



# Abundance and Run Timing of Adult Pacific Salmon in the Kwethluk and Tuluksak Rivers, Yukon Delta National Wildlife Refuge, Alaska



## Introduction

The Kwethluk and Tuluksak Rivers are tributaries of the Kuskokwim River in the Yukon Delta National Wildlife Refuge. These rivers provide rearing and spawning habitat for five species of Pacific salmon, plus rainbow trout, Arctic grayling, Dolly Varden, and whitefish. Salmon returning to these rivers are targeted by subsistence, commercial and sport fishers within the federal jurisdiction of the Refuge; therefore escapement data such as run timing and abundance are needed to effectively manage the fishery. The Kwethluk weir was operated in 1992 and between 2000 and 2004. The Tuluksak weir was operated from 1991 to 1994, and from 2001 to 2005. Both weirs are important for fisheries management on the Kuskokwim River, and have been recommended for additional years of operation.



Tuluksak weir in operation



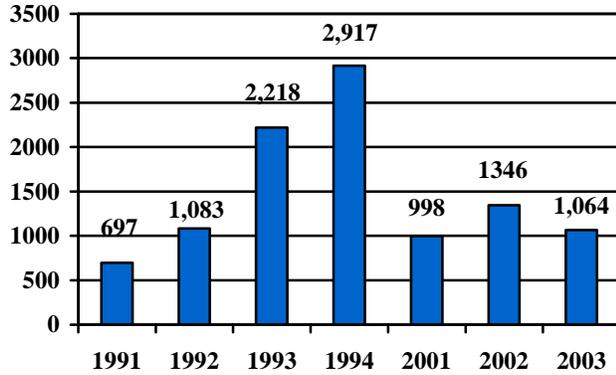
Salmon entering the trap

## Objectives

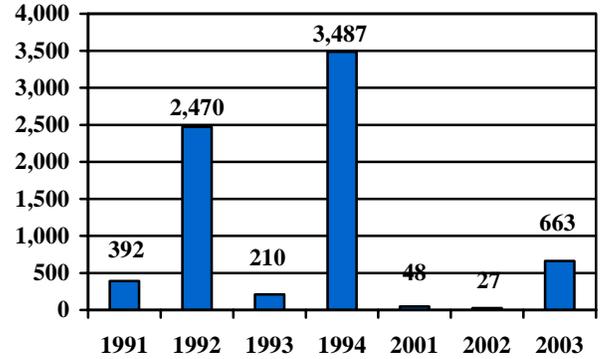
- ❖ Enumerate the daily passage of chinook, chum, sockeye, pink, and coho salmon and resident species through each weir.
- ❖ Describe run-timing or proportional daily passage of salmon passing each weir.
- ❖ Estimate the weekly sex and age composition of chinook, chum, and coho salmon.
- ❖ Estimate the mean length at age for chinook, chum, and coho salmon.
- ❖ Enumerate salmon carcasses washing onto each weir.

# Tuluksak River Salmon Escapement

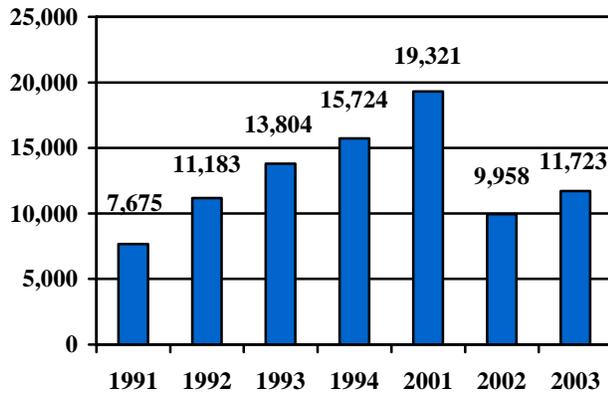
## Chinook Salmon



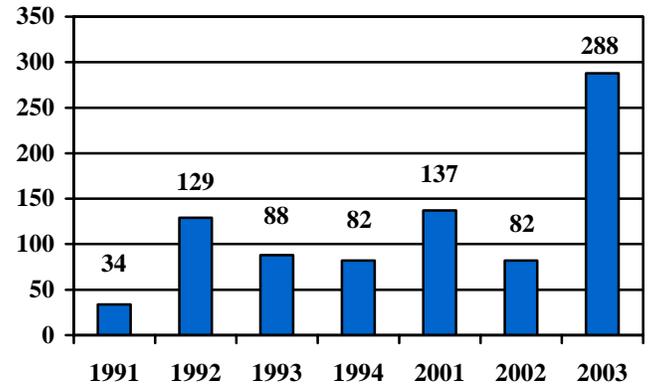
## Pink Salmon



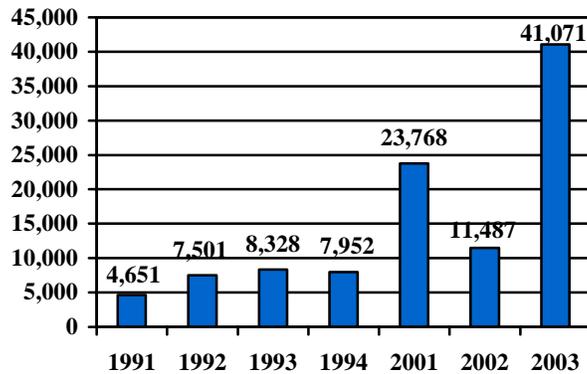
## Chum Salmon



## Sockeye Salmon

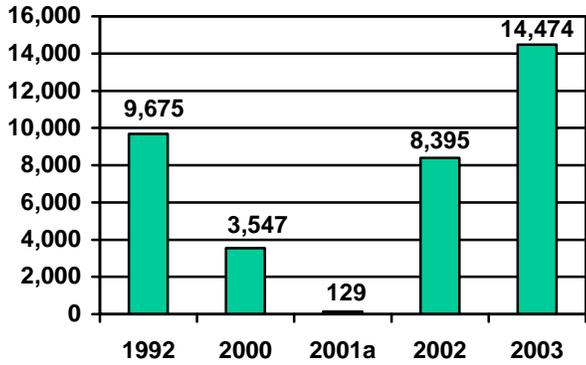


## Coho Salmon

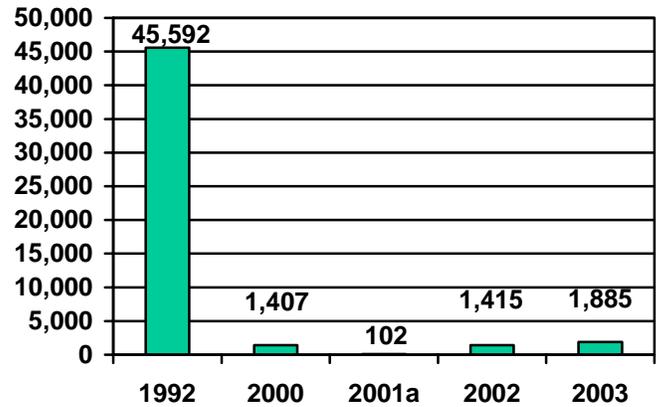


## Kwethluk River Salmon Escapement

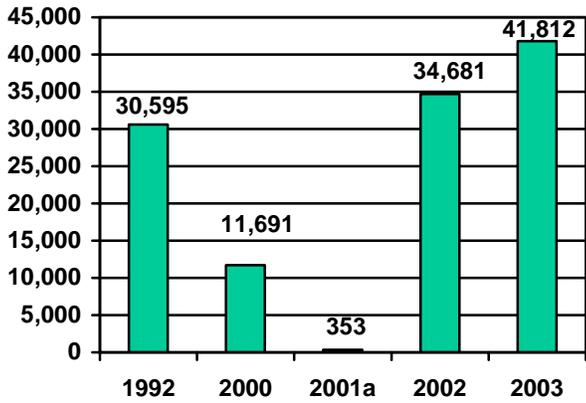
Chinook Salmon



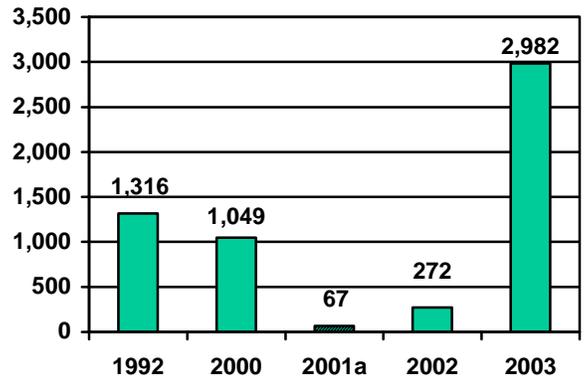
Pink Salmon



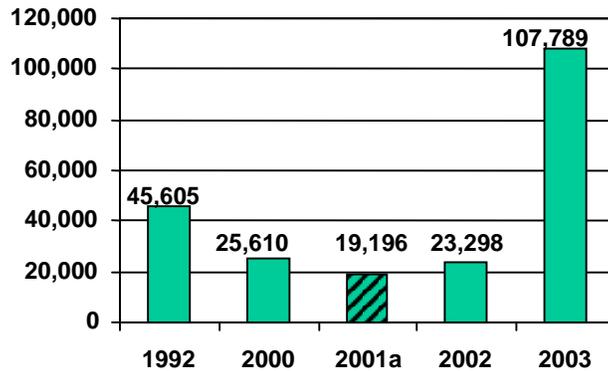
Chum Salmon



Sockeye Salmon



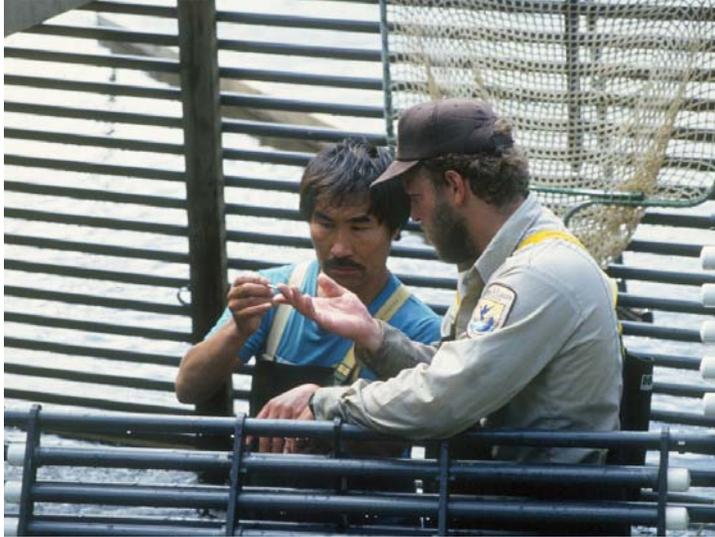
Coho Salmon



**a.** Due to high water, the weir was not installed until 12 August in 2001, which resulted in incomplete counts.

## Capacity Building

Consultations and capacity building have been ongoing between the U.S. Fish and Wildlife Service and the Villages of Kwethluk and Tuluksak each year of operation. Years of education and dialogue among village leaders and service staff have been invested to develop a shared understanding and acceptance of these projects.



## More Information

Detailed information on these projects can be found in the following reports:

**Kwethluk River Weir** 2004, 2003, 2002, 2001, 2000, 1992

**Tuluksak River Weir** 2004, 2003, 2002, 2001