



Interagency Ecological Program 2023 Work Plan Element Enhance Acoustic Tagging, Analysis, and Real-time Monitoring

Project Manager and Affiliation

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Costs (thousands) and Funding Sources

\$0 DWR; \$1,000 USBR



Figure 1 Surgical implantation of an acoustic tag into a Chinook salmon smolt

Description

This project tracks the movement and survival of wild and hatchery juvenile Chinook salmon and steelhead with a large acoustic receiver network (JSATS), including real-time receivers, and the development of real-time metrics and retrospective modeling of juvenile salmon migration data.

Need

There is a well-documented need for improved detection and associated modeling of salmon migration and survival in the Central Valley. Understanding salmon survival and

movement dynamics in the Delta and its tributaries is critical to the operation of state and federal water projects, recovery of ESA-listed species, and sport and commercial fisheries management.

Objectives

- Maintain 24 real-time JSATS receivers: will provide information on migrating salmon smolt location and timing of Delta entry and exit, which is key for informing time-sensitive decisions
- deployment of autonomous JSATS receiver array: this will provide fine-scale reach-specific survival and movement rates
- development of new metrics for the real-time data: this will inform key management-relevant questions, such as how many fish are entrained at critical junctions
- development of real-time website to convey movement and survival rates of acoustically tagged juvenile salmonids at various real-time locations in the Sacramento River and Delta.

Schedule of Milestones

November 2022: Deploy autonomous and real-time receivers.

February – March 2023: download, re-battery and redeploy autonomous receivers.

January – April 2023: Tag up to 1000 hatchery fall run smolts to be used in a Seasonal survival trend study.

April – May 2023: Tag up to 200 wild Chinook juveniles caught in Butte Creek watershed.

March – May 2023: Tag up to 1,000 steelhead smolts to be released into the lower San Joaquin River.

April 2023: download, re-battery and redeploy autonomous receivers.

April – May 2023: Tag up to 900 hatchery fall-run smolts to be used in a Sacramento River pulse flow study.