

## EPISODE 3: PREDATORS

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Deep in the wilds of Venezuela, the natural order is being turned inside out. Miles of savanna and verdant forest have given way to small, scattered islands. Some of these islands are now overrun by bands of howler monkeys, a glut of iguanas and hordes of ravenous ants. What's driving this bizarre transformation? And could it be linked to other mysterious events around the world?

A team of scientists may have the answers. They believe that life on these islands is running amok in large part because the top predators are gone. In fact, in Venezuela and around the world, experts are learning that predators could play a crucial role in structuring entire ecosystems. And when the predators disappear, the consequences may be dramatic.

It's not just on land that predators appear to be crucial. In the Caribbean, once-vibrant coral reefs are under attack by insidious algae. With the reefs suffocating under shaggy layers of algae, scientists are investigating the role that the loss of top predatory fish such as sharks, groupers and jacks have played in the reef's slow demise. As these large fish were decimated by fisheries, smaller fish became the next commercial target—including those vital grazers that kept fast-growing algae in check. When those few remaining grazers in the over-fished reef were hit by disease, the algae were free to take over.

Similarly, the majestic wilderness of Yellowstone National Park is also showing signs of change that some scientists trace to the depletion of natural predators. Familiar and revered forests have vanished. Researchers are finding intriguing evidence that may link these forest losses to the expulsion of the gray wolf some 70 years ago.

Wolves were once a vital part of North American ecosystems before bounty hunters, starting at the turn of the century, decimated their numbers. A big question for biologists worldwide is what has been the effect of removing large carnivores? In Yellowstone, researchers are uncovering intriguing clues. By hunting elk in particular, wolves literally may be reshaping the landscape. Researchers suggest that wolves instill a primal fear in the resident elk that keeps the herds on the run—spending less time intensively grazing on Yellowstone's aspen and willow trees.

Though other factors may have played a role, it seems the disappearance of trees and streamside vegetation can, in fact be traced to the missing wolves. Now, following the controversial reintroduction of wolves to the environment, where elk are on the run, trees and shrubs are starting to come back.

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