

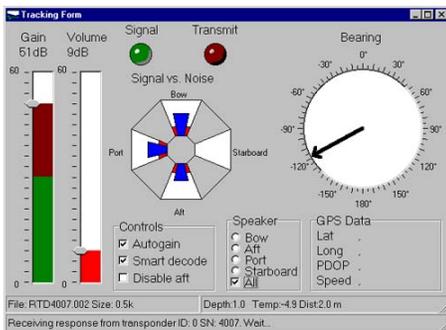


Leadership in Science and Technology

Juvenile Coho Salmon Acoustic Telemetry in Humboldt Bay

Background:

- Findings from this study will be used to formulate methods to minimize potential negative impacts of management activities identified in the Humboldt Bay Management Plan that affect juvenile coho salmon in Humboldt Bay.
- Data from this study will also be used to assess and prioritize estuary restoration actions currently planned within Humboldt Bay as well as add to the body of knowledge regarding juvenile salmonid use of estuarine environments.
- Juvenile salmon were not captured during a 2 year fish community study in Humboldt Bay conducted by the AFWO, largely due to low numbers of juveniles entering the Bay. The final report from that study identified acoustic telemetry as the most viable option to determine habitat use and residence timing of juvenile salmon in Humboldt Bay.
- In the fall 2005, AFWO conducted a pilot study to determine the feasibility of using miniature acoustic transmitters. Results were positive and an investigation plan was developed and submitted to various federal, state, and local agencies for funding. In the winter of 2006/2007 the AFWO began a long-term tag assessment experiment at Iron Gate Hatchery, as no published literature exists on the effects of acoustic transmitters implanted in juvenile coho salmon.



Current Program:

- The AFWO was able to secure funding and support from the California Department of Fish and Game Marine Division, the Humboldt Bay Harbor Conservation and Recreation District, California Sea Grant, and Hilton's Coast Seafoods Eureka Division for implementation of the project in 2007. The project has gained the support of many local and state agencies, local environmental groups, local offices of federal agencies, as well as private businesses and stakeholders.
- Coho salmon smolts were surgically implanted with acoustic transmitters and subsequent movements were monitored with a fixed receiver array and mobile tracking from a boat. Of the 32 coho salmon smolts tagged,

28 made it through the Freshwater Slough estuary and resided in Humboldt Bay an average of 12 days. Of the 28 fish that entered Humboldt Bay, 24 successfully left Humboldt Bay for the open ocean and have provided valuable evidence on what habitats juvenile coho salmon utilize in Humboldt Bay.

Program Challenges:

- Maintenance of the acoustic array has been difficult due to members of the public pulling moorings and moving them outside of their monitoring positions. A public education campaign was launched that has helped to alleviate this problem.
- Funding for this project is at a minimum level, requiring innovative uses of personnel time.

Current Status:

- This project is currently in the report writing phase and planning for year 2 of the study.

