

Conservation and recovery of Pacific salmon

Problem Statement

Research on key factors that affect the viability, structure, and dynamics of salmon populations is critical for development of effective conservation and recovery strategies for Pacific salmon.

Critical Factors

- The National Marine Fisheries Service (NMFS) is legally responsible for the conservation and recovery of threatened and endangered salmon populations.
- Effective conservation and recovery of Pacific salmon are based on sound scientific information and principles.
- Effective salmon conservation and recovery are constrained by:
 - insufficient understanding of how disparate factors posing risks of extinction can be best integrated for analysis.
 - an inability to identify demographically-independent populations and their contributions to the productivity of Evolutionarily Significant Units (ESUs) identified for protection under the Endangered Species Act (ESA).
 - the inadequacy of present methods of evaluating demographic data used to determine responses to distinct recovery efforts.
 - incomplete understanding of the role of ocean conditions in limiting survival and distribution of migrating juvenile salmon.
 - insufficient knowledge of factors that influence salmon straying and colonization (and, hence, population structure).



Status of Research

NWFSC biologists are involved in several key areas of research that are critical to forming the scientific basis of salmon recovery planning efforts and are intended to redress the inadequacies noted above. In particular, scientists are developing quantitative and qualitative methods of classifying risk for species of conservation concern. NWFSC scientists are characterizing and quantifying the risk factors involved in the decline and recovery of Pacific salmon populations through both computer modeling exercises and data analysis. Researchers are also developing monitoring and evaluation strategies that will help determine the rate and success of salmon recovery and they are evaluating the effects of ecological factors that limit the survival and distribution of juvenile salmonids in the eastern Gulf of Alaska. Finally, NWFSC scientists are characterizing factors influencing salmon straying and the colonization of salmon habitat.

Future Considerations

Work will focus more broadly on multi-species conservation and development of habitat reserves (e.g., marine protected areas (MPAs)) as tools for natural resource management).

Key Players

Conservation Biology (CB) Division, NWFSC
Cumulative Risk Initiative (CRI), NWFSC
Environmental Conservation (EC) Division, NWFSC
Fish Ecology (FE) Division, NWFSC
Fishery Resource Analysis and Monitoring (FRAM) Division, NWFSC
Resource Utilization and Enhancement Technologies (REUT) Division, NWFSC
Southwest Regional Office, NMFS
Northwest Regional Office, NMFS
Southwest Fisheries Science Center, NMFS

U.S. Fish and Wildlife Service
U.S. Forest Service
Bonneville Power Administration
Washington Department of Fish and Wildlife
Oregon Department of Fish and Wildlife
Columbia Basin Fish and Wildlife Authority
Columbia River Inter-Tribal Fish Commission
Northwest Indian Fisheries Commission
City of Seattle
King County Department of Natural Resources

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