
US	Yukon River Chinook Salmon Subsistence Sampling	TCC
US	Lower Yukon River Subsistence Chinook Salmon Harvest ASL & Stock Composition	AVCP
US	Professional Development for K-12 Educators to Support Yukon River Salmon Stewardship in Rural Alaska	UAF
US/CA	Collection and Analysis of Yukon River DNA Baseline Samples in the Alaska and Canada. Year 6	DFO & ADF&G
US/CA	Yukon River Educational Exchange. Year 10	YRDFA
US/CA	Yukon River In-Season Management Teleconferences. Year 9	YRDFA
US/CA	Yukon River Summer Season Preparedness Process. Year 4	YRDFA

For more on the Yukon River Panel, visit yukonriverpanel.com.

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Positive Steps Toward Revitalization of Alaska Native Language

By Marilyn Woods, Program Assistant

On May 7, 2012 the Lt. Governor’s Alaska Historical Commission and Senator Donald Olson’s office hosted a roundtable discussion on Alaska Native Language Revitalization. The participants at this meeting discussed SB130 and recommendations for the Alaska Native Language Advisory Council once it is established.

SB130 is the Alaska Native Language and Advisory Council, which was presented by Senator Olson in the 2012 Legislative session. This bill is “an Act establishing in the Alaska Native Language Preservation and Advisory Council and relating to the preservation, restoration, and revitalization of Alaska Native languages.”

Lieutenant Governor Mead Treadwell led the discussion with the help of representation by various organizations, including the University of Alaska Fairbanks Language Center, First Alaskans Institute, Alaska Federation of Natives, and the Alaska Native Heritage Center. The morning session provided the attendees with comments from our federal delegation including Senator Lisa Murkowski, Senator Mark Begich, and Congressman Don Young. The Alaska Immigration Justice Project/Language Interpretation Center and the Association of Alaska School Boards/Consortium for Digital Learning both gave valuable presentations showing how their organization can be of use in assisting in language restoration.

During the afternoon session, participants broke into several groups to discuss the following questions:

- From the Alaska Historical Commissions perspective: What policy decisions can we make to help support your efforts?
- What can the Advisory Council as defined by SB130 or similar entity do to help the revitalization of Alaska Native languages?

Some ideas from the group discussion concerning these questions were:

- Council representation from those individuals teaching native languages
- Long term goals and objectives
- Long term funding sources (as opposed to short term)
- A database to store native language sources that is easily accessible
- Mainstreaming the use of native languages

The Alaska Native Language Roundtable Discussion was effective in terms of allowing statewide organizations and individuals ardent in language revitalizations to collaborate and discuss possible recommendations for native language restoration. Participants heard testimony about the impact of the loss of the native language in Alaska and the hope for its future revival.



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