

Whooshh: Fish Passage Experiment at Roza Dam

[music]

Ray Decoteau: Right now, we're testing a Whooshh system. Basically, it's a tube system where we can transport live fish from one point to the other.

[music]

Walt Larrick: Reclamation, made a commitment to the Yakama Nation and to the State of Washington to look at and investigate fish passage at all our reservoirs. You know, that commitment now has been brought in as part of the Yakima River Basin Integrated Water Resource Management Plan, called the Integrated Plan, which has 7 components to address a holistic approach to the Yakima River Basin. Part of those seven components is Reservoir Fish Passage. As an example, a helix fish passage structure is being constructed at the Cle Elum Dam to get juvenile fish out of the reservoir and down to the river below. This type of system that we're testing here at Roza today is an innovative way to possibly get adult fish back into Cle Elum Reservoir.

Mark Johnston: See, the Yakama Nation and the Bureau of Reclamation have been partners. So we're actually running the test for them, to see how it works, so they can incorporate it into the Cle Elum Dam.

Walt: The Yakama Nation has this great fisheries program where they'll be able to document the survival of these adult fish that are using the Whooshh System, the survival of the eggs that these adults produce, and the survival of the juveniles. If the Yakama Nation's tests this year and this system prove to be positive, next year Reclamation's plan is to test this tube-type system at the Cle Elum Dam.

[fish sloshing]

Walt: So what goes on here is the fish are collected at the facility, they're sorted, a random number are taken, so we don't take all the fish. We just take a portion of the fish going up the river to spawn to take to the hatchery.

Mark: Well when the fish come in, we put them in anesthetic, and then we collect the bio information off of each individual fish and then send it off.

[whoosh]

Mark: This is probably the worst case scenario, because we're trapping the fish, we're running them through fish lock, we're running them down into an anesthetic tank. We're handling them, we're clipping them, we're holding them in freshwater, and then we're running them through a flume system.

[music]

Mark: And so, if the fish survive this, they'll survive going over the dam.

[water rushing]

Mark: Using the Whooshh system, it'll remove us having to handle the fish and move them to where we want to move them. They'll actually do it themselves. They'll swim up a Denil system into the Whooshh and then get relocated to a higher point

[music]

Jim Otten: The Whooshh tubes work on the principle of pressure differentials, which is a fancy way of saying we push harder on one side of the fish than the other. We introduce a little bit of airflow behind the fish, and we gently push them along the entire length of the tube. And when the material is wet, when a fish is sliding in the tube, it's basically frictionless, which is what allows us to transport the fish so gently with very little pressure.

[music]

Walt: Today's test, and the reason we brought the Whooshh system here is that we could test the distance of a simulation of fish going over Cle Elum Dam, and it would be 1,100 feet. This tube is 1,100 feet long. Our very preliminary results are that the fish survived this fine without any effect at all.

Mark: This is new technology that is looking to improve on fish passage. You know, to put a ladder on Cle Elum Dam would probably be about 50 to 60 million dollars.

Walt: Fish passage at the reservoirs is extremely expensive and time-consuming. This new technology may be quite a bit less expensive, and we may be able to accomplish fish passage in a tenth of the time. And this could be put up rather quickly, maybe within six months, when a traditional fish ladder may take years to build. With Reclamation's commitment to investigate fish passage in the Yakima system, and the addition of the Integrated Plan, we've got to find a way that is cost-effective, efficient, safe for fish, and something we can do in a timely manner. A tube-transport system like this seems to meet those requirements. So we're optimistic that this test may help us get to

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