

FCRPS Biological Opinion

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**US Army Corps
of Engineers**®
Northwestern Division



For more information:
www.SalmonRecovery.gov

Data Generated from Fish Tagging Supports Adaptive Management of Salmon and Steelhead

Fish tagging programs are a vital tool for assessing many measurable attributes of fish populations. Conducted properly, tagging can yield a wealth of information including fish movements, migration patterns, and statistics such as birth rates, mortality rates, and harvest levels.

A wide variety of tags are used to gather many different types of data. Tags can identify certain characteristics of a particular fish not inherently obvious such as which genetic stock it is from. Tags can identify the location of a fish and they can record various conditions experienced by a fish such as exposure to temperature.

Tags typically fall into one of the following categories

- **Active**- tags which radio, acoustic, Hi-Z or balloon tags, hydroacoustic
- **Semi-Active**- Passive Integrated Transponder (PIT) tags
- **Passive**-Coded wire tags, brands, clips, dyes, mechanical tags, archival tags, sensor fish
- **Natural**- Otolith micro-chemistry, scale and otolith patterns, DNA, isotope analysis, parasites

The different data gathered from carefully designed tagging studies is used to guide management decisions and provide feedback on how a particular action has improved conditions for fish. Some of the studies currently in progress:

- **Passage survival studies**- Monitoring juvenile fish migrations at mainstem hydroelectric dams using smolt monitoring and the PIT-tag detection system
- **Behavioral studies** - monitoring of hatchery-origin fish in natural spawning areas and the assessment of status of wild populations
- **Life History/Demographics**- Monitor adult returns at mainstem hydroelectric dams using both visual counts and the PIT-tag detection system

Passage survival studies provide important data for managing the operation of the Federal Columbia River Power System and determining if performance standards required in the 2008 FCRPS Biological Opinion are being met. For more specific information using the results of PIT tag data to analyze survival of salmon and steelhead through the hydrosystem please visit <http://www.nwr.noaa.gov/Salmon-Hydropower/Columbia-Snake-Basin/FCRPS-fish-psg.cfm> .

Additional reports and published studies using tagging data, along with more information on fish tagging studies and how they are used in adaptive management of salmon and steelhead can be found on the web at www.salmonrecovery.gov