

Fish passage

Problem Statement

As they migrate downstream, five to fifteen percent of juvenile salmon die at each of the eight dams along the Snake and Columbia rivers.

Critical factors

- The Columbia Basin Fish and Wildlife Authority has set a long-term goal of diverting seventy percent of subyearling chinook salmon and eighty percent of yearling chinook salmon into safe bypass routes around the turbines at each dam along the Snake and Columbia Rivers.
- Most of the bypass systems at lower Snake and Columbia River dams cannot meet those long-term goals.

Status of research

The Northwest Fisheries Science Center (NWFSC) has worked with the U.S. Army Corps of Engineers to develop and evaluate the effectiveness of diversion screens at most of the Columbia and lower Snake River dams.

NWFSC scientists will assess the condition of the fish that are diverted, evaluate the survival rates associated with various spill patterns and volumes, and recommend modifications in the diversion system to the U.S. Army Corps of Engineers.

Future considerations

Researchers must continue to evaluate the efficiency of collection and bypass systems, and to monitor mortality rates at each dam. The NMFS will use these research results as a basis for making and modifying bypass screens and will evaluate the performance of any new bypass systems.

Key Players

Fish Ecology (FE) Division, NWFSC
Bonneville Power Administration
Columbia Basin Fish & Wildlife Authority
Columbia River Inter-Tribal Fish Commission
Oregon Department of Fish & Wildlife
Washington Department of Fish & Wildlife
Idaho Department of Fish & Game
Northwest Power Planning Council
U.S. Army Corps of Engineers
U.S. Fish & Wildlife Service

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Submersible traveling screen at Lower Granite Dam for diversion of salmon smolts out of turbine intakes