

**FISH PASSAGE O&M COORDINATION TEAM
 Adult and Juvenile Fish Facilities Status Report
 U.S. Army Corps of Engineers
 Walla Walla District
 April 15, 2004**

Construction

McNary Dam

New Controls for Tilting Weirs: Installation of new hardware for controlling the Oregon shore ladder's tilting weirs is complete. Due to a contracting glitch, the programming needed for automatic operation is yet to be installed. The weirs are being manually operated in the meantime.

Rehabilitation of Spillway Gates: Four spillway gates were scheduled for rehab work to begin in February (resurfacing wheels, installing low-friction seals, and painting). The contract was awarded in late January but a contract dispute arose. At this point it appears that work will begin about August 15 and be completed in November or December.

Repair of AWS Pump 3: The Oregon ladder's AWS pump 3 has been out of service since July 31, 2003. A survey indicated damage to the pump shaft and bearings due to loss of grease lubrication, and continued operation. The damage was not associated with a catastrophic event as first thought (e.g. loss of flow vanes in the pump intake bell). It is anticipated that repair work will take place from November 3 to March 29.

Prototype Vertical Barrier Screens: The three prototype VBSs recently installed in the A-slots of turbine units 2, 3, and 4 are doing well, although they have not yet been tested under high turbine loads. Head differentials thus far have been 0.2 – 0.4 foot for the fixed bar VBSs and 0.2 – 0.8 foot for the traveling VBS. The traveling VBS did not come with a "brake", so it was found to spin under higher flow conditions. A "brake" has been installed

Lower Granite Dam

Repair of Turbine Unit 1. Turbine unit 1 has been out of service since December 2002. Repair work, including generator rewind and cavitation repair, was scheduled for completion by May but this has slipped to December 2004.

Operations and Maintenance - Juvenile Fish Facilities

All facilities are routinely operating as shown below. Alternate day fish barging began April 10.

	MCN	IHR	LMO	LGS	LGR
Began Bypass	Mar 22	Mar 15	Mar 10	Mar 22	Mar 15
Began Fish Collection	Apr 1 Alternating days of primary and secondary bypass.	Primary bypass continues. Twice weekly sampling began Apr 6.	Apr 1 Transporting fish.	Apr 1 Transporting fish.	Mar 25 Transporting fish.
Fish Collected on April 13	2,000	---	2,500	2,000	26,000

Operations and Maintenance - Adult Fish Facilities

All adult fishways are in full operation, although pump 3 at McNary remains out of service as described above under “Construction.” The project is doing well in achieving fishway operating criteria with two pumps.

Research

This is a partial summary of current research. See attached list for an overview.

McNary Dam

McNary Transport Study: Juvenile fish transportation will be evaluated by using spring Chinook and steelhead PIT tagged and released at mid-Columbia River hatcheries. Fish will either be diverted to a barge or bypassed. In the spring and early summer, the juvenile facility will be alternated between primary bypass and transportation modes. Significant numbers of study fish will probably start showing up in late April.

Kelt Study: The Fisheries Field Unit is outfitting steelhead kelts with radio tags and tracking them downstream.

Ice Harbor Dam

Survival Study: A spring/summer survival study is planned. Juvenile fish will be radio tagged, released upstream of the project, and monitored as they pass the project. The study is designed to determine overall project survival, spillway survival, bypass survival, and overall powerhouse (bypass and turbine together) survival.

Spillway Survival Testing at Ice Harbor: Testing is scheduled to begin March 15 and end July 15, using spring/summer Chinook, fall Chinook, and steelhead. Fish captured at Lower Monumental will be radio-tagged and balloon-tagged. Test conditions include BiOp and bulk spill. Control fish will be released into the juvenile fish bypass.

Prototype Separator Evaluation. Beginning in late April, separation efficiencies will be evaluated for different densities of juvenile fish passing through the prototype separator. Fish from gatewells at Lower Granite will be released into the collection channel once a week for eight weeks (3,000 fish = high density, 1,000 fish = medium density). Fish from Ice Harbor will also be released once per week for eight weeks (100-150 fish = low density). Each batch of fish will be a mixture of species.

Lower Monumental Dam

Spillway Survival Testing at Lower Monumental: This testing is similar to that at Ice Harbor and is scheduled for March 15 to June 15. Spring/summer Chinook and steelhead tagged at Lower Monumental will be outfitted with radio-tags and balloon tags. BiOp and bulk spill will provide the test conditions, assuming that spill takes place (now being debated around the region due to projected low flows).

Near-field Study of TDG Exchange and Evaluation of Added Spillway Deflectors: Gas abatement alternatives are being developed. Additional spillway deflectors for bays 1 and 8 were constructed in late 2002 and early 2003, and now all spillway bays are so equipped. A study is scheduled to determine the TDG exchange associated with the modified spillway. Circulation patterns below the

dam will also be described. All equipment is now in place and monitoring will continue as long as spill lasts.

Lower Granite Dam

Relocation of Behavioral Guidance Structure: The attachment point of the BGS to the dam was recently moved from between units 3 and 4 to between units 5 and 6. The maximum depth of the BGS was also reduced from 80 to 60 feet. This work was done to support the upcoming RSW research, which involves moving the BGS “in” and “out.”

Removable Spillway Weir Operation: Operation and evaluation of the RSW is uncertain at this point. A biological test is scheduled to begin April 15 but a decision by TMT (or IT) is needed. Monitoring of fish passage would be done by using hydroacoustics, with the BGS periodically in place and removed.

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