

Scientist discovers beavers building prime salmon habitat in Skagit Delta

24 May 2009, By Lynda V. Mapes

As sometimes happens with science, Greg Hood went looking for one thing, and found something else: tidal beavers.

Just about everyone knows about freshwater beavers, damming streams and gnawing down the forested uplands like furry chain-saw gangs. But what Hood found in the Skagit River Delta was something else. Not a different species of beaver, genetically speaking. But one thriving in a different place -- the tidal scrub shrub zone.

Once, they must have been as abundant as the habitat they claim as their niche. An almost unheard of habitat today, these tidal wetlands were among the first to be diked, drained and filled nearly out of existence in Puget Sound country as the region developed. But as recently as the 1800s, these wetlands were just about everywhere in the deltas where rivers twine and spill into Puget Sound.

Today, only about 6 percent of the tidal scrub shrub habitat is left in the Skagit River Delta, and that's better than a lot of places where it's gone altogether.

So it was here that Greg Hood, a senior research scientist with the Skagit River System Cooperative in La Conner, Wash., came to do his research on sweetgale, a shrub that thrives in tidal scrub shrub wetlands.

But the beavers provided the exciting discovery. Searching scientific literature, Hood could find not a single reference on tidal beavers in the United States. What he discovered, too, was the beavers were, well, busily creating nearly ideal rearing habitat for Puget Sound chinook, a threatened species.

In that, Hood found a cautionary tale, about forging ahead with salmon-restoration plans without finding out what was here before.

"Recovery to what, what is your historical baseline?" Hood said. "We don't know as much as we think we do about what was here before. It's a kind of ecological amnesia.

"About 95 percent of the tidal shrub wetlands are lost; most people have never even heard of them. You come here, and get a sense of what used to be everywhere. And the next generation that never experienced it, they don't even miss it."

Sometimes seals watched, lounging on the banks of the Skagit, as Hood motored in an open skiff through the [river delta](#), then tied up to bushwhack on foot up the tidal channels. He'd come here mostly alone, just him and the swish of the wind in the cattails, willows and sweetgale, and the sound of the red wing blackbirds and swallows' aerial ballet accompanying his work.

He mapped where he found beaver dams, and where he didn't. He mapped where he found their lodges, and netted channels for fish counts, both where he found the beavers' pools, and where he didn't.

What Hood learned surprised him. Like a puzzle, there were many pieces, and they all fit together.

When Hood went looking for sweetgale, a signature plant of the remnants of intact tidal scrub shrub habitat, he usually found the telltale signature of beavers just about everywhere.

Dams. Pools. Lodges. Tiny toe-pad prints. Even, sometimes, the slap of a tail. Everything but the beavers, which are nocturnal.

The beavers, he discovered, relied on the sweetgale for the building material for their dams.

Ever the efficient engineers, they built the dams to create pools in the brackish water, so they could swim at low tide, rather than walk, to their favorite

food on the banks: willows.

Hood only found the beaver dams where he found sweetgale. And he only found sweetgale in certain spots in scrub shrub habitat. There, nurse logs washed downriver and left by the tides provided the platform to raise the sweetgale into the high-tide zone, just wet enough and just dry enough for the plant to thrive.

Next, by netting the tidal channels and beaver pools, he learned through fish surveys that chinook density was five times higher in pools created by the [beavers](#). The pools also were loaded with detritus that fed invertebrates; in turn fed on by fish, including chinook, coho, chum and stickleback.

In the coup de grace, he discovered the shrubby uplands of the pools also defeated heron that prey on the young fish, because they don't have enough space to land, and the pools are too deep for wading.

"It's a great way for them to get away from the heron," Hood said.

"It's a system. Everything is connected. You start looking at one thread, and you find out it is connected to something else."

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