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CLEARWATER RIVER-BASIN BRIDGE PROJECT REDUCES SEDIMENT IN SNAKE & REEDS CREEKS

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By Steve Stuebner

High road densities, undersized culverts and steep mountain slopes all combined to create an unstable situation on the Snake Creek Road, a major log haul route and forest road northwest of Pierce, Idaho, in the Clearwater River Basin.

Officials with the Clearwater Soil and Water Conservation District understood the problem. In the mid-2000s, they wrote a detailed implementation plan for the Lower North Fork Clearwater River Sub-Basin Assessment and TMDL (total maximum daily load) for Reeds Creek and the Snake Creek tributary stream.

The goal of the TMDL implementation plan was to focus on best management practices to reduce sediment, bacteria and temperature levels in seven streams not meeting state water quality standards, including Snake Creek and Reeds Creek.

The 54-inch culvert on Snake Creek was undersized and always plugged with debris.

"Sediment levels were impairing water quality to a degree that beneficial uses were not being met," said Mike Hoffman, former district manager for the Clearwater SWCD who recently retired. "Additional data revealed a high number of miles of road crossings, a high density of roads and a high number of roads on high mass failure and high surface erosion areas."

In 2007 and 2008, the Clearwater District replaced numerous undersized and failing culverts and installed three new bridges. A Section 319 grant project in 2015 addressed the largest bridge span of them all on Snake Creek and an undersized culvert that was constantly plugged on the upstream side. The culvert was insufficient to handle stream flow, it caused a fish-passage barrier, and it had a high potential for failure.

"That 54-inch culvert was always plugged with debris," Hoffman said. "If it blew out, we estimated that it would send 240 tons of sediment into Snake Creek. It was an accident waiting to happen."

Re-engineering the creek bed.

The Clearwater District applied for $125,000 in 319 funds from DEQ and the EPA, and Potlatch Corporation provided a $92,000 match to make the project doable. L&S Construction out of Kendrick won the contract to perform the work. In August 2015, it took a little less than a month to replace the old culvert and replace it with a 65-foot-long bridge span, allowing the stream to pass underneath with no sediment issues.

Levi Bruce, owner of L&S Construction, said building the project was challenging because of the Clearwater Complex fires that were burning in the mountains nearby, plus it was very hot, about 100 degrees during the construction phase.

"It was a unique project," Bruce says. "Everyone else was shut down because of the fires or they wouldn't allow some people to work past noon or 1 p.m. Those restrictions didn't apply to us because we were on a main haul road, and they wanted to be able to use the road for access as soon as possible.

"Everything went smooth. Mike was great to work with; Potlatch was great to work with, and we had a good design from Strata," a design firm, in Pullman, Washington.

The project took a little less than a month to complete. The first step was to remove the old culvert, buried 25 feet below the road. It had a "severe cascading outlet drop" of over 4 feet, Hoffman said.

Once the culvert was removed, L&S Construction crews filled wire cages with

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The new bridge is 65 feet long and 24 feet wide to accommodate two traffic lanes. Hoffman called the new bridge a "complete transformation" from the old culvert.

rocks to serve as a foundation for the bridge span. "There was quite a bit of manual labor involved, filling up those rock cages," Bruce says. "The rock came from a quarry about 1 mile away."

Heavy equipment operators put the rock cages into place to form retaining walls for the bridge footings on both sides of the creek. Then the pre-fabricated steel bridge was delivered in three pieces by semi-trucks. Each section was 8 feet wide by 65 feet long. A Komatsu backhoe hoisted those steel sections into place with cables. Then L&S Construction backfilled the footings with dirt, rock and gravel. Guard rails were installed on both sides of the bridge.

Hoffman called the new bridge a "complete transformation."

"It's a beautiful bridge -- you almost get a nose bleed looking over that thing into the creek," he said. "The contractor did a really good job on it. A lot of good things come from the money we spend on conservation."

Several more bridges are planned in the vicinity to continue to work on water quality issues, Hoffman said. Potlatch is a proactive partner, and the Idaho Department of Lands has been involved in some bridge projects as well. Both Potlatch and IDL have ongoing logging projects in the area.

Hoffman expects that when the DEQ goes out to review the project, the big sediment reductions may lead to some streams being delisted from the state 303(d) list. "The next time they look at that, the stream could potentially be delisted," he said. "It all really helps with our TMDL implementation plan." ❒

Hoffman is a former employee of the Commission. We're proud of his passion for conservation and work for the District. He's since retired and is surely missed.

Steve Stuebner writes regularly about conservation success stories for the Conservation Commission. - Ed.

NRCS, POWER & SOUTH BINGHAM CONSERVATION DISTRICTS TEAM UP TO TACKLE EROSION

The Natural Resources Conservation Service (NRCS) has partnered with the Power County and South Bingham soil conservation districts on a project funded through NRCS's EQIP program to help address both soil erosion on agricultural lands in all of Power County and the portion of Bingham County within the Aberdeen School District.

This area is dominated by highly erodible lands (HEL) and low residue crops. Potatoes and sugar beets are the primary crops on irrigated fields. Wheat, barley and safflower make up the majority of dryland fields.

"The soil types found in the area, crop rotations, topography and weather combine to create significant concerns for both producers and the people who live or travel there," said Curtis Elke, NRCS State Conservationist for Idaho. "Blowing topsoil has closed the interstate in certain parts of the area while sheet and rill erosion, as well as gully erosion, is a common problem for our dryland producers. When downpours hit those steep slopes, they have been known to cause soil to enter streams and cover roads.

"'Local Conservation, Led Locally' is how we like to tackle issues like erosion," said Elke. "The funds allocated for this project will assist producers in adopting a range of practices that address wind and/or soil erosion."

The sign-up period will close July 29. Those within the project area should visit NRCS' American Falls field office to sign an application. Examples of practices eligible for the project include no-till, cover crops, sediment basins, terraces, irrigation water management, herbaceous wind barriers and grassed waterways.

For more information, contact Kirk Whitehead, District Conservationist – 208.226.2177 ext. 109. ❒

CELEBRATE POLLINATORS *(& DON'T STEP ON A BEE!)*

*In honor of last month's **National Pollinator Week**, and July 10th's **Don't Step on a Bee Day** here's information from The Pollinator Partnership (www.pollinator.org).*

What's pollination? Pollination occurs when pollen grains are moved between two flowers of the same species, or within a single flower, by wind or animals that are pollinators. Successful pollination, which may require visits by multiple pollinators to a single flower, results in healthy fruit and fertile seeds, allowing plants to reproduce.

About 75% of all flowering plants rely on animal pollinators and over 200,000 species of animals act as pollinators. Of those, about 1,000 are hummingbirds, bats, and small mammals. The rest are insects such as beetles, bees, ants, wasps, butterflies, and moths.

Worldwide, approximately 1,000 plants grown for food, beverages, fibers, spices, and medicines need to be pollinated by animals in order to produce the goods on which we depend.

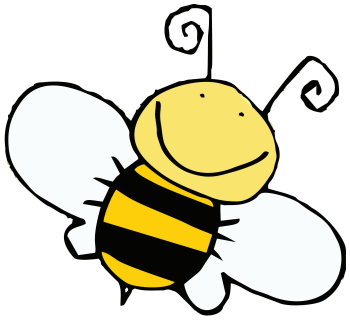
Foods and beverages produced with the help of pollinators include blueberries, chocolate, coffee, melons, peaches, pumpkins, vanilla, and almonds. Plants that depend on a single pollinator species, and pollinators that depend on a single type of plant for food are interdependent. If one disappears, so will the other.

What about bees that sting? What about allergies? Most species of bees don't sting. Although all female bees are physically capable of stinging, most bee species native to the U.S. are "solitary bees," that is, not living in colonies and don't sting unless they are physically threatened or injured. Only honey bees are defensive and may chase someone who disturbs their hive.

It is wise, though, to avoid disturbing any bee or insect nest. For instance, if you spot an underground nest of ground-nesting bees, you might want to mark it with a stick so that it can be easily avoided. Some people are allergic to pollen of various flowering trees, plants and grasses, but not to all pollen. A common misunderstanding is that hay fever is caused by goldenrod pollen. It isn't! Ragweed is the main offender and should be avoided.

Native bees, butterflies, beetles, ants and flies are valuable crop pollinators. Pollinating insects help increase crop yields and add money to your bottom line. Inadequate pollination will reduce yields, result in inferior flavor, produce smaller, misshapen fruits with fewer seeds, slow fruit maturation, increase disease in fruit and take money from your budget. In the United States, pollinators help you and others to produce nearly $20 billion worth of products annually.

Native insects act as a cushion when managed honey bees and bumble bees are in short supply. It is estimated that these beneficial native insects can provide up to 30% of pollination needs. Unfortunately, these pollinators are in serious decline.



Farm and ranch lands that support pollinators are disappearing at the alarming rate of 3,000 acres a day. The remaining farm and ranch lands lose pollinators' valuable services as their surrounding habitat declines.

What can you do? Increase the pollinators on your lands. This will support other wildlife such as birds and game animals, improve the quality of water runoff, decrease your soil loss, and reduce your need for expensive pesticides. By cooperating with government programs for improving pollinator habitat, you may be qualified for financial support. Check with your local state extension office or soil conservation district.

Also: learn how to reduce the direct exposure of pollinators to pesticides and how to protect critical nesting sites and food sources for beneficial insects & pollinators; and restore pollinator friendly practices at your farm. Study the habitat. Look for areas that can support all kinds of pollinators and other wildlife. Renew forage and nesting habitats by adding flowering plants, hedge rows, butterfly way stations and other shrubs.

Expand your efforts. Use reduced-tillage practices (many native bees live in the soil). Start to develop riparian (streamside) zones for wildlife habitats and corridors. Finally, allow crops to bolt to give these pollinators additional food sources and to encourage them to stay around for when you have need of them. ❐

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