

2014 Season Summary Arctic, Yukon, Kuskokwim



..... Fall 2014

CHINOOK SALMON RESEARCH INITIATIVE

Chinook salmon are an important resource to many Alaskans. At the direction of the Governor, a team of Alaska Department of Fish and Game (ADF&G) scientists and biologists, in collaboration with federal agencies and academic partners, developed a research plan with recommended studies to address low Chinook salmon returns. The Alaska Legislature provided funding for implementation during their 2013 and 2014 sessions. The core of the plan is stock specific, life history-based research focused on 12 indicator stocks from across Alaska.

The Kuskokwim and Yukon Rivers have been selected for study under this plan. ADF&G is utilizing radio tags and aerial surveys to monitor Chinook stocks and is collecting local and traditional knowledge on these stocks.

Look for the salmon logo (🐟) to identify CSRI research in this newsletter

More information on the CSRI can be found online at: www.adfg.alaska.gov



Tagging projects and aerial surveys used to monitor Chinook 🐟

In 2014, Kuskokwim ADF&G staff in collaboration with Kuskokwim Native Association (KNA) operated two separate tagging projects to monitor Chinook salmon populations in the Kuskokwim River. ADF&G and KNA have partnered on Kuskokwim salmon projects for a number of years and continue that collaboration on this CSRI project.

The Lower Kuskokwim River tagging project was operated as a feasibility study to identify optimal tagging locations and efficiency, and monitor survival. Radio tags were inserted into 92 Chinook salmon, with 15 tags recovered upriver in monitoring weirs. The Middle Kuskokwim River tagging project operated near the village of Kalstag and will use radio telemetry to produce an estimate of the number of Chinook salmon returning to the Middle and Upper Kuskokwim River. This project deployed 304 radio tags in Chinook salmon captured in fish wheels and drift gillnets. Approximately 95% of the tagged fish migrated upriver and 30 tags were recovered at monitoring weirs.

Aerial counts were conducted from a helicopter to estimate escapement in three tributaries of the Lower Kuskokwim River. That data will identify the contribution of Chinook salmon in each system to the total lower river escapement. The Kuskokwim radio tagging and aerial survey projects are scheduled to continue in 2015 and will provide managers information on Chinook salmon abundance, distribution, and travel time in river.

Kuskokwim River Chinook escapements increased in 2014

While Kuskokwim River Chinook salmon escapements increased in 2014, the run is being assessed as poor and below average. Chinook salmon escapement has been mixed with some aerial survey and weir projects achieving goals; however, goals at significant spawning tributaries such as the Kogruluk and Kwethluk Rivers were not achieved. Obtaining subsistence harvest estimates from post season surveys will provide more detailed insight into Chinook salmon run abundance this year.

Kuskokwim River Preseason subsistence actions were jointly recommended by the Alaska Department of Fish and Game (ADF&G), and the United States Fish and Wildlife Service in an effort to achieve Chinook salmon escapement goals.

The Kuskokwim River Salmon Management Working Group voted unanimously to support the recommendation. Actions included restrictions to non-federally qualified users and restrictions to gear. The Alaska Board of Fisheries approved dip nets as a method to allow subsistence opportunity during times of Chinook salmon conservation. Subsistence fishing with dip nets was allowed beginning June 15, with additional opportunity provided sequentially upstream as run timing dictated. All Chinook salmon

caught in a dip net were required to be immediately released unharmed.

The Chinook salmon sport fishery was closed by emergency order preseason in the Kuskokwim River drainage and Kuskokwim Bay drainages due to escapements that were the lowest on record and escapement goals not being achieved in the Kuskokwim Bay tributaries in 2013. Commercial fishing activity was significantly delayed for the chum/sockeye and coho salmon fisheries to provide for escapement and increased subsistence harvest with a cumulative harvest of 2,714 sockeye, 19,048 chum, and 117,557 coho salmon.

Kuskokwim Bay Chinook salmon runs were below average and poor this year with escapements below five-year averages. Middle Fork Goodnews River and Kanektok River weirs exceeded the sockeye salmon escapement goals, while chum salmon escapements were below recent five-year averages. Commercial fishing activity in Kuskokwim Bay was significantly delayed for the sockeye/chum salmon fisheries to provide for escapement and increased subsistence harvest with a cumulative harvest to date of 2,470 Chinook, 79,394 sockeye, 17,966 chum, and 104,475 coho salmon.

Tanana River sonar proves to be a valuable tool

The Tanana River sonar project began counting and species apportionment operations on June 26, 2014, with an estimated passage of 13,611 Chinook salmon; 170,725 summer chum salmon; 76,835 fall chum salmon; 15,163 coho salmon, and 15,478 other species.

This is the third year of the Tanana sonar project and the first full year of operation after initial feasibility studies. Due to the unusually early return of Chinook salmon, the project counted approximately 75-85% of the Chinook salmon run to the Tanana River.

The project also counted fall chum and coho salmon and continued operating through the end of September. The project was able to operate successfully in 2014 despite continuously high water on the Tanana River caused by record rainfall in the interior this summer.

The Tanana sonar is a valuable tool for managers providing them with timely estimates of fish passage, apportionment by species, and insight into Yukon River abundance as a whole by better quantifying the salmon going to the Tanana River.

Coho harvest up, chum salmon close to record numbers

Southern **Norton Sound** Chinook salmon abundance improved modestly compared to recent years, but was generally poor compared to historical averages. Severe Chinook salmon subsistence fishing restrictions resulted in achievement of Chinook salmon escapement goals.

Commercial chum salmon fishing in the area continued to be good; five of the best harvests in the last 25 years have been experienced during 2010-2014. Driven by chum, pink, and coho salmon harvests, the commercial salmon harvest



was the best since 1998. The coho salmon harvest has exceeded 100,000 for only the sixth time in history and the first time since 2008. Exvessel value is a record, surpassing 1.5 million dollars, and this year is the fourth time in the last five years that the exvessel value has exceeded one million dollars. Total Norton Sound commercial harvest to date is 275 Chinook, 412 sockeye, 179,468 pink, 104,408 chum, and 106,258 coho salmon.

Kotzebue commercial salmon season was very good in 2014. The Kobuk River test fishery index was among the highest on record. This year was the highest chum salmon harvest (633,000) and exvessel value (nearly 3 million dollars) since 1981. Only 1981 had a greater harvest (677,000 chums) and exvessel value (3.25 million dollars), but 187 permits fished in 1981 and only 95 permits fished in 2014.

2014 Yukon Chinook:

Run stronger than last year

The 2014 Chinook salmon run was better than forecast, but still well below average. 2014 run timing was approximately one week earlier than historical average run timing. The Canadian border escapement objective of 42,500 to 55,000 Chinook salmon was exceeded and overall border objectives were achieved.

Chinook and summer chum salmon management plans guide ADF&G management actions. In response to continued poor Chinook salmon runs, the Yukon River Drainage Fisheries Association (YRDFA) facilitated a preseason planning meeting to provide managers, fishermen, tribal council representatives, and other stakeholders the opportunity to share information, provide input, and discuss management options available. Based on input from this meeting, a preseason management plan was developed for the Yukon River summer season fishery that was extremely conservative. Subsistence fisheries were restricted by area and gear to protect Chinook salmon while providing opportunity on other species. This conservative approach resulted in achievement of Chinook salmon escapement goals on several Alaska tributaries. Obtaining subsistence harvest estimates from post-season surveys will provide more detailed insight into Chinook salmon run abundance this year.

The summer chum run was above average this year and escapement goals were achieved. Summer season commercial harvest is 530,644 summer chum salmon, with 5,974 Chinook salmon caught and released and 451 caught and retained. The projected fall chum salmon run size is expected to exceed 850,000 fish. This level of abundance is adequate to meet escapement and subsistence priorities and provide for commercial harvest. Fall salmon harvest was over 114,700 chum and 98,000 coho salmon.

Commercial fishermen using dipnets to catch chum salmon

2014 was the second season during which dip net gear was authorized for chum salmon harvest when live release of Chinook salmon was required for conservation reasons.

The total commercial summer chum harvest in Yukon River Districts 1 and 2 was 427,266 fish, of which 272,768 (64%) were taken with dip nets and beach seines requiring the live release of Chinook salmon. The total commercial summer chum harvest in Yukon River Districts 4 and 6 was 103,297 taken exclusively with fish wheels, of which 94,344 (91%) was taken when live release of Chinook salmon was required. Of the total 2014 Yukon River commercial summer chum salmon harvest, 367,112 (70%) were harvested with gear types and requirements for live release of Chinook salmon.

These fish represent harvest that may have otherwise not occurred using traditional gear because of the need for Chinook salmon conservation. Nearly 6,000 Chinook salmon were caught and released during the summer chum salmon fishery.

Dipnetting is proving to be a useful tool for conserving Chinook salmon while providing opportunity to harvest chum salmon.



Previous year count of juvenile Chinook is a positive for the Yukon

The 2013 marine abundance estimate of juvenile king salmon was the highest recorded at 6.2 million Yukon Chinook salmon. Juveniles from this large 2013 cohort started to return to the Yukon River in 2014 as three year old fish, which is typically a rare age for Chinook salmon to return to this river. Presence of these fish already returning to the Yukon is indicative of good survival of the 2013 juvenile Chinook salmon cohort, which will continue to return to the river over the next three years.

