

Stream Restoration Project Gets Supersized Logs

Bob Nichols talks about stream design like he's an architect. That's an appropriate analogy, but instead of constructing buildings, he designs fish habitats. He's a fisheries biologist on the Tiller Ranger District of Oregon's Umpqua National Forest, and he's enthusiastic about improving aquatic environments. Over the summer of 2012 he made important progress on a major project to place about 500 logs into tributaries of Jackson Creek, which helps create suitable breeding habitat for fish like Chinook salmon.



Bob Nichols of the Forest Service (in orange vest) observes contractor Matt Crume unloading stream logs.

Submerged logs are an important natural stream feature for fish and other wildlife. Nichols explained that they create “velocity refuges,” which is a technical label to describe the way they slow down the flow rate and create calm pockets where fish can rest from strong currents. Logs also block and hold gravel that fish need for breeding; they clear away shallow holes to lay their eggs, then cover them so they won't be washed away.

Nineteenth and twentieth century practices directed loggers to remove many of these stream logs for timber. Currents grew much stronger, and gravel was washed away, leaving only bedrock in places. “It's a wonder the fish survived at all,” said Nichols, though he doesn't blame the loggers. “At the time, people didn't understand that these logs were vital to stream habitats. They just saw them as easy lumber.”

Stream logs are already making a huge difference to newly restored areas. Nichols explained the changes he observed at some sites, where intentionally-placed logs had raised the water level by as much as three feet and created rich forest wetlands. He thanked the workers responsible for implementing the project and encouraged them to keep up their efforts. “You guys are making a big difference,” he said.



The work was performed by contractor Matt Crume, whose family has lived on ranchlands adjacent to the Tiller District for four generations. It was funded in part by Title II of the Secure Rural Schools and Community Self-Determination Act, which supports regional economies by sponsoring initiatives that improve public lands. Crume and his employees transported some 40- to 80-foot supersized logs to a site near the tributaries, using a truck specially modified with a high rear rack to accommodate their length.

When the project is completed in 2013, the new stream logs will create a healthy aquatic habitat similar to the one shown here.

Safety was a key issue during the operation due to the unusual length of the tree trunks. They were dead hazard trees unsuitable for use as timber, but their size made them ideal stream logs because they're unlikely to be washed away during high water. It also made them difficult to haul: Their extra length hung over standard logging trucks, creating a huge tail sweep that was illegal on state highways. So the logs had to be moved only over forest roads at very slow speeds, and with the use of two pilot cars.

With careful planning and execution, the operation proceeded smoothly. The logs were successfully unloaded at a roadside near their final destination. In 2013 they will be airlifted by helicopter into their stream, and the project will be complete. Nichols is clearly excited to see the changes they will create. "This will be the foundation of fish habitat here for the next 150 years," he said.



Matt Crume and workers from his contracting company transported the new stream logs safely.

Project Stats: Stream and Salmon Restoration

Total Title II funding:	\$ 111,111
Employs:	Matt Crume and employees
Project:	Fish Habitat Restoration
Year awarded:	2011

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