YUKON RIVER WATERSHED

(John Eiler)

DISTRIBUTION OF SUMMER CHUM SALMON IN THE YUKON RIVER DRAINAGE

PROJECT 426

PRINCIPAL INVESTIGATOR

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CONTRIBUTING ORGANIZATION

National Oceanic and Atmospheric Administration

RESEARCH PERIOD

May 2004 - April 2005

BUDGET

$93,846.00

TRACKING YUKON SUMMER CHUM SALMON

The Yukon River crosses over 3,000 km of Alaska and covers over 855,000 km^2 of interior Alaska and Canada. Yukon River summer chum salmon are important for commercial fisheries and subsistence. Determining abundance, run timing, and spawning distribution is important because most of the harvest occurs in the downstream portion of the river before the salmon pass upriver monitoring projects. Poor runs from 1997–2002 have increased the urgency in obtaining information about these stocks.

OUR OBJECTIVES

Use radio telemetry to verify fishery manager's estimates indicating that about half the summer chum salmon passing Pilot Station spawn in the Anvik River.

Estimate run timing, migration rates, and the distribution of the return among major tributaries.

HOW WE DID IT

We captured 518 chum salmon using drift gillnets at Russian Mission. We inserted pulse-coded radio transmitters into the stomachs of 208 fish along with external spaghetti tags. We tracked the 124 tagged fish that moved upriver past Paimiut using 45 remote tracking stations installed at 39 sites throughout the Yukon River basin as well as limited aerial surveys.

RESEARCH FRAMEWORK:
SALMON LIFE CYCLE – *PRIORITY #2*

SNAPSHOT

Radio telemetry was used in a preliminary effort to track the Yukon River summer chum salmon run. Information on run timing, migration rates, and distribution of spawning areas was collected and corroborated with sonar data.

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WHAT WE DISCOVERED

The radio-tagged fish traveled to areas throughout the lower and middle basin. We tracked 74 fish to terminal spawning areas. Our estimate of the proportion of Anvik River fish that passed Pilot Station (31.2%) was similar to the sonar count estimates, which were much lower than in previous years. Salmon passing Paimiut averaged 28.8 km/day, with those from earlier in the return traveling faster. Anvik River fish were present throughout the tagging effort, while Bonasila River fish were present only at the run peak. Koyukuk River fish were found earlier, while lower basin fish heading to undetermined locations were more prevalent later in the run. We found no fish returning to the Tanana River, a known producer of summer chum salmon. Also, many of our tagged fish remained in an area not previously known to be a major producer, and a lower percentage passed Paimiut compared with the Chinook salmon run. These findings suggest that our sample may not be representative of the entire run.

PRODUCTS AND OUTREACH

Final reports were presented to natural resource agencies and fishing organizations within the basin.

WHAT'S NEXT?

We considered this project a feasibility year and our results preliminary. A future study is needed that includes a larger sample size, additional aerial surveys, relocation of the tagging site to Dogfish Village, and tagging fish that are more representative of the run.

AYK SSI Mission: *To collaboratively develop and implement a comprehensive research plan to understand the causes of the declines and recoveries of AYK salmon.*

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