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"Using Wolves and Other Predators to Restore Western Ecosystems"

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Friday, 19 November 2010, 7:30pm, Room 100 Willamette Hall, UO Campus

In 1997 Bill Ripple and his graduate student, Eric Larsen, were in Yellowstone National Park, pursuing an answer to why aspens in the Park were declining. Toward the end of their trip they went down to the Grand Tetons National Park. While in the Visitors Center, Ripple noticed a poster on the wall: a wolf, in a guard-dog pose, in a stand of aspens. He wondered aloud "do you think wolves could protect aspens?" That was the beginning.

Of course, it wouldn't have been the beginning had Ripple's past not prepared him for that aha moment. So, a brief summary.

Bill Ripple was born in South Dakota and grew up in the southeast corner of the state. As a youngster, Ripple had ample opportunity to experience nature on his own. Since his hometown was small – a population of about 200 – it took only a short walk for him to get out into the countryside. He went to South Dakota State University for his undergraduate work, graduating with a B.S. in Geography. In the summers between his years there, and the one summer after he graduated, he worked as a ranger in Custer State Park. During these summer sojourns his ecological perspective began to mature, and he developed an interest in photography. Some of his photographs were used in the Visitors Center of the Park. He went to the University of Idaho for his Master's degree, then to Oregon State University for his Doctorate.

Ripple joined the faculty in OSU's College of Forestry in 1989. Back then his interests were computer mapping, landscape ecology, spatial analysis, the use of geographic information systems for resource management, and historical ecology. But that first trip to Yellowstone National Park profoundly influenced his future research direction.

It was from Dr. Robert Beschta, also in the College of Forestry at OSU, that Ripple learned about the disappearance of Quaking Aspen in Yellowstone National Park. That conversation, in 1996, was the impetus for the 1997 trip. The two remain close collaborators.

The core samples Ripple and Larsen collected on that trip in 1997 revealed that the decline of aspens began in the 1930's, which they knew was also just after the last wolves in the Park were killed. They hypothesized that elk served as the go-between. With fewer predators to deal with, elk browsing on not only aspen but also willow and cottonwood could reduce the number of young plants and thereby change the distribution and nature of vegetation in the Park. They recognized that with wolves now back in the Park they might be able to test their hypothesis. From that point on, Ripple's research program has focused on such complex interactions.

On one of his many trips to the Lamar Valley in the Northeastern corner of the Park, Ripple spent a lot of time sitting on a bluff close to the confluence of Soda Butte Creek and the Lamar River. Gradually he became aware of a difference in the height of willows at different points along the streams. Where there was an abrupt bank there were taller willows than where there was little or no barrier to movement. It was then that the concept of an 'ecology of fear' came to him. The rapid recovery of aspens, willows, and cottonwoods as the wolf packs grew seemed to be greater in magnitude than could be accounted for just by wolves killing elk. Ripple realized that the mere presence of the wolves was changing elk behavior. The elk shied away from zones along a stream where their getaway would be tough because of a steep bank, or deep water, and in those zones the plants' recovery was most rapid.

The work in Yellowstone National Park was only the start. They have found a similar trophic cascade in Zion National Park, but with cougars as the apex predator rather than wolves. In a river valley with lots of cougars the deer numbers are low, riparian vegetation is lush, the streams are narrow, and there are deep pools, with larger fish. In another valley, also in the Park, cougars are scarce, deer numerous, streams have fewer plants on their banks and are wider, warmer, siltier, and have fewer large fish.

Ripple has been in contact with folks in the Scottish Highlands, talking about controlling the red deer herd there with wolves. One wonders what the lairds will say about that.

Related to that question is what ranchers in Idaho and Oregon are saying about the beginnings of wolf packs in these states. Another consequence of removing large predators from an ecosystem is an increase in the populations of smaller predators. Ripple pointed out that wolves do a number on coyotes. They don't like them and will kill them when they can. Since coyotes take many sheep and young calves each season, maybe ranchers should reconsider their objection to wolves.

Of course, we know Ripple is a star; after all, he's on the speaker list for ENHS. But there are other signs. He is sought after locally – the day before he speaks to us he is the speaker for the Corvallis Audubon group – and his speaking schedule

nationally is also demanding. In January 2011 he will present aspects of his research to the Department of Ecology and Evolutionary Biology at UCLA. He has published many articles on the role of apex predators in healthy ecosystems. Ripple and his collaborator Beschta are now film stars: they are extensively featured in the film Lords of Nature: Life in a Land of Great Predators. On Friday, 19 November 2010, Professor Bill Ripple will tell us about his work in Yellowstone, Zion, and other places. This is important stuff. The fairy tales have it wrong; large predators are our friends. To be healthy our world needs them. Please join us at 7:30 p.m. in Room 100 Willamette Hall on the U of O campus to hear Dr. Ripple's talk "Using Wolves and Other Predators to Restore Western Ecosystems." John Carter