

TMT Year-End Review

Lower Granite Removable Spillway Weir 2003

The 2003 Lower Granite Removable Spillway Weir (RSW) studies were coordinated through the Studies Review Work Group (SRWG) and the Fish Facility Design Review Work Group (FFDRWG) of the Northwestern Division's Anadromous Fish Evaluation Program (AFEP). Funding priorities were made through the System Configuration Team (SCT). Specific operations for the 2003 RSW studies were made through the Corps' Reservoir Control Center (RCC) and were discussed at weekly conference calls before and during the test period with RCC and BPA.

In 2003 the simulated wells intake, surface bypass collector, and behavioral guidance device were removed.

2003 Lower Granite RSW Evaluation – Preliminary Results (Information from Oct. 1 USGS presentation)

Operations – 2 “Treatments”

1. Spill to the gas cap for 12 hours at night (~40 Kcfs spill, bays 2 - 8). (RSW OFF)
2. RSW operation plus ~12 Kcfs training spill in bays 2-8. (RSW ON)

Evaluation Technique – Radiotelemetry and acoustic tag tracking

1. 1,300 Chinook above dam, 460 below dam (radio)
2. 400 hatchery steelhead above dam (radio)
3. 400 wild steelhead above dam (radio)
4. 200 hatchery Chinook above dam (acoustic)
5. 200 hatchery steelhead above dam (acoustic)
6. 200 wild steelhead above dam (acoustic)

Passage Results (Radiotelemetry)

RSW On

	<u>RSW</u>	<u>Spill</u>	<u>Combined</u>
H. Chinook	58%	8%	66%
H. Steelhead	69%	5%	74%
W. Steelhead	67%	4%	71%

RSW Off

	<u>Spill</u>
H. Chinook	52%
H. Steelhead	59%
W. Steelhead	54%

Survival Results (Radiotelemetry, hatchery Chinook)

Relative survival of fish passing through the RSW and through gas cap spill

RSW survival probability: 98.0% (+/- 2.3%, 95% CI)

Spill survival probability: 93.1% (+/- 6.0%, 95% CI)

(No significant difference, numbers not adjusted for detection of dead fish)

Other findings

- Forebay residence time was less for RSW-ON condition, more so at lower flows.
- Percentage of fish traveling upstream in the forebay was less for RSW-ON condition, again more so at lower flow.
- FGE was high regardless of treatment (Chinook – 80-85%, H. Steelhead – 88-90%, W. Steelhead – 95-98%)

2004 RSW Evaluation Plan (Tentative)

We are currently planning for a 2004 evaluation of the RSW at Lower Granite. The major change from previous years will be the moving of the Behavioral Guidance Structure (BGS) to the north. The attachment point at the dam has been between units 3 and 4. The BGS will be moved so it will be attached to the dam between units 5 and 6. It will occlude units 1 – 5.

Tentative plans call for operating the RSW with some level of training spill during the spring, with evaluation by radio-tagged fish (or possibly hydroacoustics). A summer test is also planned for 2004. Specific operations have not been discussed for summer, but will likely be similar to spring. Evaluation in summer will be with radio-telemetry. Continued coordination and planning will be through the FFDRWG and SRWG.