

Cougar Predation Key to Ecosystem Health

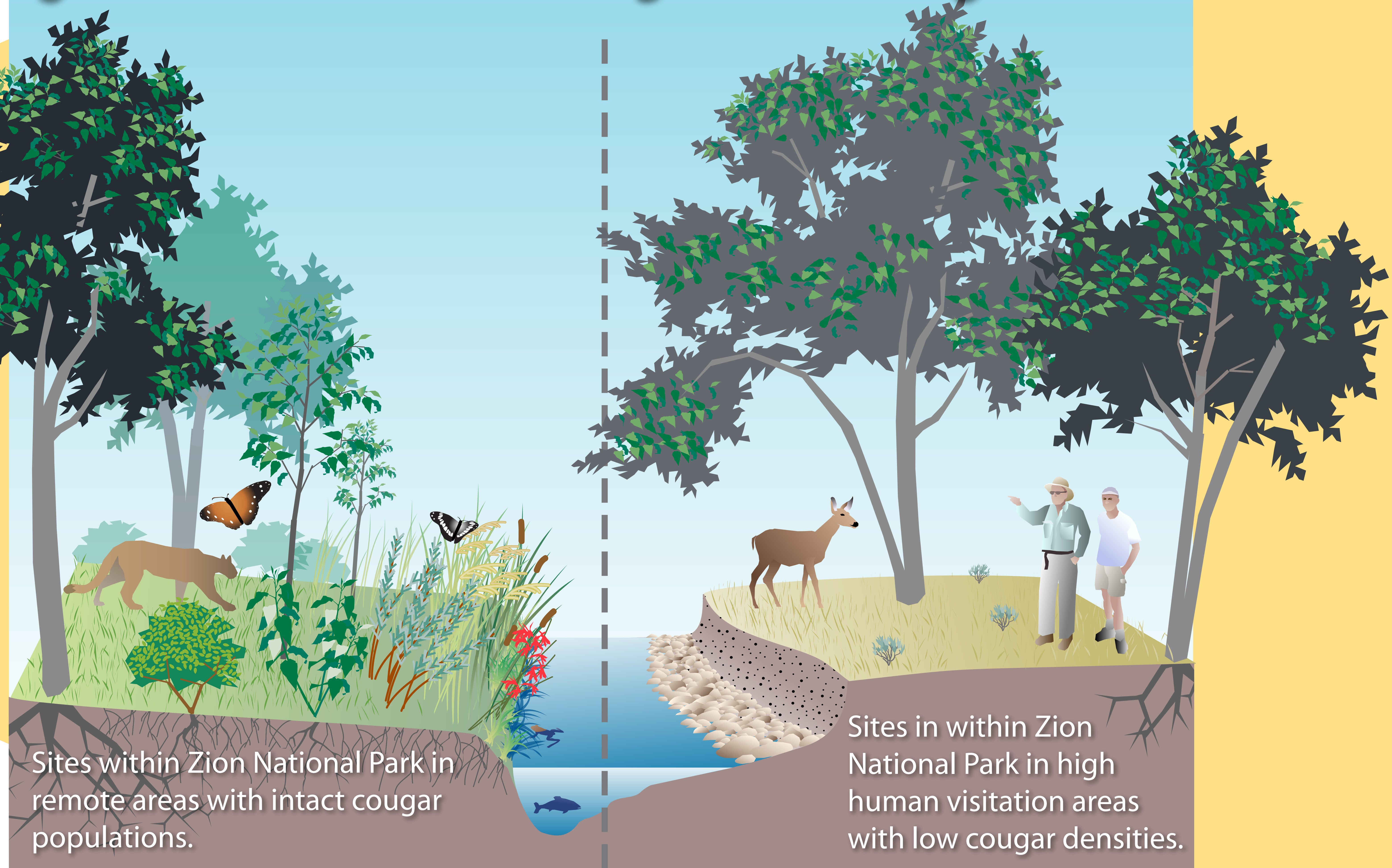
The loss of an important predator, such as wolves or cougar, can affect a broad range of terrestrial and aquatic plant and animal species in an ecosystem—from trees, shrubs, wetland plants, and wildflowers to amphibians, fish, lizards, mammals, and even butterflies.

A new study by College of Forestry researchers found that cougars in Zion National Park—like wolves in Yellowstone National Park—profoundly impact other aspects of the ecosystem. Besides controlling deer populations directly, they also influence the foraging behavior of deer and elk, in what has been called "the ecology of fear."

Over the past 70 years, the number of human visitors to the park's Zion Canyon has increased to nearly 3 million per year, while cougars have gradually disappeared. As a result, deer populations have dramatically increased, leading to severe ecological damage, loss of cottonwood trees, eroding streambanks, and declining biodiversity.

This "trophic cascade" of environmental degradation is linked to the increasing presence of humans and the decline of a major predator.

Ripple, W.J. and Beschta, R.L. (2006). Linking a cougar decline, trophic cascade, and catastrophic regime shift in Zion National Park. *Biological Conservation* 133:397-408.



Sites within Zion National Park in remote areas with intact cougar populations.

Sites in within Zion National Park in high human visitation areas with low cougar densities.