

YUKON RIVER DRAINAGE FISHERIES ASSOCIATION A United Voice for Yukon River Fishers



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### Traditional Knowledge Guides Scientific Research on the Yukon River

#### By Catherine Moncrieff, Anthropologist

It was very good to meet the Yukon River village folks. I was listening to them very carefully. They know a lot of stuff, and I respect their experience.

—Glenn Juday, University of Alaska Fairbanks, School of Natural Resources

Elders, educators, and fishers from the Yukon River met with a group of scientists in Anchorage on Friday, October 1 to continue their discussions on natural indicators of salmon. They agreed to develop and seek funds for three scientific projects examining traditional knowledge of salmon arrival timing and abundance. In addition, they agreed to initiate a database to collect observations that relate to the natural indicators.

The scientific projects will compare salmon arrival timing with migrating birds, temperature, and winter winds at the coast. The goal of these projects is to increase scientific understanding of what makes these natural indicators work and to improve salmon management on the Yukon River.

Traditional knowledge of natural indicators tells us that salmon mimic the migrating birds at the mouth of the Yukon River and along the coast. For instance, when the birds arrive late, the salmon arrive late; when the birds arrive in a large group, the salmon arrive in a large group. If scientists can begin to understand why this is true, they may be able to enhance salmon management.

We all know that temperature affects plant growth. Natural indicators tell us that when the plants reach a certain stage of growth, the salmon will arrive in each village. A study of temperature or growing degree days (accumulated heat) will help scientists understand the links between temperature and salmon arrival timing.

Further, natural indicators tell us that when winter winds blow from the north along the Yukon



Benedict Jones of Koyukuk shares traditional knowledge with a team of scientists.

River coast, the salmon will enter the south mouth of the Yukon River. When they blow from the south, the salmon will enter through the north mouth. A study of wind data compared to salmon arrival may help scientists improve management of Yukon River salmon.

In addition to these scientific projects, the group also supported the development of a database of natural indicator type observations. A pilot database will be launched in the near future to provide a repository of natural indicator type observations and outreach to youth and Elders. Yukon River youth may have an opportunity to plug information into the database after learning from their Elders. The Alaska Climate Research Center (ACRC) has offered to host the database and provide secure access for Yukon River observers.

I am so glad that the database idea went over so well, and that the ACRC can play a role in saving a digital history of natural indicators and have this database be a connection between the Elders and youth.

—Heather Angeloff, Alaska Climate Research Center

YRDFA reserves the right to include or omit any submissions to the Yukon Fisheries News. The views expressed in this newsletter are those of the author and may not necessarily reflect the views of YRDFA.

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Doug Bowers

#### NOME

NULATO

Pat Madros Michael Stickman

### **A Message From the Director**

#### By Jill Klein, Executive Director



# What is consensus and how do we achieve it?

The Yukon River is the longest river in Alaska, spanning a huge geographic

area that not only is different in landscape but also in the people who inhabit the region. There have historically been divisions amongst the people living along the Yukon River due to differences in regions and cultures, and the challenges people used to have in their limited mobility and communications with people living far away from them. While some trading and travelling did historically take place, ever since established villages, airplanes, snow machines, the internet, and cell phones have come to the Yukon River, people have been able to communicate more with each other.

YRDFA was formed just about twenty-one years ago to bring people from different parts of the river together. As a first, formal attempt to work together along the Yukon River and bridge the communications divide between the different regions, YRDFA was structured to work by consensus—not by majority vote. This meant that the different people, from different regions with different viewpoints

### Why then, is the river still

so divided?

about the fishery, would have to sit together to work out their differences. They would have to find common ground about how to manage the fishery, which would result in a better process, better implementation, and better relationships.

Typically, the YRDFA board members would work together on issues such as fishery management plans (when they were more in vogue) and other regulatory proposals that would affect issues such as fishing gear, fishing times, and allocation of harvests. Over the years, people have learned a lot about each other and the different types of fisheries that exist on the Yukon River. They even built relationships, and went beyond this and built friendships. Fishery management plans that took years to finalize were implemented with success for many more years. While these are great milestones in history along the Yukon River, it is ever more apparent that we still have more work to do. Amidst poor and inconsistent salmon runs, fishing regulations that dictate how much people can fish, and the number of fish camps dwindling to all time lows, we have seen proposals come before the State and Federal regulatory boards that are dividing the river all over again. While people have come to an understanding that there is a problem, how to handle it is another story all together.

With more than ten years now of no riverwide or scientific consensus on how to best operate the Yukon River salmon fishery, we are seeing the strains of consensus. We face such monumental difficulties as learning about why salmon runs are declining, trying to understand the causes, and working to find potential solutions. There have been many efforts made to host these discussions at numerous stakeholder meetings. Why then, is the river still so divided? We have seen the division through the fish size issue – salmon getting smaller and proposals to limit gear as a potential solution. We are again seeing it with customary trade – a lack of understanding about who does it, how it happens, and how it should be documented. Proposals have been submitted by at least one group to address the problem, but it is causing huge divides along the river.

I think we need to have a broader vision of how we work together, and we need to develop a process for what consensus is trying to achieve—group decision-making that seeks the agreement of participants and tries to resolve the objections. Even one step further will be a group decision-making process that addresses the problems together and comes up with solutions together so that all people, all stakeholders, fishers, and tribes are involved from the beginning. This in my opinion is the way forward. It is the way that we can make progress—both in terms of the process of how we work together and the mission we at YRDFA want to achieve, which is to protect and promote all healthy wild fisheries and cultures along the Yukon River drainage. ≤

# Yukon River Fisheries Meetings Calendar

DATE	MEETING	LOCATION
Dec. 5-10	Yukon River Panel	Anchorage
Dec. 6-14	North Pacific Fishery Management Council	Anchorage
Jan. 19-21, 2011	Federal Subsistence Board	Anchorage
Jan. 31-Feb. 8, 2011	North Pacific Fishery Management Council	Seattle
Feb. 14-17, 2011	YRDFA Annual Meeting	Mtn. Village
Feb. 23-24, 2011	YK Delta RAC	Bethel
Mar. 1-2, 2011	Western Interior RAC	Galena
Mar. 1-2, 2011	Eastern Interior RAC	Tanana
Mar. 28-Apr. 5, 2011	North Pacific Fishery Management Council	Anchorage

# SUCCESS STORY

# **Elders Pass Knowledge to Youth through Children's Book**



#### By Jason Hale, Communications Director

What can we learn of coming salmon runs from blowing cotton, the appearance of white butterflies, or the number of eggs in a nest? Such signs can speak volumes to Elders.

> Elders watch for signs or natural indicators all year long to prepare for hunting, fishing, and gathering.

Elders watch for signs or natural indicators all year long to prepare for hunting, fishing, and gathering. They can read these signs to know when the salmon will come and how many there will be. They have been building and passing along this knowledge for thousands of years, and are now working with YRDFA to document the knowledge in a children's book for Yukon River youth. All told, 66 Elders from six villages in the lower and middle Yukon River shared their knowledge as part of a larger project to use a blend of Traditional Ecological Knowledge (TEK) and modern science to predict salmon runs. They told how wind, birds, insects, fish, plants, water, weather, and the moon all provide clues about the coming salmon runs.

On Thursday, September 30, several of these Elders gathered at the YRDFA office in Anchorage to review a draft of the children's book, which is called *When Will the Salmon Come? Advice from Elders.* Over a table piled high with steaks and salmon, Elders and family members poured over the book, offering suggestions on text and illustrations. The next day at a related meeting of Elders and scientists at the Historic Anchorage Hotel, more Elders and educators gave comments on the book.

Next, the draft children's book will be reviewed in a number of Yukon River communities. Meanwhile, an artist will be painting illustrations of some key natural indicators. These illustrations will appear in the book and be highlighted at YRDFA meetings.

When Will the Salmon Come? Advice from Elders will be finished by the spring of 2011. It will be mailed to Elders, Tribal Councils, and schools throughout the lower and middle river. For more information on this book or YRDFA's other work with natural indicators, contact YRDFA anthropologist Catherine Moncrieff at catherine@yukonsalmon.org.

Special thanks to the Rasmuson Foundation and Lannan Foundation for funding this project. S

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	Teleconferences
Want more Vuken Diver	Bycatch
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	Resolutions
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	Communications
monthly	Subsistence
	Commercial
packed with information	Voting
	Test fisheries
• free	Fishing schedules
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	Opportunities



### An Epic Adventure: Experiencing Science on the Bering Sea

#### By Dr. Katie Howard, Yukon Area Research Biologist, Alaska Department of Fish & Game

"10 minutes to station!" was the cry we'd hear at 7:20 every morning aboard the F/V Epic Explorer. It was our call to start the day of research on the Bering Sea. There were six scientists, each with different specialties, and six members of the boat crew on this month-long leg of the Bering Arctic Subarctic Integrated Survey (BASIS). Our goal was to get information on ocean conditions and juvenile fish in the eastern Bering Sea. My goal was to learn more about juvenile Yukon River salmon in the ocean.

To conduct our research, we had designated stations throughout the eastern Bering Sea. Many of these stations have been investigated since 2002, and the information that has been collected helps us better understand juvenile fish in the ocean.

Once at a station, the boat crew and scientists would put on float coats and hardhats. Using a winch on the side of the boat, a CTD would be put in the water. CTD stands for conductivity, temperature and depth. This contraption has sensors that can measure salinity (how salty the water is), temperature, and depth as the oceanographers move it up and down through the water. The CTD also has large bottles that the oceanographers can "fire" to close and collect water at different depths. This allows these scientists to capture water and investigate it more thoroughly after it is brought onboard. Among the things the oceanographers were studying was phytoplankton, the base of the marine food chain.

After the CTD data were collected, we moved on to capturing zooplankton. Zooplankton are tiny animals that are the primary food for many juvenile fish, including salmon. To collect these, we used large cone shaped nets that we'd dip down to just above the sea floor and bring back up through the water, catching these little critters along the way. The abundance

and kinds of zooplankton that are found can give scientists some idea of the amount of food available to juvenile fish.

My favorite part of the research came after the zooplankton... collecting fish. Since our boat crewmembers were experienced commercial fishermen, conducting surface trawls for juvenile salmon and other fish was easy. With our trawl, we would typically scoop up whatever was in the top 30 meters (about 98 feet) of the water. This is where the juvenile salmon, those that have recently migrated into the ocean from rivers, spend their time. After the crew dumped the catch on a large table, they would help us sort fish, jellyfish, and any other creatures caught. While there were scientists on board that were interested in the other fish, I was most interested in the salmon.



A crewmember deploys a CDT to collect water samples and measure the water's salt content and temperature at different depths. [Photo credit: Dr. Katie Howard, ADF&G]



A trawl net full of juvenile salmon and other fish is lowered onto a large table on the deck. [Photo credit: Dr. Katie Howard, ADF&G]



Dr. Katie Howard of ADF&G carefully draws blood from juvenile salmon. [Photo credit: Dr. Lisa Eisner, NOAA]

We collected information on size, condition of the fish, and examined their gut contents. Tissues were collected for genetic analyses to determine if the salmon we caught were from the Yukon or elsewhere. Scales and otoliths (fish ear bones) were also collected. These structures can be used to age fish. I even took blood samples from the salmon. This blood will be sent to a scientist at the National Oceanic and Atmospheric Administration (NOAA) who can use hormones in the blood to look at how quickly the fish grows. Finally, we collected information on any parasites, lamprey scars, or diseases we noticed. In the end, each fish was given a thorough inspection in hopes that this information may shed some light on the life of salmon in the ocean.

We travelled from station to station, conducting this research, until late in the evening. The next morning we'd hear "10 minutes to station!" and know it was time to start our exploration all over again. About 60 stations later, and with snow falling on us in Norton Sound, it was time for us to let another group of scientists come on board and finish the survey. While it may take years to fully comprehend the life of Yukon River salmon in the ocean, this "Epic" adventure was one step toward increasing our knowledge and improving our ability to keep these stocks healthy into the future. **S** 

# Researching Salmon in the Bering Sea – The Basics of BASIS

#### By James Murphy, Fishery Research Biologist, National Oceanic and Atmospheric Administration

The Bering-Aleutian Salmon International Surveys (BASIS) were initiated in 2002 by member nations of the North Pacific Anadromous Fish Commission to improve our understanding of the marine ecology of salmon in the Bering Sea. The overall objectives of BASIS research are to:

- 1) Examine seasonal-specific migration patterns of salmon and their relation to the Bering Sea ecosystem,
- 2) Identify key biological, climatic, and oceanographic factors affecting long-term changes in Bering Sea food production and salmon growth rates,
- 3) Identify similarities in production trends between salmon populations in the Bering Sea and common factors associated with their trends in survival, and
- 4) Estimate the overall limit or carrying capacity of the Bering Sea ecosystem to produce salmon.

National BASIS surveys contribute to the overall scientific objectives of the program through international agreements on data sharing, collaboration, and standardization of collection protocols, but each survey is directed by its own individual set of research objectives.

#### The Northern Bering Sea Survey

Research objectives of the northern Bering Sea survey are focused on assessing the status of juvenile Yukon River salmon stocks, improving our understanding of the ecology of high-latitude salmon populations, and incorporating these considerations into pre-season forecasts of adult

returns to the Yukon River. The northern Bering Sea survey also serves as a sampling platform for a wide variety of additional research projects supported by the Alaska Fisheries Science Center such as ecosystem response to the loss of Arctic sea ice.

The chartered fishing vessel F/V Epic Explorer completed its survey of the northern Bering Sea on October 7, 2011 in Dutch Harbor, Alaska. The survey was conducted as part of Alaska Fisheries Science Center's BASIS research and the North Pacific Research Board's Bering Sea Integrated Ecosystem Survey. Despite the unusually stormy season, all sampling objectives in the northern Bering Sea were met with the exception of two stations west of St. Lawrence Island.

Notable results from the survey included an unusually large biomass of jellyfish. Also, juvenile chum, pink, and coho salmon catches were low. However juvenile Chinook salmon catches were within the range observed during previous surveys in the northern shelf.

Subadult pollock (age 1 and 2) were found throughout the entire survey area, including the Bering Strait and all locations sampled within Norton Sound. Although the abundance of age-0 pollock was low, it was typical for the northern shelf; most of these fish are distributed in the southern region of the shelf.

Capelin (a small forage fish of the smelt family) abundance was high throughout the survey with peak densities occurring along the inner front. Whale and bird feeding activity were observed in locations with high capelin density and included a sighting of an immature short-tailed albatross.

For additional information, visit http://www.npafc.org/new/science\_basis.html. 🥌

### Federal Subsistence Board Meets in Anchorage January 19-21, 2011

#### By Becca Robbins Gisclair, Policy Director

The Federal Subsistence Board will meet in Anchorage January 19-21, 2011 to consider fisheries proposals. The Federal Subsistence Board has management responsibility for subsistence uses of fish and wildlife on Federal public lands and waters in Alaska. Since much of the Yukon River is Federal public waters, the decisions at this meeting will affect many subsistence users on the Yukon River.

The Federal Subsistence Board process includes reports, public comment, and input from the Regional Advisory Councils (RACs). You can sign up for public comment at the meeting. The agenda will be posted on the Federal Subsistence Board's website when it is available: http://alaska. fws.gov/asm/board.cfml.

The Federal Subsistence Board is considering nine fisheries proposals for the Yukon River region at this meeting. You can view the full proposals at http://alaska.fws.gov/asm/ public.cfml. The proposals being considered at this meeting are:

<u>Proposal FP11-01:</u> This proposal requests that all gillnets (subsistence and commercial) with greater than 6-inch stretch mesh be restricted to not more than 35 meshes in depth in Federal public waters of the Yukon River drainage. This proposal was submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council.

<u>Proposal FP11-02</u>: This proposal requests that Federal Public waters of the Yukon River be closed to subsistence and commercial fishing from the river mouth to the Canadian border during the first pulse and second pulse if necessary of the Chinook salmon run. These rolling closures would correspond to the periods of the Chinook salmon migration when stocks returning to Canadian waters constitute the majority of the run. No harvest on these stocks would be allowed for at least 12 years or until such time as this stock's abundance and escapement quality (age/sex/length) is restored to a level that provides sustained yields to support historic commercial and subsistence fisheries. This proposal was submitted by Jack Reakoff.

<u>Proposal FP11-03</u>: This proposal requests that Federal public waters of Yukon River Subdistrict 5-D be further subdivided into three Subdistricts to provide managers additional flexibility to more precisely regulate harvest while conserving the Chinook salmon run that spawns in the upper Yukon River. This proposal was submitted by Andrew Firmin.

<u>Proposal FP11-04:</u> This proposal requests the use of fish wheels be prohibited for the harvest of salmon in Districts 4 and 5 of the Yukon Area, to allow more fish to escape to the spawning grounds. This proposal was submitted by Stanislaus Sheppard, Mountain Village Working Group.

Proposal FP11-05: This proposal requests that the Federal Subsistence Board preclude customary trade of salmon in Yukon River Districts 4 and 5, and it requests that the Board preclude the use of salmon for dog food in Yukon River Districts 4 and 5, with the exception of whole Chinook salmon caught incidentally during a subsistence chum salmon fishery in the Koyukuk River drainage after July 10. This proposal was submitted by Stanislaus Sheppard, Mountain Village Working Group.

<u>Proposal FP11-06:</u> This proposal would restrict the depth of 7.5 inch stretch mesh gillnets to 20 meshes in depth in Yukon River Districts 4 and 5. This proposal was submitted by Stanislaus Sheppard, Mountain Village Working Group.

Proposal FP11-07: This proposal requests that the use of drift gillnets be prohibited for the harvest of salmon in Districts 4 and 5 of the Yukon Area, to allow more fish to escape to the spawning grounds. Both Federal and State regulations do not allow the use of drift gillnets for the harvest of salmon in District 5. Therefore, the proposal only applies to the use of drift gillnets for the harvest of salmon by Federally-qualified users in the Federal public waters of District 4 (Subdistricts 4A, 4B, and 4C). This proposal was submitted by Stanislaus Sheppard, Mountain Village Working Group.

<u>Proposal FP11-08</u>: This proposal requests that customary trade in the Yukon River Fisheries Management Area be prohibited in any year when Chinook salmon runs are insufficient to fully satisfy subsistence harvest needs and subsistence fisheries are restricted. As submitted, the prohibition would only affect customary trade between rural residents. This proposal was submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council.

Proposal FP11-09: This proposal requests that the Federal Subsistence Board limit the customary trade of Chinook salmon in the Yukon River Management Area and requires a customary trade recordkeeping form. The proposal also requests that the Board impose a geographic constraint to the customary trade of Chinook salmon caught in the Yukon River Management Area: such trade, including the delivery of fish to a purchaser, should only occur in the Yukon River Management Area. This proposal was submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council.

### Salmon Bycatch in the Bering Sea Pollock Fishery: Focus on the Observer Program

— Part 2 of 2 —

#### By Becca Robbins Gisclair, Policy Director

In the past several months fishers have asked a number of questions about the observer program in the Bering Sea pollock fishery. The observer program is responsible for collecting data on the pollock fishery's catch and bycatch. Martin Loefflad, Director of the Observer Program for the National Marine Fisheries Service's (NMFS) Alaska Fisheries Science Center, was kind enough to answer some of the questions we've heard most frequently.

We ran Part 1 of this article in our Spring 2010 newsletter, focusing on the details of how the observer program monitors the federal fisheries. This second part provides details about the qualifications required to be an observer and how to become an observer.

**YRDFA:** How are observers selected? What kind of training do they have to undergo?

**Martin:** Prospective observers must have the following qualifications:

- A. A bachelor's degree or higher from an accredited college or university with a major in one of the natural sciences.
- B. Successfully completed a minimum of 30 semester hours or equivalent in applicable biological sciences with extensive use of dichotomous keys in at least one course.
- C. Successfully completed at least one undergraduate course each in math and statistics with a minimum of five semester hours total for both.
- D. Computer skills that enable the candidate to work competently with standard database software and computer hardware.

As for training, all observers must attend and pass a three week training conducted by NMFS. The observer training curriculum includes at-sea safety; sampling methods, techniques and procedures; identification of invertebrates, fish, birds, and marine mammals found in the Bering Sea of Alaska and Gulf of Alaska; data recording and reporting requirements; electronic data entry and transmission; pertinent fishing regulations, the basics of fisheries management, and life as an observer.

The training is timeconsuming and intense as training staff



Measuring cod on the deck. [Photo credit: NMFS Observer Program]

attempt to mimic work conditions observers encounter at sea as closely as possible. A brochure entitled "What is an Observer? is available on our website at http://www.afsc. noaa.gov/FMA/PDF\_DOCS/observer%20br ochure%20web1104.pdf and provides more information on the working conditions that observers typically encounter.

On the first day of class, each observer is tested on pre-class reading material. The job training then uses written exercises and exams to assess each candidate's understanding of sampling methodologies, data recording and submission protocols, and pertinent fishing regulations. Exams are also used to test trainees' ability to identify finfish, shellfish, and seabird species using dichotomous keys and field guides.

To obtain final certification, observer candidates must attend the training course in its entirety, fully participate during classroom exercises, and achieve minimum performance standards as set by the Fisheries Monitoring and Analysis Division (FMA). In addition, trainees must be able to lift up to 50 pounds, don an immersion suit on land in 60 seconds or less, enter the water in an immersion suit, and climb into a floating life raft.

NMFS provides certified observers with sampling equipment and safety gear. Observers

(or observer service providers) are responsible for providing sleeping bags, rain gear, boots, and gloves.

**YRDFA:** If someone is interested in becoming an observer, how would they go about that?

**Martin:** Observer candidates are recruited and hired by independent FMA-permitted observer provider companies. Qualified candidates must be capable of performing strenuous physical labor, and working independently without direct supervision under stressful conditions.

Once hired, the observer providers sponsor observer candidates to attend the 3-week observer training course to prepare for the position. Upon successful completion of the course, candidates are certified as groundfish observers and can work as observers in Alaska for the contractor.

NMFS conducts refresher training for experienced observers in Seattle at the Alaska Fisheries Science Center and through the North Pacific Fisheries Observer Training Center at the University of Alaska, Anchorage. Training class dates are posted quarterly and changes are posted as they occur. *S* 

# Salmon Bycatch in the Bering Sea Pollock Fishery: Update

#### By Becca Robbins Gisclair, Policy Director

#### **Current Bycatch Numbers**

Salmon bycatch numbers for the Bering Sea/Aleutian Islands Pollock fishery through October 28 are:

Chinook salmon: 9,295.

Non-Chinook (chum) salmon: 12,832.

#### Chinook Salmon Bycatch Management

The final regulation implementing the new Chinook salmon bycatch management measures (Amendment 91) approved by the North Pacific Fishery Management Council (the Council), was published on August 30, 2010. The regulations will go into effect January 1, 2011. This includes both the overall cap of 60,000 if the pollock fishery is participating in approved incentive plans, the performance standard of 47,591, and the cap of 47,591 if the pollock fishery is not participating in approved incentive plans. As of January 1, 2011, the pollock fishery will also be required to carry at least 100% observer coverage—those vessels which were previously required to carry 200% observer coverage will still be required to do so.

#### Chum Salmon Bycatch Management

The Council refined the options, called "alternatives," they are considering for chum salmon bycatch management measures for the Bering Sea pollock fishery at their June meeting in Sitka. The current alternatives under consideration include a range of hard caps, which would close the fishery when reached, and trigger caps, which would close a set area when reached. The alternatives also include an option for the fleet to participate in a rolling hot spot system and be exempt from the area closure in regulation, as the fleet currently is.

The Council did not make any changes to the range of numbers being considered for hard caps and trigger caps at this meeting. The ranges are 50,000 to 353,000 for hard caps and 25,000 to 200,000 for trigger caps. The alternatives include options for allocating these caps amongst the different sectors of the fleet. The Council made several changes to the trigger caps, or area and timing options for the area closures. The alternatives now include a range of areas encompassing 40 to 60 percent of the areas where bycatch has historically occurred. The trigger caps associated with the area closures could be applied on a cumulative or monthly basis. A special closure area associated with the rolling hot spot system is also now included in the alternatives. This large closure area encompasses 80 percent of the area where bycatch has occurred historically and would provide a notable incentive for vessels to participate in the hot spot system.

Council staff is now preparing an initial review draft analysis of these alternatives. The Council is scheduled for an initial review of the analysis at its February 2011 meeting in Seattle. The document and agenda for the February meeting will be posted on the Council's website: http://www.fakr.noaa.gov/npfmc/. At that meeting the Council will have another opportunity to refine the alternatives under consideration.

The tentative timeline for action on chum salmon bycatch management is for selection of a preliminary preferred alternative at the June 2011 meeting in Nome and final action in October or December 2011 in Anchorage. Outreach to Western Alaska is also planned for this action. Council members and staff will be giving presentations at meetings throughout western Alaska in February and March 2011, including several of the Federal Subsistence Regional Advisory Committee (RAC) meetings.

This article was prepared by YRDFA under grants from the Oak Foundation and the National Oceanic and Atmospheric Administration (NOAA). The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of the Oak Foundation or NOAA.

# "TRADITIONAL KNOWLEDGE..." continued from front page

This project is generously funded by the Alaska Sustainable Salmon Fund, Rasmuson Foundation, and Lannan Foundation, and was previously funded by the Arctic-Yukon-Kuskokwim Sustainable Salmon Fund. We would also like to thank the Elders, fishers, tribal offices, and communities of the lower and middle Yukon River for their support.

This article was prepared by YRDFA under grants from the Rasmuson Foundation, Lannan Foundation, and Alaska Sustainable Salmon Fund. The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of the Rasmuson Foundation, Lannan Foundation, or Alaska Sustainable Salmon Fund.

# Join us in Mountain Village for YRDFA's 21st Annual Meeting

### Jebruary 14-17, 2011

YRDFA board members and staff, fishers, tribes, and other stakeholders from throughout the Yukon River drainage, and agency representatives will gather in Mountain Village to discuss current and pressing fisheries issues.

This meeting is open to the public and anyone interested is encouraged to contact our office. Some travel assistance may be available. Call us at 907-272-3141 ext. 105 or 877-999-8566 (toll free) for details.

### We hope to see you in Mountain Village!

## 2010 Preliminary Yukon River Summer & Fall Season Summary

Excerpts from Alaska Department of Fish & Game, U.S. Fish & Wildlife Service, and Department of Fisheries & Oceans

#### **CHINOOK SALMON**

#### By the numbers:

<u>Pilot Station sonar</u>: approximately 113,400 Chinook salmon (1995–2009 average was 141,000 fish).

<u>Chinook salmon commercial openers</u>: 0. <u>Chinook salmon caught incidentally in</u> <u>summer chum commercial fishery</u>: 9,897.

Commercial value: \$639,000.

Escapement: Goals were achieved for the West Fork Andreafsky and Salcha rivers. The Anvik and Chena river escapement goals were not achieved. Preliminary Chinook salmon passage at Eagle sonar is 35,000 fish, yielding a border passage of approximately 33,500 fish, which is well below the interim management escapement goal of 42,500-55,000.

What U.S. management did: The regulatory "windowed" subsistence salmon fishing schedule was initiated on June 7 in District 1 and was implemented chronologically upriver as the run progressed upstream.

When it became evident that the Chinook salmon run would fall short of the U.S./Canada Yukon Treaty obligation to pass adequate numbers into Canadian spawning grounds and provide for harvest sharing, fishers in areas that mainly harvest canadian bound Chinook salmon were asked to consider conservation measures such as voluntary harvest reductions, shifting harvest to other species, spreading harvest out over the duration of the run, reducing extended sharing, and keeping fish harvested within the village or local area.

Why they did it: Through the month of June, the Chinook salmon run was assessed to be large enough to provide for escapement and subsistence uses based upon the preseason outlook and late run timing. Most subsistence salmon fishers delayed their fishing effort due to gas prices and low fish abundance early in the season. Persistent wet and cold weather conditions around the Yukon Delta led many subsistence fishers to abstain from harvesting the first pulse of Chinook salmon due to the poor processing conditions. Throughout the drainage there were episodes of high water events with heavy debris loads which preempted subsistence fishing. As the Chinook salmon migration moved upriver, managers considered reducing fishing time in order to conserve salmon, but found that poor fishing conditions coincided with periods when Chinook salmon were passing through areas. Fishing restrictions would have forced fishers to take high risks during openings or fish less efficiently when the cost of operating was already high. Therefore, additional subsistence restrictions were not imposed.

As for fishers in areas that mainly harvest Canadian bound Chinook salmon, it was understood that fishing had been difficult this year due to water conditions and high fuel costs. Imposing fishing restrictions at the time would have increased hardships. The hope was to provide fishers the flexibility to work around their own unique fishing conditions to effectively conserve Chinook salmon where they could.

What about Canada? Due to low border passage estimates, Canadian fisheries were restricted to First Nation harvest only, and approximately 1,705 Chinook salmon have been reported as harvested to date.

#### **SUMMER CHUM SALMON** By the numbers:

<u>Pilot Station sonar</u>: 1.3 million fish (below the average of 1.6 million for the project).

Directed summer chum commercial openers: 27.

<u>Commercial permit holders who</u> <u>participated</u>: 450 (440 in the Lower Yukon Area, 10 in the Upper Yukon Area).

<u>Commercial harvest (preliminary)</u>: 232,888 summer chum salmon harvested in districts 1, 2, 6, and Subdistrict 4-A (193% above the 2000-2009 average).

Commercial value: \$823,967.

<u>Escapement</u>: Variable, but most tributaries experienced good escapements. East Fork Andreafsky SEG and Anvik BEG were met, and both the Gisasa River and Henshaw Creek performed well compared to average. Salcha River escapement, however, was approximately 7,000 fish less than expected for this project.

**Notes of interest**: A short commercial fishing period was announced for June 26

in District 1, with nets restricted to six-inch maximum mesh size, as a test to determine the chum to Chinook salmon catch ratio. At this late point in the Chinook salmon run, it was expected that incidental harvest of Chinook salmon would be low and any Chinook salmon catches would be small and bound for lower river tributaries. However, test fishery information showed an abrupt drop in the summer chum entering the river, so ADF&G took an unprecedented action, with the cooperation of the primary fish buyer, to cancel the commercial period on short notice to avoid harvesting a significant number of Chinook salmon. The commercial period was delayed until June 28.

Management of the summer chum salmon commercial fishery in Subdistrict 4-A was dependent on the available surplus, fishing effort, and buyer input. Based on preseason contacts with potential buyers, directed commercial fishing for summer chum salmon began July 7. Because of low effort during the first four 12-hour Subdistrict 4-A commercial fishing periods, commercial fishing was allowed to continue for 21 days until the end of the summer fishing season. Subsistence salmon fishing periods were not altered by commercial salmon fishing periods. During concurrent subsistence and commercial openings, Chinook salmon were kept for subsistence use. When subsistence fishing was closed, commercial fishers manned their fishwheels and released any Chinook salmon as they were caught.

#### **FALL CHUM AND COHO SALMON** By the numbers:

#### sy the numbers:

<u>Pilot Station sonar</u>: 351,883 fall chum and 140,642 coho salmon.

<u>Fall chum salmon commercial openers</u>: 3. <u>Coho salmon commercial openers</u>: 3.

<u>Commercial harvest (preliminary)</u>: 2,550 fall chum and 3,750 coho salmon after the first two of three scheduled periods.

<u>Escapement</u>: Although escapement assessment continues, it appears that the Chandalar River, Tanana River, and the Canadian mainstem fall chum salmon stocks have attained their escapement objectives as well as the drainage-wide objective. The Sheenjek and Fishing Branch Rivers may end near or below goals.

What U.S. management did, and why: Fall season subsistence fishing in Districts 1, 2, and 3 began on a 7 day/wk schedule, while Districts 4, and 6, and Subdistricts 5A, 5B, and 5C began on the standard "windows" schedule. Soon after, the schedules were relaxed in District 4 and Subdistricts 5A, 5B, and 5C to seven days a week to provide high quality early fall chum to subsistence fishers because of continued difficult fishing conditions.

Near the mid-point of the fall run, managers became concerned that the return would be much weaker than projected. The run size projection was on track to be near 400,000, well below expectations. To conserve fall chum salmon, all mainriver districts were placed on their regulatory windowed schedules. Additionally, one subsistence fishing period was cancelled beginning in District 1 and implemented chronologically upriver through Subdistricts 5B and 5C.

By the time fall chum salmon became present in the upper river, escapement monitoring projects were indicating that restrictions were no longer necessary. Consequently, no subsistence restrictions were imposed in Subdistrict 5D and the fishing schedule was relaxed in the rest of the Yukon River mainstem.

What about Canada? The Canadian run operated in the green management zone. It is expected that the upper end of the spawning escapement goal will be achieved. In addition to the First Nation fishery, the green management zone allows consideration for fishing opportunities in the commercial, domestic, and recreational fisheries. The commercial fishery netted approximately 2,186 fall chum. However, chum salmon are generally not targeted in the recreational fishery.

Subsistence and personal use harvests for 2010 are not available at this time. For more details, visit http://www.cf.adfg.state. ak.us/region3/yukhome.php.

# Project Highlight Spotlight on the Gisasa River Weir

#### By Aaron Martin, Supervisory Fisheries Biologist, USFWS

In terms of Alaskan rivers, the Gisasa River is a smaller one, close to the size of the Chena River through Fairbanks, but it produces one of the largest summer chum runs in the Koyukuk River drainage. The Gisasa River provides spawning and rearing habitat for summer chum and Chinook salmon, as well as small populations of pink and sockeye salmon. The salmon raised here go on to contribute to subsistence and commercial fisheries in the lower and middle Yukon River and the lower Koyukuk River.

After the Alaska National Interest Lands Conservation Act was established in 1980, the U.S. Fish and Wildlife Service (USFWS) was given responsibility to ensure that salmon populations within federal conservation units, such as Refuge lands along the Yukon River, are conserved in their natural diversity, international treaty obligations are met, and subsistence opportunities are maintained. To help strengthen management decisions for the Yukon River fisheries, the USFWS began annually monitoring the returning salmon runs to the Gisasa River and other locations throughout the Yukon River drainage.







Summer twilight on the Gisasa River Weir.



USFWS field technician taking scales from a Chinook salmon for aging at the Gisasa River Weir.

The Gisasa River Weir is one of the longest official salmon monitoring projects in the Alaska portion of the Yukon River drainage—the USFWS just completed its 16th consecutive year of operating this project. A group of four field technicians maintain the weir from mid-June to early August, with the peak of each run usually around mid-July.

The main objectives have been to:

(1) Determine daily passage, estimate seasonal escapement, and describe run timing of adult Chinook and summer chum salmon,

(2) Determine sex and size composition of adult Chinook and summer chum salmon, and

(3) Document observations of resident fish.

Chinook salmon escapement estimates from 1994 to 2010 have ranged from 1,427 to 4,023 fish while summer chum salmon escapement estimates have ranged from 10,155 to 261,305 fish.

For more information on this project, contact Aaron Martin at 907-456-0418 or Aaron\_E\_Martin@fws.gov.

#### **By Dr. Mark Wipfli**, Alaska Cooperative Fish and Wildlife Research Unit, University of Alaska Fairbanks; **Dr. James Kruse**, USDA Forest Service, Fairbanks; **Nicholas Lisuzzo**, USDA Forest Service, Fairbanks.

#### What are exotic and invasive species?

We hear more and more about invasive species in Alaska, but exactly what are they, and why are they important? First,

some definitions:

- Exotic species any species or form of that species, including its seeds, eggs, spores, or other biological material capable of reproducing, which is not native to a particular place or ecosystem.
- Invasive species an exotic species whose introduction (accidental or intentional) does or is likely to have environmental, human health, or economic impacts, and that is likely to spread further.

Invasive species can include plants and animals, including fish (such as pike)

and invertebrates. Historically, Alaska has been less susceptible to invasive species introductions because of its remote geography, which provides fewer avenues for non-native species to get into the state. However, this is changing as more domestic and international cargo shipments (air, land, and sea freight) enter Alaska, more tourists and Alaskans travel between Alaska and other places, and through commerce. Ornamental and novelty plants and animals shipped to and sold in Alaska have led to more invasive species introductions over time to the point that invasive species have become a serious concern in many places in the state.

#### Why should we care about invasive species?

These potentially harmful, non-native plants, animals, and microorganisms can dramatically impact our economy and the environment. The economic impact of invasive

## **Invasive Species 101**

species in the United States alone is estimated to be more than \$130 billion a year.

In Alaska, invasive species may threaten native fish, plants, and wildlife, and subsistence users as well as our natural resource-dependent industries, including agriculture, tourism, forestry, and hunting and fishing. This can mean permanent changes to the landscape, which could alter or destroy traditional ways of life.

### What we can do as Alaskans – some precautions

1. Do not release any

plants or animals from one place to another. People often make the unfortunate mistake of releasing live bait, pets, and aquarium fishes and plants into the wild. These species very often can get established and spread across the landscape. People often mistakenly think that "planting" a species of fish into another body of water is beneficial, when in fact that new environment has not

evolved in the presence of the newly introduced species. As such, the introduced species can spread and cause irrevocable harm.

2. Avoid planting non-native plant species in gardens and yards that are likely to spread and cause harm. When possible use native plants for your garden, or non-native plants that have no history of acting invasively. The University of Alaska Cooperative Extension Service can provide you with a list of potentially invasive plants for your community.

3. Adequately inspect boats, trailers, and fishing gear when moving from one area to another. For example, aquatic plants are often unwelcomed travelers on gear, and can easily and irreversibly get transported from one invaded habitat to another.

4. Report suspected invasive species. Keep an eye out for invasives in high risk areas such as near gardens, landing strips, boat launches, float ponds, and slow moving sloughs. If you see what you think might be an invasive species contact the Alaska Department of Fish and Game (877-468-2748) or the Cooperative Extension Service (907-786-6315).

#### What are some examples?

Northern pike (Esox lucius): native fish in parts of Alaska (north and west of the Alaska Range) but has been released into and is spreading in other places outside its home range including south-central Alaska. This predatory fish can decimate young salmon populations.

Waterweed (Elodea spp.): common aquarium plant sold in pet stores that has been released in some waterways, and has recently been found in extremely large and dense matts in a slough of the Chena River. Efforts to pull this plant out of an infested river often make a bigger problem, as tiny pieces that escape can grow into new infestations. This plant may affect salmon spawning and rearing habitats.

European Birdcherry (Prunus padus): ornamental shrub sold in local nurseries that is currently invading habitats along salmon streams in some of the urban areas of the state, seemingly affecting streams and riparian forests.

Green alder sawfly (Monsoma pulveratum): probably moved to Alaska through commerce traffic, but also spread through firewood. This insect defoliates riparian alders, destroying stream bank cover and interfering with nitrogen fixation important in plant succession.

#### How can I learn more?

There are several agency reports published by USDA Forest Service (http://www.fs.fed. us/r10/spf/fhp/), U.S. Fish & Wildlife Service (http://www.fws.gov/invasives/), Alaska Department of Fish & Game (http://www.adfg. state.ak.us/special/invasive/invasive.php), and the University of Alaska Cooperative Extension Service (http://www.uaf.edu/ces/aiswg/).

Alaskans can also visit or phone the Alaska Department of Fish and Game (877-468-2748) or the Cooperative Extension Service (907-786-6315).  $\leq$ 

Sources of information for this report: http://www.uaf.edu/ces/ aiswg/, http://www.adfg.state.ak.us/special/invasive/invasive.php, http://www.fs.fed.us/r10/spf/fhp/



An invasive aquarium plant—waterweed—in the Chena River in Fairbanks, [Photo credit: U.S. Forest Service]

–an invasive ornamental

European Birdcherry-

shrub. (Pł



12 YUKON FISHERIES NEWS

### Studies & User Groups Examine Northern Bering Sea Bottom Trawl Boundary

#### By Dorothy Childers, Program Director, Alaska Marine Conservation Council

Traditional and local knowledge tells us that the Bering Sea is changing. Hunters and elders report that in recent years Bering Sea ice has been forming later in the year and, even during the last few winters when ice extended far to the south, it has not been as thick. In some years coastal people say spring melt has occurred unusually fast. These changes affect where different animals find food, how they survive, and where they may be available for subsistence harvest.

Oceanographers collecting temperature and other measurements from the Bering Sea expect future ocean conditions to be extremely variable, with some years being colder and other years warmer. This is because the Bering Sea is influenced by both the cold, dry Arctic and warm, wet weather from the Pacific. While ocean temperatures and ice conditions vary greatly year-to-year, the trend over time is expected to be warming. Regular surveys show that during recent years that were especially warm (2001-2006), 45 species of fish shifted the center of their range northward. Commercially valuable fish are expected to occupy increasingly more northern waters, inviting large-scale fishing fleets to expand operations into new areas.

In June 2007, federal fishery managers established a northern bottom trawl boundary as a precautionary measure to prevent movement of fleets northward beyond their current footprint. The area north of the bottom trawl boundary is called the Northern Bering Sea Research Area. The National Oceanic and Atmospheric Administration (NOAA) is planning to study the effects of trawling in this area. They intend to use this research to determine what protections are needed for marine mammals, crab, threatened or endangered species, and subsistence in the event that the bottom trawl boundary is lifted and fleets are allowed into the northern Bering Sea.

They are also conducting surveys using bottom trawl nets to learn more about what fish and other species live on the seafloor and in what abundance. They are using the surveys to see how changes in fish distribution might relate to changes in sea ice. The surveys are an extension of those done in the southeast Bering Sea since 1971 and would be the basis for managing bottom trawl fisheries in northern waters.

Concerns about potential effects of bottom trawling in the northern Bering

Sea—including the surveys themselves—run high throughout the region. Alaska Marine Conservation Council has been supporting the Bering Sea Elders Advisory Group. We have traveled from Kuskokwim Bay to St. Lawrence Island and Norton Sound meeting with hunters and Elders to document marine areas used for subsistence and areas of ecological significance (such as migration and seasonal use) in the northern Bering Sea. These maps are combined with similar information documented in other studies. The Elders Group together with the tribes can use this information to illustrate



deep cultural connection to the ocean.

In 2011 or early 2012 (before NOAA's research program is completed), the North Pacific Fishery Management Council is going to reconsider the bottom trawl boundary from Nunivak Island to Kuskokwim Bay. Here trawling is allowed close to shore, overlapping subsistence use and local commercial fisheries. Tribes in the region and the Elders Group will be closely involved in those discussions.

For further information, visit www. akmarine.org or call Alaska Marine Conservation Council (AMCC) at 907-277-5357. S

### Message from the Bering Sea Elders Advisory Group

The Bering Sea Elders Advisory Group was established in 2007 when many tribes promoted the creation of a bottom trawl boundary, and the group played an important role in the North Pacific Fishery Management Council process to achieve the boundary. Elders from eight tribes located close to the boundary formed the Elders Group and it has since grown to 39 coastal tribes in the Yukon/Kuskokwim Delta and Bering Strait regions. Our purpose is to protect our traditional subsistence ways of life and the ecosystem that sustains us. The Elders Group strives to build unity and strength between the tribes across large geographic regions.

The teaching of our ancestors was based on respect for what the ocean provides. Respectful actions are rewarded by hunting success; disrespectful actions have negative consequences. We were taught never to waste what the Creator has given us, to share our food with the community, and to listen to our Elders because they acquired wisdom over a long life and through keen observation of the world around us. Respect for the natural world and caring for our resources are the basis for continued opportunity to thrive off the ocean and land. These are the values that the Elders Group is committed to transmitting to the outside world where decisions are made that affect us.

You can be involved by supporting your tribal governments in working together and coordinating with the Bering Sea Elders Advisory Group.

For further information, contact: Fred Phillip, Elders Group Coordinator 907-588-2159; David Bill, Sr., Chairman 907-427-2252, or visit www.beringseaelders.net

# The Living Truth: Views from a Y-3 Fisherman

#### By Leroy Peters, Fisher and YRDFA Board Member

In the early 70's to the middle 80's fishing was good. Commercial fishermen used to fish 48 hours, then 36, 24, 18, 12... now it's down to 6 hours.

Y-3 never did have a commercial opening since the middle 80's... no buyers. The quota for Y-3 used to be 30,000 fish. Now it's down to 20,000 or less. What ever happened to the Y-3 quota? All those fish are now heading for up river.

Also, we let the summer and fall chums pass by Y-3. No one goes after those fish. We save them for up river peoples. People from the headwaters all the way down to the mouth of the Yukon need to know this.

... we let the summer and fall chums pass by Y-3. No one goes after those fish. We save them for up river peoples.

Commercial fishermen take brand new outboard motors, boats, nets, food, plus pay over \$5 a gallon for gas and oil. Plus, some commercial fishermen have big families and bills to pay off. So take a good look at what



I have mentioned. Some people will make it, some will go into debt by the \$1,000. I know. I have been there, done that, know all about it. I am a commercial fisherman, ever since I was 11 years old, and a subsistence fishermen for as long as I remember.

Thanks to the people from the headwaters all the way down to the mouth of the Yukon, plus Hooper Bay and Scammon Bay coastal villages, for reading what I had to say. And that's the living truth.

With great respect, *Leroy L. Peters* Holy Cross, AK For Y-3 commercial fishermen and subsistence users



To order, call toll free 877-999-8566, ext. 105 or visit www.yukonsalmon.org



#### By Norma Evan, Inseason Subsistence Harvest Interviewer in Marshall, AK

This summer I worked with YRDFA doing the inseason subsistence harvest interviews from June through early September. I worked with different households in my village of Marshall weekly on their subsistence harvests. I also helped fishers with the questions they had about subsistence. I attended the YRDFA teleconference every Tuesday, 1 p.m. Alaska Time. It was great working with people; we have a small community.

Overall this community did not harvest much. Weather played a large role in the people's summer activities.

I learned that this project helps with run timing and abundance, especially with all the different communities that are involved. It lets us know communities' average harvest percentages and when they start focusing on other land activities, such as moose hunting and berry picking.

I got the youth involved in the teleconferences. The junior high kids were excited about reading some comments during the calls. They are also young subsistence fishermen. I think the community of Marshall's efforts in this project was very good; everyone involved gave great information.

This is a great project. I hope it keeps on going! 🥿

YRDFA's work on the Inseason Harvest Interviewers program is funded under award number 701818J698 from the Office of Subsistence Management (OSM). The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of OSM or any related agencies.

### Highlights of Trip to Visit Yukon River Drainage System

#### By Frances Woolsey, Laberge Renewable Resources Council and Elder

I was asked by Yukon River Drainage Fisheries Association staff to join a Yukon-Alaska educational exchange program to travel to Alaska and Yukon communities to see how fisheries operate in different jurisdictions along the Yukon watershed. We were to observe harvest practices, subsistence food fisheries and commercial fisheries, scientific monitoring efforts, fishing techniques, resource sharing, research projects, and habitat protection.

Starting in Whitehorse we flew to Dawson City, then Old Crow, and on to Fairbanks. From there we flew to Anchorage, on to St. Mary's, and then landed at Emmonak where we stayed three days. From Emmonak we went by river through the various channels and islands of the Yukon River delta visiting active fish camps and seeing many abandoned ones. Next we flew to Pilot Station to observe the sonar monitoring station, then on to Galena. After a day in Galena we boated to Koyukuk, then returned to Galena to complete our visit. From there we flew to Fairbanks and on to Eagle to observe another sonar station, then traveled by boat back to Dawson, and flew home to Whitehorse.

Along the way I observed many interesting people, places, and activities:

• **<u>Emmonak</u>**: We visited Alaska test fisheries and observed the monitoring of fish size and



Exchange participants William Henry (Dawson), Betsy Jackson (Lake Laberge), Dawna Hope (Mayo), Frances Woolsey (Whitehorse), and Bonnie Huebschwerlen (Whitehorse) boat to test fisheries outside of Emmonak.



Frances Woolsey and William Henry share knowledge of Canadian fisheries with people at a fish camp between Emmonak and Mountain Village.

conditions, diseases, and related information. We visited family fish camps where Elders and youth were harvesting and drying king salmon. They showed us their methods for smoking fish and building their smoke houses and racks. We toured a commercial cannery where salmon are processed in large quantities in season and the large fish buying boats operated by the

company so fishers do not have to come back to town during the harvest. Virtually all adults participate in subsistence fishery for their own food consumption and also for sales to the company; this is their biggest economic activity and generates the majority of their income for the year.

- Yukon Delta: We visited numerous active family fish camps and saw many others that are currently unoccupied due to lack of fish quotas. We saw families drying and canning fish, again mostly Elder and youth (probably most other adults are employed elsewhere in wage economy and leadership positions). We saw many houses that were slumping into the river as banks erode, possibly due to climate change.
- <u>Pilot Station</u>: We observed the sonar equipment being assembled by Alaska Fisheries (ADF&G) staff to monitor salmon migration up the Yukon.
- Koyukuk: We went by boat from Pilot Station to Koyukuk where we had supper at the community hall. We heard from many people that they were not allowed to harvest as many fish as they needed now or had taken in the past. People here were great storytellers and they also shared some jarred salmon with us. We saw drift fishing here, with as many as 12 boats out in the water with their nets at one time in an area. We saw several family fish camps where children were helping adults harvest and preserve fish. Again the river banks were eroding here, so that families had to use temporary fencing to keep children and dogs from falling in the river. We went on a river tour to see some caves and other features in the area.
- <u>Galena</u>: We stayed at a B&B here, visited the Alaska Fisheries office, and had a bar-



Frances Woolsey shows off a collection of supplies given to her by a fisher in Galena.

b-q there where we met non-aboriginal staff from all areas of the U.S. who brought their families with them to live in this remote area for postings of several years. Many people had large and productive gardens plus green houses because produce is so expensive to bring in to the community.

• **Fairbanks**: We stayed overnight here and went to the airport in the morning

#### the airpo for the trip to Eagle. • **<u>Eagle</u>**: We saw Andy Bassich

- **Eagle**: We saw Andy Bassich's home in Eagle and then travelled to his B&B at Calico Bluff on the Seventymile River. He and his partner have 25 dogs, a large garden, a tourist guiding business, and also harvest and smoke salmon. We also saw the Eagle sonar station, which was not yet set up as the salmon were not that far upriver yet. Alaska Fisheries staff operates a fingerling research project here.
- **Dawson City**: We went on the Yukon Queen upriver to Dawson, observing the devastation caused by the ice jams and flooding in 2009 and the heavy rains of 2010.

This trip gave me new insights into the lives of Alaska Native people along the Yukon River who have always depended on salmon to maintain their families. We heard how they feel deprived of sufficient fish today, and their concerns for the future. They seemed to be unaware of the severe shortages of salmon upriver in Yukon aboriginal communities and were surprised to learn how few fish we have in comparison to their catch.

In Galena we heard that the people there feel vulnerable because outsiders can drive to the river and fish, and big commercial operations come there to buy large quantities of fish from other subsistence fishers. I felt there was a lot more conflict in Alaska than in the Yukon, and hard feelings about the state of the fisheries, a lot of confusion about fishery management issues and regulations, and concerns about future of the fishery. It was a great opportunity for me to talk to the Alaskans and let them know our situation, and I hope to pass along this information to others in the Yukon, too.

The Yukon River Educational Exchange was funded through a grant 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.



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### Hooper Bay Beach Clean Up Nets 10,000 Lbs.

#### By Bernard Murran, Environmental Coordinator, Native Village of Hooper Bay

The community of Hooper Bay was grateful to receive a mini-grant from the Yukon River Drainage Fisheries Association for a beach debris clean up. This is one of many activities we do to work on cleaning up our environment, which we cherish for many reasons: our fishing, hunting, and gathering our traditional food.

> Some of these items have the potential to contaminate our renewable resources both far and near

In nearby areas where local, employed young people gathered a lot of debris, many community members gather clams, sea cucumbers, several species of fish throughout the spring and summer, and bird eggs. They also pick wild plants as "vegetables" and several wild kinds of berries.

Participants used ATV vehicles while picking

debris along the 10 miles of our coast on the Bering Sea, starting from our bay and limiting their work to within about 50 yards from the main tidal line. There they collected many items, such as old cans, plastic bags, plastic bottles (some containing motor oil), old tires, different types of nets (some from commercial offshore fisheries), an abandoned skiff, and one snow machine. Some of these items have the potential to contaminate our renewable resources both far and near. Old nets and plastic bags can tangle into our set nets and outboard



motors. All told, we collected about 10,000 pounds of debris.

Half of our population in Hooper Bay are young people—18 years and under—with a high unemployment rate. We appreciate YRDFA coming in and giving our young people this great opportunity to clean up our beach of debris that posed danger to our renewable resources, nets, and motors both near and far.

This is the second year that YRDFA has been involved in a marine debris cleanup. Last year, approximately 5 tons of debris were removed from the coastline around Kotlik and Alakanuk. In future years, YRDFA hopes to continue working with coastal communities on the Yukon River delta to organize more beach cleanups. YRDFA would like to thank everyone in Hooper Bay who participated in this year's cleanup as well as the Marine Conservation Alliance Foundation (MCAF) for continuing to provide funding to make these cleanups possible.

YRDFA's work on the Hooper Bay beach clean up was funded under a grant from the Marine Conservation Alliance Foundation. The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of MCAF or any related agencies.