

THE HEAT IS ON

Species feeling the effects of climate change



ALASKA

Chinook Salmon

Oncorhynchus tshawytscha

Region:

Alaska

Area affected:

Statewide

Climatic change:

Warming waters

Impact:

Disease, juvenile mortality

ABOUT THIS SPECIES

Chinook salmon are the largest of the eight species of Pacific salmon, capable of reaching 50 pounds or more. The most prized salmon for eating, they are commonly called “king salmon.” In Alaska, Chinook salmon runs support vital subsistence, sport and commercial fisheries, and are extremely important socially and culturally. Like most salmon, they are anadromous, meaning the eggs hatch and the young “fry” spend their first year in rivers, then the “smolts” move downstream to the ocean to live for about four to six years. The adults then return to the rivers of their birth to spawn and die. Juvenile, river-dwelling Chinook salmon eat a variety of small aquatic invertebrates; older, ocean-going salmon primarily eat other fish.

DESCRIPTION OF IMPACT

Chinook salmon spawning numbers have been below average statewide since 2007, indicating a persistent reduction in survival for fish hatched since 2001. While the causes are still under investigation, warming rivers and seas are linked to several possible culprits. For instance, smolt survival decreases when sea-surface temperatures are higher, possibly due to changes in food availability. Also, survival of young fry is reduced when river flows are unusually high due to faster snowmelt and severe rains. Another problem found on the Yukon River in particular is infection by *Ichthyophonus*, a parasitic protozoan that causes lesions on heart, liver and muscle tissues, which reduces swimming ability and eventually causes organ failure and death. The parasite grows faster and spreads more readily in warmer waters. While infection rates have declined in recent years, the disease persists and the stock does not seem to be recovering.

References

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