

Beavers are Eager to Help Restore Watersheds *continued from front page*

Beavers are considered a keystone species – a plant or animal that plays a critical role in how an ecosystem functions – a species which would drastically change that ecosystem if it were removed. Beavers tend to live where they have good access to their preferred foods, which include the bark and twigs of willows, alder, and other deciduous trees, as well as ferns, grasses, blackberries, aquatic plants, and agricultural crops, but they're also pretty adaptable. They live along rivers and small streams, in ponds, marshes, and lakes, and even ditches that have a year-round water flow. If they don't have deep enough water available, beavers will build dams across a water flow to create their own water impoundment, using nearby trees.

Beavers build lodges in their ponds – mounds of branches and logs plastered with mud that have underwater entrances. They also dig dens into stream banks, and under logs or stumps.

Beavers breed between January and March and litters of between one and eight kits are born between April and June. Kits generally live with the adults for two years and then head off to mate and start their own colonies. Colonies usually contain one breeding pair of adults and recently born kits.

At an average size of 40 pounds, beavers in Oregon only have a few predators, including bears, coyotes, and cougars. They generally live for five to 10 years in the wild.

The benefits of beaver dams on streams can be profound. Their dams slow the flow of water in streams, and cool it down in the process, creating enhanced habitat for fish and drinking water for other species, especially in dry summer months. During heavier winter flows, beaver ponds provide shelter for both adult and juvenile fish. They help control flood conditions during severe rainfalls. They also recharge ground water supplies.

In August 2018 Trask Consulting was hired by the UNWC to work on a pilot project to install 27 BDAs on four different streams in an attempt to encourage beaver repopulation and influ-

ence coho salmon recovery in Oregon's Coast Range.

The BDAs Trask and his crew constructed in the Tillamook Forest involved pounding in a row of vertical,



BDAs are constructed by pounding in a row of vertical Douglas fir posts across a stream, which are then interwoven with vine maple or Doug fir limbs. Ideally the BDA will provide a prime location for beavers to naturally colonize.

nine-foot lengths of Douglas fir, ranging in diameter from five to 12 inches, across a stream. The posts are then interwoven with vine maple or Doug fir limbs. Ideally the BDA will catch more debris flowing downstream, retain more water, and will provide a prime location for beavers to naturally colonize, and maintain the dam the humans started for them.

At many of the installation sites, Trask left food caches, constructed cover and denning opportunities, and removed trees to provide sunlight to willow plantings, in order to encourage beaver colonization.

Trask explained that prior to the installation of the BDAs, an assessment was made of stream reaches in the region, looking for potential sites. Those identified sites were then "ground truthed" to show evidence of a historical beaver population in the area. Other criteria that make good BDA sites include a series of low terraced stream profiles and

confining hillslopes that will easily create a floodplain and develop into a pond behind the dam.

Because this is a pilot project, the hope is to answer several questions:

- Will beavers naturally colonize an area if a BDA is installed?
- How effective will different BDA designs be?
- Will human installed BDAs provide winter habitat for salmon even if beaver don't colonize a BDA site?
- Does the installation of BDAs improve the survival rate of salmon?

Trask led us to several BDAs on one creek, took us to see a large natural beaver dam at another location for comparison, and then took us to see several more installations on a different stream.

The results of this BDA project are mixed, but after just nine months and one winter, it's still too early to tell just how effective they will be.

Beaver Believers!

Interest in beavers and their impacts on ecosystems has been growing during the last several decades, and has really accelerated in the last several years, particularly in the Pacific Northwest. The search for more ways to effectively restore salmon habitat has been one of the main reasons, as fish counts of returning salmonids continue to fluctuate. Water-

shed councils and conservation groups have focused efforts on improving fish passage in streams by replacing impassable culverts, but those projects are often very expensive. Recently they've been enhancing fish habitat through the placement of large woody debris back into streams, after years of humans purposely clearing waterways. The large logs slow the stream flow, create pools and hiding spots for fish, and most importantly, capture mobile gravels that lift the stream channel back up to its historic flood plain.

There seems to be little question that beavers, and their dams and ponds, have historically been beneficial for salmon. They obviously have successfully survived together in the same streams for centuries – a recent bumpersticker may have said it best – "Beaver taught salmon to jump."

That being said, some wildlife biologists and fish passage experts have retained a healthy skepticism about reintroducing beavers into known salmon bearing streams.

Greg Apke is the state-wide Fish Passage Program Coordinator for ODFW who took part in our BDA tour led by Trask. "In my role I get to see projects across the whole state," said Apke at the start of the tour. "Beaver Dam Analogues have become the new restoration tool, not just here in the Nehalem basin, but particularly on the east side of the state. We're seeing hundreds of these being applied. I have a lot of faith in Steve and he has a perspective I don't have, so when Steve talks, I try to listen. I'm not an opponent, because I

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