

Oregon State researchers: Predators Important To Ecosystems

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Losing large predators in the Pacific Northwest and around the world has had significant impacts on the Earth's ecosystems, say an Oregon State University professor and more than 20 scientists from around the world.

Their findings appear [this week in Science](#).

“As humans, we don't always see landscape in context,” says OSU Professor William Ripple, who has been studying what's happening in national parks.

In Washington state's Olympic National Park, the loss of gray wolves in the early 1900s has meant an increase in elk that feed on shrubs and young trees, like cottonwood and bigleaf maple, Ripple says.

The loss of the young trees and many berry bushes means less habitat and food for other animals. Beavers need the trees to make dams. Birds come to nest in the trees and feast on berries. And bees stay around to pollinate berry bushes. Lose the trees, upset the ecosystem.

It's a top-down problem called “trophic cascades” that Ripple and his OSU colleague Professor Robert Beschta have been [studying for years](#).

The two have spent a lot of time in Yellowstone National Park documenting the changes in the landscape following the reintroduction of gray wolves. After the wolves returned, the aspens and willows came back in some places because the wolves preyed on the elk population, Ripple says.

The beavers began building dams, restoring wetlands and streams and bringing up the water table. Songbirds returned to the willows and parts of the ecosystem began to return to a more natural state, Ripple says.

(YouTube video by Oregon State University)

The return of some wolves to Oregon and other states has been controversial.

“They can be difficult to live with,” Ripple says. “There is an adjustment period in how to deal with livestock losses.”

On the plus side, more wolves mean fewer coyotes, which means fewer coyote attacks on sheep and lambs, Ripple says. Wolves, too, provide a more natural system for keeping the elk population under control.

“Wolves hunt 24/7 and hunting season by humans is usually daylight only and during the fall months,” Ripple says.

The other difference is that wolves have been regulating their prey for thousands of years and when the prey population goes down, so does the predator population. “They typically don’t drive their prey to extinction,” Ripple says.

Ripple plans to return to Yellowstone this fall to continue his research.

Other scientists published in the Science piece found that:

- Industrial whaling in the 20th century likely caused a killer whale diet shift and a dramatic decline of sea lions, seals and sea otters.
- Decimation of sharks resulted in an outbreak of cow-nosed rays and the collapse of bay scallop fisheries.
- Sea otters enhance kelp abundance by limiting herbivorous sea urchins.
- The reduction of lions and leopards in Africa led to a population explosion in olive baboons, which bring intestinal parasites to humans who live in close proximity to them.