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Hope for endangered fish springs eternal at Hancock Springs

By Marcy Stamper

"It's really cool that we're playing God," conceded John Jorgensen, fisheries biologist with the Yakama Nation Fisheries. "But the key is, fish want to be here."

Over the course of six weeks this summer, Jorgensen and U.S. Fish & Wildlife Service hydrologist Robes Parrish rebuilt a stream, essentially from scratch, restoring what had become a slack expanse of standing water. The unique construction project is the culmination of a five-year effort to resuscitate a system supplied by Hancock Spring that should add significantly to the salmon production of the Methow River, said Jorgensen.

After nearly a century of damage by cattle, the spring-fed stream near Wolf Creek had lost its banks, spread to 30 to 80 feet in width and was only a few inches deep. The restored creek is four to six feet wide and has depths from a few inches to several feet, providing a range of habitats for rearing and spawning fish.

The key advantage to Hancock Springs is that the water is about 10 degrees Celsius year-round – it doesn't freeze in winter and is cooler than the Methow River in summer – providing ideal conditions for salmonids, said Jorgensen. The temperature of the spring was so reliable that it was used as natural refrigeration for milk by the Kumm Dairy, located at the site in the first half of the 20th century. A dilapidated spring house, where the cool spring water bubbles up, is still on the property.

But those cows – and beef cattle after them – also caused considerable damage to the creek, trampling the banks and obliterating pools and riffles over many decades, said Jorgensen. "We had to rebuild those stream banks in order to see the creek restored in our lifetime," since the clear spring – unlike a river – contains no sediment that would allow it to repair itself, said Parrish.

By placing logs and overhanging grassy mats along the banks and building quiet pools and flowing riffles, Jorgensen and Parrish produced habitat for fish at different stages in their life cycle. The calm pools provide refuge when the river is raging, and the riffles and cobbles are used by spawning fish and by aquatic insects, which the salmon eat. Reusing old logs where possible furnished a good base of algae as food for those insects.

Since there were no historical records of what the creek looked like before the livestock damage, Parrish searched for another spring-fed



creek that runs through a glacial trough like Mazama's and that has similar vegetation. Ultimately they based the design on a stream in Oregon where Parrish had worked on a comparable project, scaling down the data to the smaller Hancock site.

There were also no records of anadromous fish in Hancock Springs, but Jorgensen felt certain that these fish had used it – and would do so again – because it provides optimal habitat. “It was probably choked with fish in the 1850s,” he said.

Since Jorgensen began the restoration in 2006, the creek has become home to a hundred endangered steelhead and Chinook adults and many more juveniles, which have joined the native sculpin and non-native brook trout that had been living in the wide, shallow pool.

While the aim was to restore the natural functioning of the spring-fed creek, it took a retinue of specialized equipment to mimic nature, including excavators and a slinger that delivers topsoil and cobbles to precise spots 100 feet away via a conveyor belt. All construction was done by Pete DeLange of Boulder Creek Contracting. “Pete was surgical with the excavator – he used a monster bucket to pick up tiny, little rocks,” said Jorgensen.

The project also incorporates 675 mats of wetland sod, custom-grown from seeds that had been hand-collected at the site over the past several years. Placed along the rebuilt banks, the mats of sedges and rushes should help stabilize the site, said Parrish. In addition to the sedge mats, the team planted 500 trees and 48,000 sedge and rush plugs, also grown from seeds collected on site.

While this summer's work required heavy machinery, the restoration entailed considerable hand work as well. After Jorgensen identified the spring as promising habitat for endangered salmon five years ago, he and several colleagues from the Yakama Nation Fisheries did extensive work by hand, placing logs and root wads to narrow the stream and convince others that the project was worthwhile, he said. Impressive results after the first season helped him obtain funding and permits for more comprehensive restoration.

Jorgensen's efforts bore fruit – well, fish – the first year, when steelhead showed up for the first time in recorded history and two dozen redds (where the salmon deposit their eggs) were counted. Last year spring Chinook joined the steelhead and biologists counted 20 Chinook redds, also a first.

Rose, willow and more than 14 species of riparian plants have rebounded since the area was fenced, according to a project overview.

Hancock spring and creek run through privately owned property of more than 400 acres, 314 of which are protected by conservation easements held by the Methow Conservancy. The three easements, negotiated over the past five years, protect riparian habitat, wetlands and agriculture and allow biologists to continue monitoring and working on the site.

Design and construction for the project cost about \$500,000, funded by several agencies, said Parrish.

In August, when the contractors set the last logs and lifted the netting to allow fish back in (the area had to be dewatered during construction), three Chinook immediately swam upstream, said Parrish. A large female, ready to spawn, was seen in the creek the next day. “To see fish right away is a testament to your good work,” he said.

Photo by Marcy Stamper: Fish biologist John Jorgensen shows the varied cobbles that provide ideal spawning habitat and increased water velocity for endangered salmon at the newly restored Hancock Springs.

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