

Beavers may be part of answer to climate change

by

Photo courtesy of Methow Beaver Project

Methow Beaver Project team members release a beaver in a high mountain meadow that has since become a new beaver colony site that holds millions of gallons of water.

Local relocation project returns animals to natural habitat

By Ann McCreary

Can a rodent species native to the Methow Valley help solve problems created by climate change?

Absolutely, according to a local biologist who leads the Methow Beaver Project.

Beavers, the animal kingdom's version of the Army Corps of Engineers, build dams that store water in mountain streams. And that could help mitigate the impacts of diminishing winter snowpacks and warmer temperatures that are anticipated as a result of climate change, said Kent Woodruff.

The Methow Beaver Project, now in its ninth year, relocates beavers to tributaries in the upper reaches of the Methow watershed. The goal is to restore beavers to their historical habitat and allow them to do what comes naturally — build dams and create ponds that store water both above and below ground.

Water held in those storage basins is released gradually throughout the warm months when it is needed for fish, wildlife and irrigation. That slow release has

the added benefit of keeping water in tributaries cooler, which enhances habitat for fish and other creatures, said Woodruff, a biologist with the U.S. Forest Service.

Climate change models predict dramatically lower snowpacks in the future. As humans consider ways to adapt to the changes resulting from a warming climate, beavers have some lessons to offer, according to Woodruff.

“One of the things I’m excited about is the Beaver Project provides an example and inspiration for climate adaptation,” he said.

Woodruff provided an overview of the Methow Beaver Project last Thursday (Jan. 14) in a presentation at the North Cascades Basecamp near Mazama.

With predictions of diminishing mountain snowpacks as a result of climate change, it is important to find ways to hold water high in the watershed. That’s precisely what beavers do when they build dams in streams, Woodruff said.

The ponds created by beavers support a complex and diverse ecosystem, and help restore the function of the mountain watersheds, he said.

Well adapted

Beavers are well adapted to areas like the Methow Valley that experience wildfires, because their favorite food — Aspen trees — thrive in riparian areas that have been burned, Woodruff said. And dams built by beavers may help reduce damage from post-fire flooding, he said.

Since the Methow Beaver Project began in 2007, team members used satellite imagery and computer modeling to survey hundreds of tributary drainages in the Methow Valley and identified 161 sites that would provide a good home to beavers, and where beavers could improve the surrounding watershed.

About 240 beavers have been relocated at 51 sites within the watershed. Despite the project team’s efforts to select locations that provide excellent

habitat, some beavers choose not to stay at their release site.

The animals that have remained at or near their release sites, however, are responsible for creating 176 ponds, Woodruff said.

“I like the fact that we’re putting little tiny reservoirs all over this watershed,” he said.

A biologist last year measured the amount of water stored at 62 of the ponds created by beavers released into the watershed. She found they stored 5 million gallons of water, which she calculated as enough for an average Twisp household for five years, Woodruff said.

Woodruff estimated that as much as 65 million gallons of water is stored behind the beaver dams annually. That’s enough water to serve an average household in Twisp for 24 years, Woodruff said.

Studying impacts

Beaver Project team members are studying the impacts that beavers have on water storage and temperature, water quality, and overall impacts on the ecosystem.

Beavers that are relocated through the program are often trapped and removed from private property, where their industrious tree cutting may not be appreciated by homeowners, and occasionally results in trees falling on rooftops and vehicles, Woodruff said.

They are taken to the National Fish Hatchery in Winthrop where they are temporarily housed in ponds until they are relocated to a chosen site.

The team prepares the relocation site by building a shelter of logs, branches and mud to simulate a beaver lodge, giving the beavers a place to escape predators when they are released.

A PIT (passive integrated transponder) tag is implanted in the beavers' tails before release, which allows biologists to track the animals' movements. Team members have been surprised by how far beavers travel, Woodruff said.

"Beavers are much more mobile than we thought," he said. For instance, a beaver that was released in the upper part of the Methow Valley swam to the mouth of the Methow River, then up the Okanogan River almost to the Canadian border. Records show that some beavers have traveled almost 100 kilometers in a four-month period.

"We don't know for sure why" they travel so far, Woodruff said. "We want them to stay" at the release site.

Beavers were nearly exterminated by the early 1900s in the Methow Valley as a result of fur trapping, and Woodruff said there is still a legal trapping season in Washington. A beaver pelt is worth about \$20 he said.

Woodruff said the project is working to re-establish a beaver population in the Methow Valley "that will be able to take care of itself."

Biologists have tried to estimate the value of habitat restoration that beavers provide by storing water, and have put the number at about \$3,000 per beaver, Woodruff said.

The Methow Beaver Project has generated interest from many agencies and organizations around the country, he said. Team members have provided information to help launch similar projects in the Yakima and Skykomish river drainages, in Idaho, Colorado, Utah and northern California.