



The Acoustic Tag Update

Project Location:
Rocky Reach & Rock Island Dam,
Chelan County, Washington



Studying Route Specific Passage

Nestled in the geographic center of Washington State are two vital hydroelectric plants: Rocky Reach and Rock Island dams. Rock Island Dam, the first to span the Columbia River, is located 12 miles (19 km) downstream from the city of Wenatchee. Rocky Reach Dam sits 7 miles (11 km) upstream from Wenatchee. Both projects have been nationally recognized for their environmental efforts.

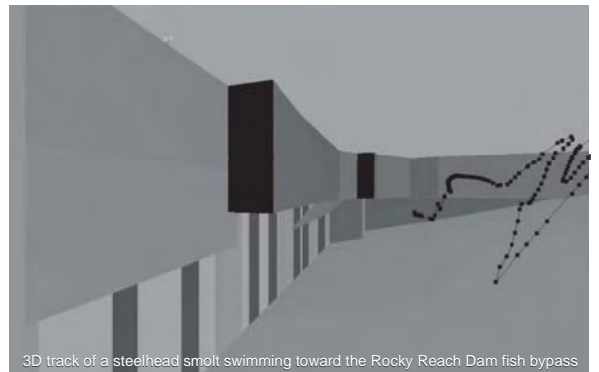
As the operator of both dams, Chelan County Public Utility District (PUD) is committed to improving fish survival. For example, Rocky Reach Dam has the first-of-its-kind fish bypass system to aid juvenile salmon and steelhead passage on their way to the ocean. In order to help refine the bypass system, Chelan Co. PUD contracted with HTI to employ acoustic tag 3D telemetry. For the past 9 years, HTI has been using acoustic tags to monitor the fine scale, 3D swimming paths of juvenile salmonids approaching the powerhouse and spillway of the dam. Pacific salmon species evaluated have included steelhead, chinook and sockeye. Primary objectives have included estimation of:

- Fish survival,
- Bypass effectiveness, and
- Fine scale 3D behavior.

To date, tens of thousands of

downstream migrating smolts have been surgically implanted with HTI's *Model 795 Acoustic Tags* and monitored at both Rocky Reach and Rock Island dams. HTI's *Model 290 Acoustic Tag Tracking Receivers* were then used to remotely track tagged fish in 3D with sub-meter position resolution, yielding each fish's location every 3 seconds. Resulting tag positions were plotted in 3D revealing the fine scale movement of each tracked fish. According to Andrew Grassell, a Fisheries Biologist Project Leader for Chelan County PUD, "The 3D information we have collected using acoustic tags has provided a great value to Chelan PUD as we strive to meet the objectives of our habitat conservation plan for salmon and steelhead."

HTI's acoustic tag tracking technology continues to help Chelan Co. PUD evaluate fish behavior and improve dam operations, which improves the protection of downstream migrating fish. HTI is proud to work with Chelan County PUD. For more about the equipment and techniques used, visit us online at www.HTIsonar.com or call us at 206-633-3383.



3D track of a steelhead smolt swimming toward the Rocky Reach Dam fish bypass



Incredibly small,
impeccably accurate.

