

On the road to recovery, gray wolves could be dispatched to balance an ecosystem

THE UNMISTAKABLE HOWL OF A GRAY WOLF (*CANIS lupus*) echoing through wilderness is to conservationists the clarion call of a healthy ecosystem. Historically populous in North America and at one time almost hunted to extinction, the gray wolf remains both a powerful symbol of wilderness and a sign that both flora and fauna in a preserved area are thriving. However, bringing wolves to a protected area like a national park can have myriad benefits beyond simply perpetuating the species. Licht et al. (2010) reason that small groups of the gray wolf can be introduced as a top-down restoration tool for a declining ecosystem in which overabundant herbivores destroy critical vegetation. The practice of restoring small predator populations to protected areas has been successful in other parts of the world with apex predators (e.g., lions and African wild dogs). Licht et al. (2010) suggest a shift in how conservationists view the gray wolf. No longer struggling to survive, the wolf could now be used for purposes of ecological restoration, but not before certain policy changes are made, particularly the requirement that restored wolf populations be self-sustaining.

Since the gray wolf was classified as endangered with the induction of the Endangered Species Act in 1973, efforts to build its numbers have focused mainly on protecting large populations in large land areas. Licht et al. (2010) suggest that because gray wolf numbers have increased in the northern Rocky Mountains and Great Lakes regions, leading to those populations being delisted as endangered in 2009, the gray wolf recovery effort has reached a point where experimentation is appropriate.

However, not everyone views the wolf as recovered: the gray wolf was relisted as endangered in August 2010 as a result of a federal lawsuit brought by Defenders of Wildlife and other conservation groups. The current legal quandary notwithstanding, Licht et al. (2010) nonetheless forward the notion that the introduction of small, non-self-sustaining populations of wolves to land areas smaller than those used in typical recovery efforts could benefit the ecology of the area. Those benefits go beyond reducing deer and elk populations and improving their demographics to include increased plant biomass, more abundant carrion for scavengers, and an overall trophic (or nutrient) cascade in the plant and animal communities. On the human side, opportunities for scientific research abound and a protected area might see increased tourism (Yellowstone National Park saw ecotourism spending

increase by \$35 million following the introduction of wolves in the mid-1990s).

A necessity for any wolf population undertaking is close management. The authors suggest a combination of tools be considered, all with their particular pros and cons, as a necessary investment in species management: real-time animal tracking via satellite technology, control by contraceptive, and use of real or virtual barriers.

In conclusion, the authors argue that the overall ecological, economic, societal, and aesthetic potential of gray wolves is not being fully used because of legal and other constraints from the current wolf recovery paradigm, and because of a lack of understanding by resource managers of the full suite of these benefits. Even as the political climate surrounding wolves remains tempestuous, there seems to be great potential in throwing ecosystem restoration duties, quite literally, to the wolves.

Reference

Licht, D. S., J. J. Millspaugh, K. E. Kunkel, C. O. Kochanny, and R. O. Peterson. 2010. Using small populations of wolves for ecosystem restoration and stewardship. *Bioscience* 60(2):147–153.

—Jonathan Nawn, Mindi Davis, and Jeff Selleck;
reviewed by D. S. Licht