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Unintended Catch: Bycatch of Yukon River Salmon in the Pollock Fishery

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In 2005 alone, over 13,000 Yukon River Chinook that would have returned to the Yukon River were caught in the Bering Sea/Aleutian Islands (BSAI) pollock fishery before they could even begin their journey up the Yukon River. Had these fish returned to the Yukon River, they would have fulfilled vital subsistence needs for people along the 2,300-mile-long Yukon River, contributed to the commercial salmon harvest which provides one of the few sources of income for Yukon River communities, or ensured that escapement goals were met. Instead, these salmon, called bycatch because they are not the intended target of the Pollock fishery, were discarded or given to food banks.

Pollock Bycatch and the Salmon Who Never Return

As the largest fishery in the United States, the pollock fishery pulls well over a million metric tons of pollock out

of the Bering Sea each year with mid-water trawls. While the trawls intend to catch pollock only, the nets catch whatever is in their path, and thus salmon are caught as well. Because salmon are a prohibited species under the North Pacific Fishery Management Council's (the Council) Fisheries Management Plan, the pollock fishery is not allowed to sell these salmon commercially. For a long time, these unwanted fish were simply thrown back into the ocean (dead after spending time in the trawl nets and on deck). Today many are donated to food banks.

Many of these salmon are the same salmon whose return we await on the Yukon River. In fact, studies indicate that over 56% of the Chinook caught as bycatch in the pollock fishery are of Western Alaskan origin, and over 40% of those Western Alaskan Chinook are Yukon River stocks. Yukon River Chinook and fall and summer run chums support commercial,



Fish wheels used by Yukon River fishermen. Photo by Bill Fliris.

subsistence, sport and personal use fisheries. The over 13,000 Yukon River Chinook caught as bycatch in 2005 constitute 42% of the 2005 commercial catch on the Yukon River, 27% of the subsistence catch and 47% of the Canada border passage goal.

While both Chinook and chum stocks experienced severe declines from the mid 1990s through 2001, the runs have recovered incredibly in the past few years, with

record high returns for fall chum in 2005. At the same time, bycatch amounts in the pollock fishery have also increased dramatically in the past few years. Chinook bycatch, as reported in observer records, has increased from 36,385 fish in 2002 to 74,835 fish in 2005. Chum salmon bycatch has increased even more dramatically: from 81,470 in 2002 to 700,766 in 2005.

Efforts to Reduce Bycatch in the Pollock Fishery

Given these high numbers of bycatch, a number of Western Alaskan groups have sought to reduce salmon bycatch in the pollock fishery. The Yukon River Drainage Fisheries Association (YRDFA), a group of commercial, subsistence, sport and personal use fishers on the Yukon River, was formed in 1991 to provide a collective voice for the people of the Yukon River to ensure the long-term sustainability of the river and its cultural and economic benefits. YRDFA has been involved in efforts to reduce salmon bycatch since 1994. Currently, bycatch is controlled through the use of a "Salmon Savings Area" system. Under this system, the savings areas are closed as soon as a trigger amount of fish – 29,000 Chinook and 42,000 Chum (in the Catcher Vessel Operational Area) – are caught. While this system eliminates bycatch in the designated savings areas by closing them to all pollock fishing, it does nothing to eliminate or even lower bycatch rates in other areas of the Bering Sea fished by the pollock fleet. There is some evidence that the closures have actually forced pollock boats to fish in waters with higher bycatch rates. In fact, despite the savings area system, salmon bycatch numbers have continued to rise in recent years.

In response to the shortfalls of the savings area system, the pollock fishery has proposed a new method, the Voluntary Rolling Hot Spot

System, or VRHS. The fishery has used the VRHS system in addition to the Savings Areas since 2001 for chum and 2003 for Chinook. YRDFA has been working with pollock fishers, the Council and other Western Alaska groups to design and implement the VRHS system as a Council-endorsed solution. Under this system, which the Council accepted in October, the pollock industry has committed to regulating itself to avoid areas of salmon bycatch in return for an exemption from the Salmon Savings areas.

The VRHS agreement is executed as a private contract signed by the entire pollock fleet with YRDFA, the Bering Sea Fishermen's Association, the Association of Village Council Presidents and Tanana Chiefs Council as third party members to the agreement. Under the VRHS agreement, which will go into effect in August of 2006, pollock boats will report their bycatch rates (the number of salmon per metric ton of groundfish) and locations to a central administrator, Sea State, within 24 hours of their catch. Sea State will analyze bycatch rates from the entire fleet and on a weekly basis will issue orders closing areas with bycatch rates exceeding a set bycatch "base rate."

The pollock fishing season is split into two different seasons – the "A" season, which runs from January 20 until the end of March and the "B" season, which runs from June 10 until the end of October. Because the fishery itself and interactions with salmon are not the same during the two seasons, the VRHS system operates differ-

ently in the "A" Season and the "B" Season.

During the "A" Season, areas in which the bycatch exceeds the base rate are closed to pollock boats. For Chinook the base rate in the "A" Season is initially set at the previous year's average bycatch rate (but must be between .04 and .06) and is adjusted three weeks into the season to the season average for the current year. For chum the base rate is set at .19 initially, with an inseason adjustment on Sept. 1 to the average bycatch rate for 3 weeks proceeding.

However, in the "A" season, closure areas are not closed to all pollock boats, but apply based on a boat's or cop's individual bycatch rate. Closures apply to those with the worst bycatch rates (with bycatch rates over 125% of the base rate) for 7 days at a time and to those with slightly better bycatch rates (75-125% of the base rate) for 4 days at a time. For those with the best bycatch rates (less than 75% of the base rate) the areas are not closed at all. As part of the agreement, along with closures, a "Dirty Dozen" list of the vessels with the worst bycatch rates will be published weekly.

During the "B" Season, the same system of closing areas where bycatch rates exceed a set rate is utilized. In the "B" season, however, the closures apply to all boats regardless of what their bycatch rate is.

Vessels who violate the agreement are fined \$10,000 for the first violation, \$15,000 for the second violation in the same year and \$30,000 for the third violation in the

same year.

YRDFA's Role in Reducing Salmon Bycatch

Under the new VRHS system, YRDFA has a unique role to play. As an official third-party member of the Inter Cooperative Agreement formed to administer the system, YRDFA has the right to take legal action to enforce the agreement, both to collect damages and stop fishing where the agreement has been violated.

While the new system has the potential to reduce bycatch rates and thus increase the number of salmon returning to the Yukon River, the industry-operated system will require careful watchdogging to make sure it is achieving the desired result of reducing salmon bycatch. In addition, while the Council has approved the VRHS system, they will still be reviewing back-up systems to have in place in case the VRHS system fails. Further research is also needed to identify the salmon stocks being caught as bycatch so we can better understand the connection between salmon caught as bycatch in the trawl fishery and returns to the Yukon River. YRDFA will be monitoring these developments carefully to ensure that the goals of bycatch reduction and increased salmon returns to the Yukon are met.

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