Study finds lamprey decline continues

A new study aimed at understanding habitat needs for Pacific lamprey in western Oregon found the fish prefers side channels and other lower water velocity habitats in streams.

However, because of the legacy of historic land uses in the Northwest—including human settlement and activities—these habitats are much less common than they were in the past.

That may explain why populations of lamprey have declined over the past several decades—not only in western Oregon, but throughout the Pacific Northwest.

Results of the study were just published in the *Ecology of Freshwater Fish*.

"The lamprey decline has probably been going on for the past half century, but it wasn't until the last 15 to 20 years that it has been recognized by many in the scientific community," said Luke Schultz, a research assistant in Oregon State University's Department of Fisheries and Wildlife, and lead author on the study.

"Today lamprey populations are at about 5 to 10 percent of the 1960s totals at Bonneville Dam, and the story is much the same elsewhere.

"The Willamette River basin is one of the few places that still appears to have decent numbers of lamprey because of its system of sloughs and side channels," he added.

"But they are facing new threats, such as introduced fish species that prey on them—especially bass—so we'll likely be hearing more about this emerging threat in the next few years."

Spilyay file photo

Tribal members fishing for lamprey at Willamette Falls.

Schultz is project leader Oregon Cooperative Fish Research Unit's Pacific lamprey project.

This is a joint effort between OSU and the U.S. Geological Survey, seeking to learn more about the fish and restore its habitat.

Although this latest article focuses on the Willamette Basin, Schultz and his colleagues have looked at lamprey populations and habitat from the Columbia River in northeastern Oregon to southern Oregon's Umpqua River.

The causes of Pacific lamprey decline are myriad, the researchers say.

Restoring their numbers will require mitigation in the form of restoring habitat to include complex channels and deep pools, and the removal of barriers that block access to spawning grounds for adult lampreys, the authors note.

"Removal or mitigation will allow lampreys to recolonize those areas," Schultz said.

Some factors affecting the lamprey decline may be out of the researchers' control, Schultz said, specifically ocean conditions.

The fish require an abundance of food. Ocean conditions that are favorable to salmon are usually beneficial for lampreys, as well.

Rather than swimming freely, they may attach themselves to large fishes, or even whales, sea lions or other marine animals. And the abundant ocean prey lets them grow large.

"Pacific lamprey may spend one or two years in the ocean," Schultz noted. "They will weigh less than an ounce when they go out there as juveniles, and they may grow to 30 inches in length and up to two pounds before they return."

Although Pacific lampreys are anadromous, another species, the brook lamprey, only grows to a length of 6-7 inches and stays in fresh water for its entire lifespan of 4-8 years.

It is the Pacific lamprey that researchers are focusing on, because of their one-time abundance, larger size, and more prominent ecological role.

"These are really interesting animals that have historic importance in the Pacific Northwest," Schultz noted.

"They can live up to about 10 years or so—about three times longer than the coho salmon life cycle—and they are roughly six times as energy-dense as salmon, making them important prey.

"Because of that, I like to call them swimming sticks of butter."

When lampreys are abundant, they reduce predation by a variety of species—especially sea lions, but also sturgeon, birds, bass and walleye—on juvenile salmon and steelhead.

It may not be an accident that salmonid numbers have declined at the same time lamprey populations have diminished.

The research in the study has led to some habitat restoration work supported by the Columbia River Inter-Tribal Fish Commission.

Helping lamprey populations recover has important social significance as well as ecological importance, Schultz said.

"Lampreys were an incredibly important resource for many Northwest tribes because they provided a source of protein in the summer months when salmon weren't as readily available," he noted.

"Now the only place where there is even a limited tribal harvest is at Willamette Falls."

(This article is by Mark Floyd/University of Oregon)

Corps of Engineers' plan to reduce cormorant predation

The U.S. Army Corps of Engineers is moving ahead with a plan to cut the a population of double-crested cormorants on Oregon's East Sand Island in half.

Corps officials say they local bird population has grown too large and is contributing to the loss of endangered juvenile salmon and steelhead in the Columbia River.

The plan calls for the culling of some 11,000 birds. The cormorants would be shot with shotguns.

If finalized, the plan will also see oil poured on the nests of some 26,000 birds, so that eggs can't be hatched. The ultimate goal is to reduce the size of the current colony by 57 percent.

Biologists with the Corps say the cormorant population on the island has exploded over the last two decades, and that the birds consume 7 percent of all the juvenile salmon and trout that travel into the Pacific every year after being hatched upstream.

Opposed to the Corps of Engineers plan to reduce the cormorant population is the Portland Audubon Society. The Columbia River Inter-Tribal Fish Commission, representing the Confederated Tribes of Warm Springs and other river treaty tribes, is in favor, with some qualification.

CRITFC executive director Paul Lumley gave the statement regarding the Corps of Engineers plan:

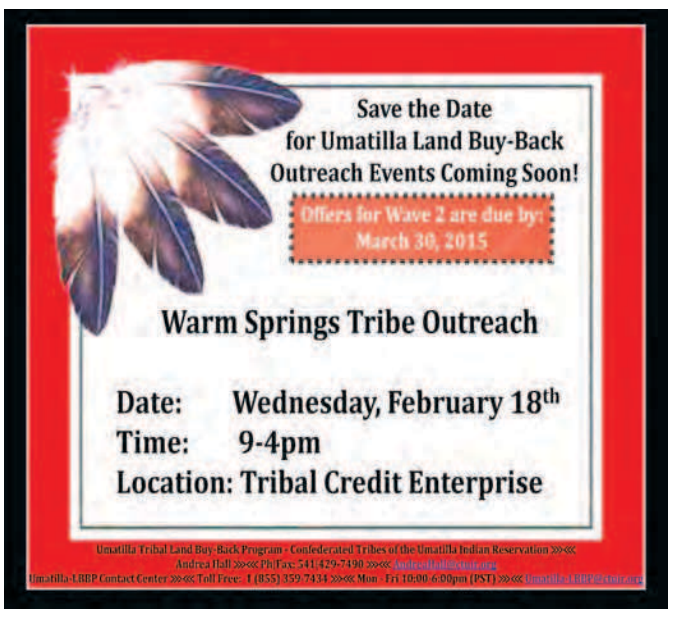
Avian predation upon Columbia River salmon stocks has grown to become the single-largest, unchecked impact on their sustainability.

The U.S. Army Corps of Engineers' double-crested cormorant Environmental Impact Statement is an important first step in addressing one of the significant impacts of avian predation on juvenile salmonids in the lower Columbia River.

While this management action is warranted, it may not be enough to reduce the staggering fish losses.

From 2010-2013, exploding double-crested cormorant populations nesting on the man-made East Sand Island have consumed at least 74 million juvenile salmonids in the lower Columbia River.

These losses equate to 740,000 returning adult salmon and steelhead. After more than a decade of research, we can no longer afford to study cormorant impacts without addressing their threat to salmon recovery.



Record low snowpacks in many basins in Oregon

For the second consecutive year, Oregon's mountains are experiencing record-low snowpack levels.

The report comes from the USDA Natural Resources Conservation Service.

While the state has received near-normal amounts of rainfall since Oct. 1—the beginning of the water year—mountain temperatures have been unusually warm.

As a result, 44 out of 110 long-term snow monitoring sites in Oregon measured record or near-record low levels for snowpack in early February.

Some areas were snow-free for the first time on record.

"It's been a warm and rainy winter in the Oregon mountains this year," said hydrologist Melissa Webb. "The Cascade and Siskiyou Mountains are measuring record low snowpack levels right now."

"There is grass growing in areas that are normally buried under many feet of snow. There is still time for improvement in our snowpack, but at this point, a full recovery is unlikely."

Without significant snowfall in February and March, hyrologists predict that streams and rivers typically fed by snowmelt will experience well-below-normal flows this summer.

"Winter rainfall can help improve reservoir storage and increase streamflows during storms, but it has little effect on streamflow later in the season," Webb said.

"We depend on the snowmelt to provide a steady water supply over the summer months."

Resolution of Tribal Council

Smelt harvest

Whereas the Treaty with the Tribes and Bands of Middle Oregon on June 25, 1855 reserved to the Confederated Tribes of the Warm Springs Reservation of Oregon, off-reservation fishing rights in ceded and at all usual and accustomed stations; and,

Whereas the Tribal Council regulates treat fishing for conservation and other purposes pursuant to the inherent sovereign authority reserved in the Treaty of June 25, 1855, and pursuant to the Tribal Constitution and By-Laws and the Warm Springs Tribal Code; and,

Whereas the Confederated Tribes of Warm Springs Reservation of Oregon have historically fished for the Pacific eulachon at the Cowlitz and Sandy rivers, other tributaries and other locations in the Columbia River basin; and,

Whereas the Tribal Council has been advised by the Fish and Wildlife Committee and the Branch of Natural Resources staff that the predicted return of the Pacific eulachon will require a harvest restriction on the treaty fishery to ensure optimal spawning escapement; and,

Whereas the Tribal Council has been advised by the Fish and Wildlife Committee and the Branch of Natural Resources that NOAA-NMFS designated, in November 2011, the Columbia River and tributaries as critical habitat for Pacific eulachon; and,

Whereas the Tribal Council recognizes the hardship placed on tribal members with harvest restrictions, as adopted by Resolutions in the past, but with concern for the future of the fishery resource understands the need; now, therefore,

Be it resolved by the Twenty-Sixth Tribal Council of the Confederated Tribes of the Warm Springs Reservation of Oregon pursuant to Article V, Section 1(l), (r) and (u) of the Tribal Constitution and By-Laws, and Warm Springs Tribal Code Section 340.310(2), that beginning the following restrictive regulations are adopted for tribal subsistence fishing for Pacific eulachon at the Sandy and Cowlitz rivers during 2015:

1. In recognition of the traditional methods, Pacific eulachon may be harvested with dipnets seven days per week during the smelt run. Fish may be present from December to May with the peak months of February and March. March is expected to be the best harvest month. Fishing will continue until the allocation of 6,500 pounds (approximately 93,820 fish) is reached, or the run ends. Harvest will be tracked by creel census. Fishing may take place between 6 a.m. and 6 p.m. Harvest is expected to be divided approximately evenly between the Sandy and Cowlitz rivers.

2. Gear shall be limited to dipnets.

3. The provisions of the Warm Springs Tribal Code (WSTC) 340.310(8), requiring that dipnets are attended continuously, will be enforced.

4. The Branch of Natural Resources is responsible for the biological monitoring of the fishery. Pursuant to Warm Springs Tribal Code 340.310(11), tribal members fishing shall, upon request, allow authorized federal, state or tribal officers to inspect their catch. BNR will collect and share harvest information and other relevant biological and scientific information with Washington Department of Fish and Wildlife and Oregon Department of Fish and Wildlife to contribute to their information gathering objectives. Periodic reports of run status and abundance encountered by tribal fishers will be shared with the WDFW and ODFW to aid in their monitoring and public information objectives.

5. Tribal members must carry enrollment cards on their person at all times fishing or transporting fish. Members must produce it upon request by state or tribal enforcement officers. Any person who produces a Warm Springs tribal enrollment card will not be required to produce a state fishing license.

6. Tribal members must report catch to BNR personnel on-site at fishery locations; those not reporting on-site are required to report harvest within 24 hours at the BNR office in Warm Springs.

7. This is a subsistence fishery, there is no harvest limit with the tribal allocation of 6,500 pounds. Subsistence is defined by Tribal Code 340.100 Definitions: (9) "subsistence fishing" means the taking of fish by members for the personal use of members, including the sale or exchange with other treaty Indians for their personal use but not for sale or trade with non-Indians. Commercial sale of fish is not allowed.

8. Pursuant to Warm Springs Tribal Code 340.310(13), the use of alcohol or drugs is prohibited when fishing under claim of treaty rights.

9. Pursuant to Warm Springs Tribal Code 340.700 and 341.140, penalties for violations will be strictly enforced to ensure compliance with rules and regulations.