TRADE ADJUSTMENT ASSISTANCE: WHAT IT MEANS FOR ALASKA FISHERS

BY DARCY KING
EDUCATIONAL OUTREACH COORDINATOR, YRDFA

Subsistence Fishermen need not apply.

The Trade Act of 1974, as amended by the Trade Act of 2002, implements the establishment of a new program referred to as the Trade Adjustment Assistance (TAA) for Farmers for the fiscal years 2003 through 2007. Although this program is for farmers, coverage was recently expanded in August of this year to include commercial fishers.

What TAA does? This program is to provide producers of raw commodities (such as commercial fishers on the Yukon River that fish for salmon), who have been adversely affected by import competition, free technical assistance and cash benefits. It is NOT a disaster relief fund/grant.

Who is eligible? Farmers, ranchers, fish farmers and commercial fishers competing with imported aquaculture products. Subsistence fishers do NOT qualify.

Why do subsistence fishermen not qualify? The sale of processed subsistence fish is illegal according to Alaska State law; therefore those sales would not qualify.

How do I apply? An individual has 90 days from the day the petition is certified to apply for benefits to their Farm Service Agency (FSA) County Administrative Office (refer to map and addresses). Application forms will be made available from these offices, as well as the rules for individuals to follow. However, when applying individuals must provide the following:

- Documentation (i.e. fish tickets) from fish sales during the most recent marketing year (in this case from 2002)
- Tax returns from 2000, 2001 and 2002 to show that their net income from fishing has declined.

What are the payment criteria? In order to receive payment fishers are also required to meet with an extension agent to receive a ‘technical assistance package’. This package will include information on the status of world salmon markets and supply, options for value adding and alternative marketing of catch, evaluating individual fishing business viability, analyzing production costs and links to training opportunities available to fishers.

To date, the details surrounding the ‘technical assistance packages’ have not been released. The University of Alaska-Fairbanks
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*** sponsored by Kotlik Yupik Corp.
BY JILL KLEIN, EXECUTIVE DIRECTOR, YRDFA

The fishing season is coming to a close this October as the warm fall weather has enabled the river to stay ice-free with fish wheels still turning and catching salmon. The season was better than expected and hopefully most parts of the Yukon River drainage met their subsistence needs and some were even able to go commercial fishing. While the Chinook run and the fall chum run came in better than expected, the test fishery tools that the Alaska Department of Fish and Game (ADFG) utilize to make decisions, were not seen as fully reliable in-season. The pre-season run projections were low, but increasing numbers of salmon continued to pass the Pilot Station Sonar site. While this was good news, managers were skeptical that their tools were working correctly and continued with conservative management due to previous years of low returns. Eventually subsistence schedules were liberalized and commercial fisheries were opened. While this season proved to be better than the past few years and provides hope for better returns of salmon, there is still work that needs to be done on improving test fishery projects so that managers and fishers can trust the data they receive with confidence. In addition to this, decision-making based on sound science can be complimented by a stronger working relationship among fishers and managers. A small step was taken this past summer by managers that were seeking input from the YRDFA Board of Directors and other fishers and organizations during the summer fishing season.

YRDFA continued to host in-season management teleconferences during the 2004 salmon fishery. The goal of the teleconference is to get fishers together with each other and with managers to discuss and track the runs. YRDFA met with ADFG to discuss how to improve the teleconferences and to create a space on the call for YRDFA and others to give input to managers during the season. Our goal was to have YRDFA board members and Tribal non-profits as well as CFC members on line to have varied input from as many groups as possible. Unfortunately, some areas of the river and some organizations did not participate. I would like to thank those that did participate regularly on the teleconferences and I hope that we can find ways to make the teleconferences a useful tool that will enable higher rates of participation and communication. Participation is the only way local people can have their voices heard. It is local people that live on the Yukon River and are out on the waters, fishing and observing different conditions. This knowledge, combined with management tools can only improve fisheries management.

Another area that participation, communication and cooperation will be important is with the Federal Subsistence Board and Board of Fisheries meetings that will be coming up in December and January of this winter. During these meetings, the state and federal Boards will review and take action on AYK and statewide regulatory proposals that will affect fisheries management of the Yukon River fishery. YRDFA will be working during these upcoming months to gather local perspectives regarding proposals and how to represent fishers accurately at the meetings. While it is important that YRDFA staff are present at meetings and keep an active voice, we also need fishers to work at their local levels to converse within their communities about fishery proposals in order to prepare for the winter meetings. Working together during these winter meetings, as well as during the summer fishery season is integral towards meeting the goals of preserving the salmon fisheries.
EDUCATIONAL EXCHANGE A BIG HIT

BY ERIN MCLARNON, JILL KLEIN & DARCY KING, YRDF A STAFF

Background
Since 1985, the U.S. and Canada have engaged in annual negotiations to conclude a long-term agreement for the management of chinook and fall chum that spawn in Canada. After several years of negotiations an addition to the Pacific Salmon Treaty was created as an annex termed the Yukon River Salmon Agreement. This Agreement received official recognition by the U.S. and Canadian governments in December 2002. Part of the Agreement set out guidelines for the establishment of a Restoration & Enhancement Fund (R&E Fund) - to be managed by the Yukon River Panel - for the purpose of funding programs, projects and activities, on either side of the Alaska-Yukon border, directed at the stewardship, restoration, conservation and enhancement of Canadian origin salmon stocks.

While there is cooperation between the two countries, there is a serious need to improve public information and education concerning Yukon salmon issues, especially for the 15,000 rural residents living in Alaska and the many communities along the river in the Yukon Territory. It is these rural villagers who are most affected by the Agreement, as Canadian-origin chinook and fall chum stocks are the backbone of both their subsistence and small-scale commercial fisheries.

Hence, one of the projects funded for 2003 by the Yukon River Panel was the Yukon River Educational Exchange Program. In July, ten residents from along the Yukon River (5 Canadians/5 Alaskans) participated in two trips crossing the border and visiting communities along the river. The trips served to bring together small delegations of downriver and upriver fishers to educate them about regional differences in the Yukon River salmon fishery and appreciation for the needs, concerns, and interests of fishers from other parts of the river.

Canadians Trip to Alaska
Fishers from Canada started their 8-day trip in Emmonak, where the salmon begin their migration upriver. While in Emmonak, the group spent time with representatives from the Tribal Council, the city office, Alaska Department of Fish and Game (ADFG), United States Fish and Wildlife Service (USFWS) and met with local elders. Among other things, the group had the opportunity to visit the local processor and see first-hand a 6-hour commercial fishing opening for chinook salmon.

By plane the educational exchange participants got to experience the vastness of the Yukon River, stretching 1-1/2 miles wide in most areas, as they made their way to Galena, 530 miles upriver. The participants got to talk with a local-area icon as well as visit with the staff at the local USFWS office before heading 35 miles upriver to visit another fish camp and investigate a fish wheel. The group was quite impressed with how “modern” the fish camp was and how sophisticated the commercial strip operation use to be.

Taking a chinook salmon 18-21 days to travel from the mouth of the river to Tanana, it only took the group four days to reach the village located approximately 700 miles from the mouth of the river. When the group arrived in Tanana they were taken on a community tour, observed the video test wheel and were entertained by the local native dance group. They also had the chance to actively participate in fishing activities as they each stayed at different fish camps along the river, which also gave them an opportunity to visit with families one-on-one to discuss fish issues at hand.

“IT [the Educational Exchange Trip from Canada to Alaska] was extremely informative and sheds a whole new light on what Mary Pete (Yukon River Panel, Co-Chair) was saying about the lower river relying on the fish, and that central Alaska has a whole different outlook.” –Participant Feedback

Alaskans Trip to Yukon Territory, Canada
Nearly 3 weeks later, Alaskan participants started their 10-day trip 1,200 miles from the mouth of the river in Eagle, Alaska. While there, the group visited with fishers, observed an operational fish wheel and learned that the tide does not have an effect this far upriver. The group had the chance to discuss various topics as the participants were welcomed with a community potlatch that was well attended by local fishers.

The next morning participants boated approximately 100 miles upriver toward Dawson City. Crossing the border, the group visited the Department of Fisheries and Oceans test fishery camp. Here the
group had a chance to interact with those responsible for collecting test wheel data and to hear their take on border escape-ments. Other stops were a commercial salmon strip/roe operation and a fish camp. Alaskan's were amazed at how narrow and fast the river was, the oil content of the salmon, or the lack thereof, compared to salmon nearer to the mouth of the river and the different methods for cutting salmon.

The group continued their boat trip upriver to Dawson City and got to see one of the Restoration and Enhancement Fund (R&E) projects in progress: an out-migration project for juvenile fish. Continuing their educational exchange trip by road, participants visited Pelly Crossing and Pelly Farm. It was here the group noticed how important the fish camps were for the First Nations people. Most of the camps were road accessible and people spent only some of their time in camp, as opposed to the Alaskans who spend the entire summer.

Continuing on to Fort Selkirk, Minto, and Carmacks the group finally hit Whitehorse and then drove on to Teslin. On the way to Whitehorse the group had the chance to meet and interact with Hugh Monaghan, Executive Secretary of the Yukon River Panel, and Lorelei Smith, Chair of the Yukon Salmon Committee. While in Whitehorse they got to visit the hatchery and see that it is not for mass producing chinook salmon, but for helping to replace juvenile salmon that are lost due to the dam.

After 10 days, the group was headed back to Alaska, finishing another year of educational exchanges.

"...the exchange of experiences was memorable. There is a very apparent need to unite all fisheries and use the knowledge available to manage toward a more sustainable fishery".

–Participant Feedback

Conclusion

To emphasize the importance of conservation goals as established by the 2001 Yukon River Salmon Agreement the educato-

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**BY DALE BRADLEY**

**PELLY CROSSING, YUKON**

**SELKIRK RENEWABLE RESOURCE**

**CO-CHAIR & EDUCATIONAL EXCHANGE PARTICIPANT**

I had the privilege to be selected as a participant in the Yukon River Educational Exchange Program this July. I want to express my sincere thanks for the hospitality that we were shown throughout the entire tour by the Alaskan folks. I live on the Pelly Farm near the town of Pelly Crossing in the Yukon, approximately 6 miles from the confluence of the Yukon River at Fort Selkirk.

The trip was very exciting and educational for me. I found it very encouraging to see the effort ADF&G [Alaska Department of Fish and Game] was put-

numbers of fish to coordinate with Stan Zuray’s work as well as DFO [Department of Fisheries and Oceans, Canada]. Without handling the fish, it could be enhanced with sonar to estimate the numbers going past.

Also, upon my return I helped coordinate a tour through some local fish camps and a short river trip for the Alaskan delegates of the educational exchange program.

I am glad to see that some of the money is being spent on the common folk not just technical people crunching numbers in an office some place that doesn’t make any sense. We need more hands on awareness to show to people that IT TAKES YOU TOO! We all need to work together to bring the fish back.

"EDUCATIONAL EXCHANGE..." CONTINUED ON PAGE 6
the salmon resource is to visit them in their community during the fishing season.

Yukon fishers must not only be fully informed about the agreement, but must be able to communicate with and provide feedback to the U.S. section of the Yukon River Panel and its Advisory Committee as well as agency personnel of the U.S. Fish & Wildlife Service, and the Alaska Department of Fish & Game. The residents and fishers of the Yukon River need to understand the costs and benefits of the U.S. / Canada Agreement, re-establishment of the Yukon River Panel and the Restoration and Enhancement Fund. Adequate public information and participation is needed in order to build trust between local people and the representatives that work on their behalf.

Acknowledgements

YRDFA would like to thank the Yukon River Panel and the U.S. Fish & Wildlife Service for providing funds to make this year’s Educational Exchange possible. We would also like to express our gratitude to all of those individuals who assisted with the planning and carrying out of trips to both Canada and Alaska - there were many of you. Very special thanks to those who allowed us to visit their fish camps. We appreciate the willingness of the participants for the long days they put in during the trip and for their patience and enthusiasm.

“EDUCATIONAL EXCHANGE…”
continued from page 5

While in Tanana, the Educational Exchange group met with Channel 2 News. The following is an excerpt from a news story that aired this past summer.

Megan Baldino: In July visits are common at Yukon River fish camps. Summer neighbors…isolated from the company provided in town…move from one camp to the next to say hello or talk about the fish run. But this summer a group has come all the way from Canada. They know the Yukon well…because upriver from Alaska they too fish its silty water. They are here to meet the fishermen in Alaska who share the resource. The gathering is friendly…with the Canadians helping Alaskan fisherman, Lester Erhart hang his salmon strips…but the relationship between Alaska fishermen and Canadian fishermen on the Yukon hasn’t always been this way.

Jill Klein: For years it’s been pretty contentious…

Megan Baldino: Jill Klein is the Executive Director of the Yukon River Drainage Fisheries Association…or YRDFA for short. And this summer fishermen from Canada and Alaska are traveling to fish camps in each country… part of an educational exchange.

Jill Klein: The goal is to try and get people to different parts of the river to understand and learn about each other and how different parts of the river use salmon and rely on salmon and why it’s important to them.

Megan Baldino: In the mid-1990s when the river began to experience significant drops in fish runs…the blame game began.

Jill Klein: Everybody looks downriver and blames different parts of the river for taking fish that could potentially be theirs.

Megan Baldino: But in March 2001…after 16 years of negotiations…the U.S./Canada Yukon River Salmon Agreement was passed. Alaskan fishermen agreed to harvest reductions of chinook and chum salmon to make sure enough reach their spawning grounds in Canada. The idea: to restore and conserve Yukon River salmon…and restore the relationship between fishermen on both sides of the border.

Bill Fliris: It doesn’t do any good to go to the board of fisheries to try and solve problems when you are two camps that are completely separate and you don’t talk to each other before you get to the board.

Megan Baldino: Now members of YRDFA meet twice a year to talk about what works and what doesn’t.

Bill Fliris: If you can get together with those people and compromise with them and then go to the board with constructive proposals they can pass them and then you can get changes made on this river and we’ve been successful at doing that.

Megan Baldino: And successful in forging new friendships…no matter where you live on the river.

To view the video clip from this news story visit: http://www.msnbc.com/local/KTUU/M315193.asp
ICHTHYOPHONUS UPDATE

BY JOE SULLIVAN, PROGRAM DIRECTOR, YRDA

In the last YRDA newsletter, I reported on the history of the Ichthyophonus problem in Yukon River chinook and a little about its life history. But the story continues and will as long as it is a problem here. This is a brief update on what has happened in the intervening months. There was a panel discussion on Ichthyophonus at the Western Fish Disease Workshop in Seattle in July; Drs. Kocan and Hershberger (University of Washington) have preliminary information on this summer's sampling; Drs. Kent and Chris Whipp (Oregon State University) are making progress on the polymerase chain reaction (PCR) test mentioned in the last article, and the Alaska Department of Fish and Game (ADFG) is about to hire someone to work with Ichthyophonus research in the future.

The panel discussion at the Western Fish Disease Workshop brought together researchers from the University of Washington (Kocan and Hershberger), Oregon State University (Kent and Whipp), the ADFG (research supervisor Tracy Lingnau and principal pathologist Ted Meyers), the Canadian Department of Fisheries and Oceans (Simon Jones), the University of California – Davis (Dr. Gary Marty) and YRDA (me), who chaired the panel. Many of the observations noted in the last newsletter were reiterated by this panel. Kocan pointed out that Yukon River temperatures in recent years had regularly exceeded 15°C, experimentally found to allow Ichthyophonus to cause significant mortalities in several species of fish. He and Hershberger suggested the following suite of projects needed to be conducted on this disease:

1. Effects of water temperature. Does temperature increase pathogenicity of Ichthyophonus for chinook salmon? While temperatures above 15°C cause increased pathogenicity in several species of fish, that alone does not mean it will have similar results in chinook salmon.

2. Effects of corticosteroid hormones. Do reproductive hormone levels influence the progression of Ichthyophonus disease in chinook salmon?

3. Sources of infection. What is the source of Ichthyophonus infection for Yukon River chinook and burbot? A marine prey species would be the most likely suspect but herring, which are typical reservoirs of infections in other places, do not seem to be infected in the Bering Sea. Since burbot are not anadromous, a freshwater source must be required for them to become infected. Whatever this is, would it also be a potential route of infection for juvenile salmon?

4. Differences among strains of Ichthyophonus. If different species or strains exist, there may be a correlation between strain and pathogenicity.

5. Pathogenesis of Ichthyophonus in chinook salmon. Understanding what is actually going on within the fish as the infection moves to the clinical stage.

Kocan and Hershberger report that this year the prevalence of clinical disease in the Lower Yukon has increased to greater than 24% from less than 5% in 1999, putting it in the same range as clinically infected fish at Tanana, though once again there were significantly fewer infected Chena and Salcha post-spawners. This year there is almost the same infection rate in males and females. Previously female rates were higher.

Kent and Whipp are still developing the blood PCR test, but, using the tissue PCR test they have on Tanana tissue samples they are seeing about a 33% infection rate among those fish. Due to some protocol difficulties, Kent and Whipp were not able to sample exactly the same fish as Kocan and Hershberger, but the results of the two studies were, nevertheless, very close.

Last year, ADFG received a half million dollars from Congress to study Ichthyophonus and from this grant has come Kent and Whipp’s study, but it is also to be used for funding a department position dedicated to studying the disease. ADFG started the hiring process in February and as this story is going to press, they are about to make an offer to someone. They really needed this position to be filled before the chinook run this year, but red tape just slowed them down and put them a season behind. Nevertheless, I hope that with this person on board there can be a better integration of all the studies and cooperation among the researchers involved in Ichthyophonus infections of Yukon River chinook salmon.

So that’s what’s happening to date. Perhaps by the spring issue of the Yukon Fisheries News I’ll be able to tell you whether a PCR blood test is going to work and what the overall Ichthyophonus research plan will be for 2004. Stay tuned.
YUKON RIVER 2003 PRELIMINARY SUMMER SEASON SUMMARY POINTS

BY TRACY LINGNAU & FRED BUE, ADF&G SUMMER & FALL SEASON MANAGERS

PRESEASON:
- Conservative management was agreed to prior to the season because of poor runs beginning 1998 and an uncertain size run expected in 2003.
- Expected run similar to 2001 and 2002 where there was enough for escape-ments and subsistence, with a small surplus for commercial opportunity.
- Management would wait until the mid-point of the run to ensure escapement and subsistence would be provided for (similar to 2002 management strategy).
- Commercial fishing would be spread out, similar to the subsistence fishing schedule, so as not to concentrate harvests on a particular stock if the run strength is similar to 2001 and 2002.

INSEASON:
Lower River
- Subsistence schedule began for Y1 on May 29 and was implemented chronologically upriver.
- Break up was early, as was also the chinook salmon run. These two factors gave a few alert subsistence fishers along the river some opportunity prior to the implementation of the schedule.
- 1st quarter point was on the June 10, midpoint on June 15, and 3rd quarter on June 24.
- Chinook salmon run was 5 days earlier than normal.
- Early in the run, test nets, corroborated with subsistence harvests, indicated the 2003 run was at least as strong as previous three years and may be near normal run strength.
- Largest pulse since 1999 occurred on June 12 and carried over through the next day as well. Even with this pulse, ADF&G stuck with preseason management plan and waited until the midpoint before opening commercial fishing.
- Bulk of Lower Yukon River commercial harvests occurred between the midpoint and 3rd quarter.

No markets for summer chum salmon.
- Summer chum salmon were bought from fishers and were either given back or filleted and donated to the Emmonak Women’s Shelter and to the local schools.
• Total value for summer season commercial fishing, for the ENTIRE fishery was $1.9 million.

Upper River
• Because of chinook salmon run strength, tried to provide as much commercial opportunity as possible, highly dependent on markets.
• Relatively small commercial markets were available in all upper Yukon River districts except Subdistrict 4A.
• Because of the run strength of chinook salmon into the Tanana, allowed harvest above the BOF guideline harvest range.

• In general, the Department tried to open up earlier in the run, to 1) spread the harvest out across the bulk of the run, and 2) to harvest a portion of the run, which are typically a higher proportion of males.

POST SEASON ASSESSMENT:
Chinook Salmon
• Lower River tributaries that could be assessed, exceeded their chinook salmon escapement objectives. Others most likely exceeded objectives as well.
• Chena and/or Salcha Rivers may have had record escapements but flooding precluded a complete assessment of the escapement.
• Canada escapement goal was met.

CONCERNS: Of the three aerial surveys and one weir in 2003, records were set in three of them, some dating back to 1968 (2.7 times the 1982-present average). Yet the overall escapement goal using the border passage estimate minus harvest was near average.
• Passage estimates may be underestimated (possibly due to reduced tag recovery information, i.e. reduced commercial fishing?)

Summer Chum Salmon
• Anvik River escapement was roughly two-thirds (~250,000) the low end of the BEG.
• Pilot Station was within the .8 to 1.6 million fish OEG (1.2 million). Typically, Anvik is half of Pilot Station and would have expected about 600,000 fish.
• 2002 summer chum salmon estimate very similar to 2003, therefore 2003 escapements should also have been similar. However, other escapements (Nulato, Gisasa, Tozitna, Henshaw, etc.) were also 1/2 to 2/3 last year’s escapements.
• Possible reasons for discrepancy: 1) strong Tanana component, 2) other unmonitored tributaries, 4) combination of above, 5) Other?
NEW PROJECTS:

Radio Telemetry
- Provided useful information to managers.
- Of the 1,097 fish radio tagged near Russian Mission, 1,075 (98%) fish traveled past upriver tracking stations.
- 37 archival tags deployed and as of 9/2, 22 had been recovered.
- 108 (10%) fish were tracked to tributaries in the lower and middle basin.
- 219 (20%) fish were tracked into the Tanana River fish (219, 20%), with an
- 628 (58%) fish were tracked into the Upper Yukon of which 444 (Porcupine and mainstem Yukon) went into Canada.
- Remaining most likely harvested (still sorting out data).
- Average Yukon-Tanana ratio of 3:1.

Ichthyophonus
- New PCR (Polymerase Chain Reaction) test being done by University of Oregon.
- PCR test more sensitive and might be used as a non-lethal test (blood sample).
- Collected ~130 samples to be tested.
- Should have some indication of results in March.

Sonar
- New DIDSON (Dual Frequency Identification Sonar) tested in AYK for possible uses.
- Investigated new border sonar location and found location near Calico Bluff (just below).
- Might also be used for assessment of other projects (i.e. fish wheel salmon behavior).

“We forget that the water cycle and the life cycle are one.”

Jacques Cousteau
Run Assessment
- This year's fall chum salmon run has been assessed to be approximately 900,000, which is more than double the recent 5-year average and has been produced from parent years that fell below drainage-wide escapement goals.
- Most tributaries are anticipated to attain or exceed escapement goals except the Porcupine River drainage, which is believed to be below goals.
- The comparative coho salmon run abundance estimate at Pilot Station Sonar indicates the run is also double the recent average which were considered good runs.

Harvest and Management:
- Subsistence fishing restrictions were in effect early in the fall season when conservative management was believed necessary based on the poor outlook.
- The fall runs began showing strength, but the Pilot Station Sonar was suspected of over-estimating so subsistence restrictions were continued until verification from upriver assessment projects substantiated the sonar estimates that the runs were strong.
- Subsistence restrictions were lifted and commercial fall salmon fishing season was opened throughout the drainage.
- Commercial markets were very limited in the late stages of the season with actual commercial fishing only occurring in a few locations with small numbers of participants landing a well below average harvest of both fall chum and coho salmon.
- The commercial salmon season was extended and fishing time was increased in an effort to recoup opportunity lost early in the season due to conservative management.
- Most subsistence fishermen who fished likely met their needs, however, due to the poor outlook and lack of commercial markets, which enables subsistence fishing activities, subsistence participation and harvest is anticipated to be below average.

Issues:
- Subsistence fishing opportunity was extended beyond the fishing time specified in regulation because fall salmon runs were assessed to be greater than necessary for escapement needs and the anticipated harvests.
- There is additional pressure to manage conservatively early in the fall chum salmon run in an effort to assure U.S. commitment to deliver an negotiated number of salmon to the Canadian Mainstem Border and Fishing Branch River weir. It is anticipated that both interim goals will be exceeded by approximately 50 percent.
- Fall chum salmon production increased substantially over recent years in the Yukon River which has been identified as a stock of yield concern.
- The Alaska Board of Fish is addressing Yukon River fisheries regulations this winter.
What do salmon eat in the Bering Sea during fall?

BY JAN ARMSTRONG, NANCY DAVIS & KATE MYERS
UNIVERSITY OF WASHINGTON, SCHOOL OF AQUATIC AND FISHERY SCIENCES

The ocean migration phase of the salmon’s life history is characterized by high prey consumption rates and large increases in body size. However, recently observed reduction in body size of adult salmon returning to spawn may reflect a limit of the ocean’s carrying capacity for salmon, and indicate competition among salmon for food. Although there have been numerous studies of salmon food habits in the ocean during the last few decades, most have focused on analysis of salmon collected in the summer. At present, there are little or no data from samples collected in the Bering Sea during the fall, which is likely to be a season critical for salmon growth and survival through the winter period.

In a study supported by YRDFB research funds, researchers at the University of Washington (UW) have recently completed laboratory analysis and compilation of salmon food habits from samples collected in the fall of 2002 from the basin, shelf, and Aleutian Island domains of the Bering Sea. Stomach samples were collected during the fall research cruise of the Japanese vessel Kaiyo maru, which trawled for salmon in the basin and the central Aleutians, and during the salmon trawling operations of the US vessel Northwest Explorer, which conducted operations in the Bering Sea basin, western and central Aleutians, and eastern shelf (see Map 1). At the UW, researchers conducted stomach content analyses on a total of 349 salmon stomachs (24 sockeye, 238 chum, 1 pink, and 63 chinook) from samples collected by scientists aboard the Kaiyo maru. In addition, results of earlier shipboard analysis of an additional 467 samples including 90 sockeye, 249 chum, 1 coho, and 73 chinook salmon and 1 steelhead trout collected by researchers aboard the Northwest Explorer were compiled into a common database for salmon food habits during the fall season in the Bering Sea.

Preliminary results show chum salmon fed on a diverse diet, which included crustaceans (figure 1 & 2), fish (figure 3), pteropods (figure 4), and gelatinous zooplankton such as jellyfish (figure 5). Sockeye fed on a more restricted set of prey organisms, and consumed primarily euphausiids, amphipods, and pteropods. Chinook salmon were the most specialized consumers, and fed predominantly on squid and fish (figure 6 and chart 1). The figures of prey shown here are representative of the most common, but not the only prey species, within a prey group and the maximum total body size indicates the largest size observed for particular prey found in stomach contents.

Differences in prey composition of salmon stomach contents were observed based on sampling location. Sockeye and chum salmon stomach samples collected from the Bering Sea basin and Aleutian Islands were characterized by higher vol-
umes of euphausiids, and amphipods than samples collected from the shelf. The fish prey consumed by salmon in the basin samples included adult northern lampfish, and juveniles composed of rockfish, Atka mackerel, walleye pollock, sculpin, and flatfish. In contrast, fish were a higher component of the diet in samples collected from chinook and chum salmon on the eastern Bering Sea shelf. The fish consumed by salmon in this area were exclusively young fish including herring, capelin, pollock, rockfish, and sablefish. In addition, pteropods were consumed in greater volume by chum and sockeye salmon collected on the shelf as compared with other areas (see chart 1).

Chart 1. Composition of major prey of salmon collected in the Bering Sea in fall, 2002

Researchers plan to continue their work by comparing food habits data from these fall surveys with data collected from many of the same areas of the Bering Sea during summer. In addition, examination of the similarity in prey consumed by salmon (diet overlap) will be used to show whether competition on the basis of food could affect growth and survival of Yukon River salmon.

I’d like to introduce myself as the new Educational Outreach Coordinator for YRDA. I started working in this capacity in September 2003. I recently moved to Alaska after spending 3 years in Zambia, (sub-Saharan Africa) with the U.S. Peace Corps as a rural aquaculture promotion extension agent. I worked and lived in the bush of a land-locked country promoting the small-scale rearing of fish in earthen fish ponds. I am pleased to continue working on fishery related issues back here in the States and in such a beautiful part of the country. I graduated from Cornell University in May of 1999 with a Bachelor of Science degree in Natural Resources. This past summer I had the opportunity to work with and participate in the Yukon River Inter-Tribal Watershed Council’s 4th Biennial Summit held in Ft. Yukon, Alaska. It was my first opportunity to experience the Alaskan bush and I look forward to visiting many other communities as I work with YRDA.

The job role of Educational Outreach Coordinator has expanded its boundaries and will require more traveling and more interaction with the fishers of the Yukon River. My most important priority will be educating and informing communities about fisheries issues relating to the Yukon River Salmon Agreement. On that note, we are currently working with the Yukon River Panel to produce the Yukon River Salmon Agreement Handbook, an informative guide that outlines the Agreement, explains why it exists and how it affects Yukon fishers.

I’ll also be responsible for increasing YRDFAs general membership, providing awareness for and ensuring participation during in-season teleconferences, organizing and facilitating the Yukon River Educational Exchange Program, distributing fisheries information through YRDFAs newsletter and maintaining YRDFAs website in order to disseminate information about the US/Canada Agreement and YRDA activities.

I look forward to working with you all in the future!

Thanks,

Darcy King
Educational Outreach Coordinator
darcy-yrdfa@alaska.com
Phone: (907) 272-3126
Fax: (907) 272-3142

NEW STAFF MEMBER ANNOUNCED

Looking for Photos

The YUKON RIVER PANEL is seeking photos from all communities along the Yukon River to compile a 2004 year Calendar.

We are looking for photos of subsistence and commercial fishing, as well as any photos of subsistence living winter & summer in and around your community. Old photos of past activities are sought as well.

• Please send digital photos in the 640x480 jpeg format if possible.
• Old photos should be copied to digital format if possible.
• Please include where the photos are from, person in the photos (if possible), your name and address.
• Hard copies of photos can be sent, if a return address is attached. They will be returned promptly.
• E-mailed photos should only contain 3 photos/email. (Please keep files small)

Please send to: abassich@aptalaska.net or, Andy Bassich, Box 11, Eagle, AK 99738
DEADLINE IS DECEMBER 30, 2003
YUKON SEWAGE GETS COMMUNITIES TALKING

BY DAN RICE
STAFF WRITER, DAILY NEWS-MINER
Original article appeared in the Daily News-Miner on Sunday, August 31, 2003

It was an unusual spot to find Dawson City Mayor Glen Everitt.

Under a tarp-covered amphitheater in Fort Yukon on Aug. 19, more than 100 tribal leaders and residents who live along the Yukon River were taking turns introducing themselves at the start of a conference on the quality of the river’s water.

The microphone came to Everitt, the public face of a city that has been fined several times by Canadian governmental agencies for discharging sewage still containing harmful toxins into the Yukon River.

“Dawson City has always been on the defensive,” Everitt said, as he talked during the Yukon River Intertribal Watershed Council Summit.

Everitt called his visit to Fort Yukon an unprecedented step, a sign that Dawson City is now willing to work with the people concerned about its sewage discharge, asking for help rather than just defending its position.

And though it was just one trip, a mere three-day conference, Everitt’s stop in Fort Yukon changed the spirit of a debate between Dawson City and the residents, both Canadian and Alaskan, who live downstream from the city.

A Territorial Court of Yukon judge earlier this year fined the city of about 2,000 residents $5,000 for violating the Canadian Fisheries Act by discharging harmful sewage into the Yukon River. The judge ordered the city to construct a secondary sewage treatment plant and have it fully functional by September 1, 2004.

The judge’s decision, which Dawson City is appealing, also imposes another fine of $3,000 for every month after the deadline that the city does not have the sewage plant operational.

The fine came after the agency Environment Canada in 2000 collected samples of Dawson City’s discharge from its current system and determined that the sewage contained harmful material, according to a March news release from the agency.

Dawson City was also fined for building dikes in the Yukon River in 1994 in an effort to correct problems with its sewage system. Two years later, a judge ordered the city to pay $15,000 for environmental damage caused by the dikes.

A pair of resolutions addressing the Dawson City sewage issue was one of the key topics during the conference earlier this month in Fort Yukon, where tribal leaders, environmental professionals and river residents participated in the fourth Yukon River Intertribal Watershed Council Summit held since the group formed in 1996.

The group formed because of common concerns about Yukon River pollution.

The first resolution, tweaked several times during discussion between the tribal leaders and Everitt before it was passed, urged Dawson City to comply with all environmental regulations, the Canadian government to enforce the regulations and the watershed council to provide any technical assistance that might be necessary.

In the other resolution, the group urged the governments of Canada and the United States to enforce and help communities comply with all environmental treaties and regulations.

Although the resolutions amount to only a formal show of support, Rob Rosenfeld, watershed council director, said the group hopes they will help send a strong message that people living along the Yukon River and its watershed want a new Dawson City sewage system.

Everitt said in a July interview with CBC that the city simply can’t afford to build the multimillion dollar sewage treatment facility that the judge ordered. He said in the interview that the Canadian federal government would have to provide the money or the city would be forced to defy the court order.

Part of the resolution passed at the summit asked the government to “acknowledge its fiduciary and judiciary obligations in ensuring the effluent from Dawson City meets all environmental standards.”

Rosenfeld said discussion at the summit helped many of the attendees learn more about Dawson City’s situation, particularly when it comes to funding.

“I think a good relationship was formed, and I think there was a better understanding of the challenges that Dawson City faces and really a genuine interest by the tribal leaders to assist wherever possible,” he said.

The summit produced two other signs of progress, Rosenfeld said. First, Dawson City agreed to host the next summit in 2005 “so they will be able to demonstrate to all the tribes the progress they’ve made.”

Second, Paul Erhart, an assessment and monitoring coordinator with the watershed council, was appointed to a committee charged with overseeing Dawson City’s effort to get a new sewage treatment plant. Erhart plans to visit Dawson City next month.

While the summit in Fort Yukon offered signs of progress, Rosenfeld said tribal leaders and the watershed council won’t be satisfied until an adequate sewage treatment plant exists in Dawson City.

“It’s wonderful that the relationship has strengthened,” he said. “At the same time, the tribes want the rubber to meet the road.”

Reporter Dan Rice can be reached at drice@newsminer.com or 459-7503.
Research shows that beaver ponds serve as a winter refuge and nursery for salmon. Beavers excel at making dams and that can lead to flooding of roads, property or trails, such as the ones near the Mendenhall Glacier Visitor Center.

Anyone who has spent time fishing and exploring the streams around Southeast Alaska has witnessed first-hand the ability of beavers to alter a stream. Dams built by beavers and subsequently, the ponds created by them, have claimed more than one dry boot and have angered property owners nationwide.

Historically, beaver dams were perceived as barriers to salmon migration and were frequently removed. Headlines, as recently as the 1990s, shouted out the message that beaver dams had to be removed, by whatever means possible.

But the story is a little more complex. A study led by Mason Bryant at the Forestry Sciences Lab suggests that beaver dams may in fact provide access to essential overwintering habitat for juvenile salmon during fall floods.

To test this theory, juvenile coho salmon populations in a beaver pond, slough and a stream complex within the Kadashan watershed on Chichagof Island were intensively studied for more than two years. Estimates on the total number, size and age of salmon were measured in early spring, mid-summer and in fall before high water flows.

During the fall sample, fish were marked to identify the location of capture: stream, slough or pond. The following spring, fish were recovered in each location to determine movement. Preliminary results show little or no differences during the summer as equal numbers of fish were found in the pond, slough and stream. Differences appeared during the fall sample as less than 100 juvenile salmon were found in the stream section, and nearly 3,000 juvenile salmon were found in the slough and beaver pond.

In all, more than 150 fish marked in the stream section during the fall were recaptured in the pond and slough in the spring. At the same time, less than five fish marked in the pond were recaptured in the stream. The movement pattern, from stream to pond, suggests fish movement is closely linked to fall floods which temporarily connect the main stream to off-channel habitat such as beaver ponds and sloughs.

Results from the Kadashan study suggest that removing beaver dams to allow upstream access is, in most cases, unnecessary. Adult coho easily move upstream of most dams, and ponds provide excellent rearing habitat for young salmon. Beaver ponds not only serve as significant winter habitat, but also provide productive habitat for juvenile salmon throughout the year. In addition, seasonal floods provide an important link to this productive habitat, and maintaining these links should be an important consideration when the “nuisance” beavers begin to flood the neighborhood.

In the future, understanding the role of beaver ponds in aquatic systems may be crucial for forest planning as beavers can be a used as a natural agent in successful salmon restoration programs throughout the beavers’ range in the Pacific Northwest.
“TRADE ADJUSTMENT…” continued from page 1

Marine Advisory Program (MAP) and the Cooperative Extension Service (CES) will be providing technical assistance workshops either on site or by teleconference in or near all Alaskan applicants’ hometowns. The workshops will begin in early winter (2003–2004), and be approximately one hour in length. Visit www.uaf.edu/map/taa for technical assistance package details.

**How much will I get paid?** Payment will be issued based on a flat rate (per pound of salmon produced) for all Alaskan salmon, commercial fishers. To date, official numbers have not yet been released. However, keep in mind, these payments will come from a nation-wide pot of money equalling $90 million, which must be split amongst all qualified applicants receiving benefits. Calculations for payment will be based upon all salmon species collectively, not on individual species.

**What other benefits am I qualified for?** Upon qualification for cash benefits from USDA, fishers will automatically be qualified for trade adjustment assistance benefits, under the Department of Labor (USDOL), that include job re-training and job search & relocation allowances. Visit www.alaskataa.com for more information.

Since the program is new this year for fishermen many kinks still need to be worked out and rules this year may not apply next year. For example, this year different species of salmon are not recognized. It is possible that calculations for payment next year may require distinctions between species and different types of gear used to fish. Efforts are being made by Senator Murkowski to improve this program to favor Alaskan fishermen and make the application process as easy as possible.

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**DON’T GET CONFUSED!**

FAS = Foreign Agricultural Service  
FSA = Farm Service Agency

FSA will be working on TAA issues in Alaska on behalf of FAS. Both are agencies under the Department of Agriculture (USDA).

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**TAA UPDATE!**

FAS certified the United Fishermen of Alaska (UFA) petition on behalf of all Alaska salmon fishers for Trade Adjustment Assistance (TAA) on **October 22, 2003.** Fishermen do not need to be a UFA member or Alaska resident to be eligible, but **have 90 days to apply.**

Application forms and materials will be posted online at the Alaska Farm Service Agency website [http://www.fsa.usda.gov/AK/](http://www.fsa.usda.gov/AK/)

It has also been decided that based on the weighted average of prices received for five species of Pacific salmon, fishermen may receive **3 cents per pound** for the salmon they landed in Alaska during 2002.

For information regarding the USDA TAA program, please contact the USDA Alaska Farm Service Agency (FSA) toll-free at (866) 872-3320.

“We thank the UFA members and others who responded to our action alert this summer when we learned that fishermen were not included in the program. 62% of the letters that the USDA received supported extending TAA coverage to fishermen of wild Alaska salmon. Without our members staying in touch this probably would not have happened.” – UFA President Bob Thorstenson

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**Keep yourself updated!** Visit the United Fishermen of Alaska website:  
[http://www.ufa-fish.org](http://www.ufa-fish.org)

Visit the USDA website:  
[http://www.usda.gov/services.html](http://www.usda.gov/services.html)

For Yukon River fishers to apply for benefits contact the FSA County Administrative Office in your region:

**Fairbanks Service Center**  
Farm Service Agency, Rural Development (Area Office)  
590 University Ave.  
Fairbanks, AK 99709-3661  
(907) 479-3159  
(907) 479-6998 fax

Fairbanks Service Center serves the following regions:  
North Slope  
Northwest Arctic  
Yukon-Koyukuk  
Nome  
Fairbanks-North Star  
Southeast Fairbanks  
Valdez-Cordova

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**BOARD OF FISHERIES MEETING**

**Arctic/Yukon/Kuskokwim Finfish**  
**January 12-19, 2004, Fairbanks**

**MEETING LOCATION:**  
Fairbanks Princess Riverside Lodge  
4477 Pikes Landing Road  
Fairbanks, AK 99709  
Phone: 907-441-5488

For more information visit  
[http://www.state.ak.us/adfg/boards/fishinfo/bofhome.htm](http://www.state.ak.us/adfg/boards/fishinfo/bofhome.htm)

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**FEDERAL SUBSISTENCE BOARD MEETING**

**December 9-11, 2004, Anchorage**

**MEETING LOCATION:**  
William A. Egan Civic and Convention Center  
555 West Fifth Avenue  
Anchorage, Alaska 99501  
Phone: 907-263-2800  
Fax: 907-263-2858

For more information contact  
Office of Subsistence Management  
Phone: 907-786-3888 or 800-478-1456