



## Aaron Wirsing

Associate Professor,  
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Front and center in Aaron Wirsing's office is a framed and colorful drawing of killer whales chasing down dinner—seals, fish, dolphins, other frightened sea creatures. The artist? A 10-year-old Aaron, inspired by the nature television shows of his youth. “Predators always fascinated me. Nothing's changed!”

Now an assistant professor in the School of Environmental and Forest Sciences, Wirsing still pursues his passion for predators. His research projects span multiple environments—marine, freshwater, terrestrial—but all include the common thread of studying large predators and how they interact with their prey.

But there's a twist to Wirsing's research that differs from classic predator-prey ecology. In its usual sense, we tend to think of images like a coyote eating a field mouse, or a lynx eating a rabbit, or a shark eating a fish—in other words, predators actually eating their prey. But what makes Wirsing's research different is his focus on non-consumptive predator-prey interactions.

What does that mean? An emerging field of research shows that the mere presence of a predator—actively searching for prey to eat or not—can cause potential prey-animals to change their behavior. They hide more, avoid certain areas where predators roam, graze timidly as they try to avoid becoming somebody's lunch. And these changes in what may otherwise be carefree behavior can have

profound consequences on how the environment is shaped around them.

Wirsing's current work in this area centers on the recolonization of wolf populations in the Pacific Northwest. On first seeing a wolf in the Washington wilds, he recalls, “It was a sublime experience. They've been absent from their historical range in Washington, and now here they are establishing themselves again naturally.” As they do so, they will move into Cascade valleys little by little, giving scientists the rare opportunity to measure differences between ecosystems with and without wolves. Since wolves are top predators—and top predators are known to extensively shape the biological systems they are part of—Wirsing expects to see some potentially major changes. He and project partners have secured a prestigious 5-year National Science Foundation grant to study what will happen.

Part of the goal of his work is to break down long-standing myths about wolves, and figure out how we might use predators as a tool to benefit both conservation and the economy. For example, Wirsing notes that deer and other animals love to eat tree saplings—much to the dismay of foresters trying to coax little trees into becoming economically valuable big trees. Perhaps the return of wolves will cause deer to spend more time being watchful and less time eating saplings—which will not only help restore forest ecosystems, but also give a boost to the economy as well.

*Photos: above: Courtesy of Aaron Wirsing; below, left to right: National Park Service, John Meyer, Courtesy of Aaron Wirsing*

