

Mud Mountain Dam Passage Improvements

Mud Mountain Dam, on the White River in Pierce County, Washington, was built in the 1930's and 1940's. It is an earth-filled dam; its single purpose is flood control for communities downstream on the White and Puyallup Rivers. Most other dams are multipurpose, but operating only for flood control eliminates the need for a permanent reservoir. Most of the time the river flows through Mud Mountain Dam at bed level. If there is a need to impound heavy runoff, or for some maintenance purposes, a temporary reservoir is created. Under the Corps of Engineers' Dam Safety Assurance Program, the dam was recently refitted to better withstand earthquakes and large flood events, and is now also more friendly to downstream-migrating salmon and other fish. Two tunnels pass water through the dam--a 9-foot diameter tunnel, and a 23-foot diameter tunnel. Prior to the dam safety modifications, the 9-foot tunnel was better for fish migration than the 23-foot tunnel. Use of the 23-foot tunnel was avoided during the spring and summer fish outmigration season. As part of the modifications, three flow control structures known as Howell-Bunger valves were removed from the 23-foot tunnel, which eliminated an obstruction to fish. They were at the downstream end. That tunnel exit, besides now being fully open, was reoriented more directly downstream. The three penstocks, or pipes, which channeled water to the valves, were removed and the tunnel made uniform to its exit. The entrances to the 23-foot tunnel were lowered to near-riverbed level from their previous elevation which had created a 70-foot plunge for fish. This also allowed more consistent flow-through of the large amounts of glacial sediments which give the White River its name. It reduced the likelihood of sediment buildups which might have to be released over short periods of time which would impact fish spawning areas downstream by siltation.

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