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Navigating for Noah: Setting New Directions for Endangered Species Protection in the 21st Century

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Like the biblical character Noah, who builds an ark to save the animals from the Great Flood, the Endangered Species Act recognizes the impact of human activities on animals and plants and expresses Congress' intent to halt extinction and restore species through a variety of measures aimed at both federal agencies and private citizens.

The goals of the ESA are to protect plant and animal species in danger of extinction and to provide a means to conserve the ecosystems upon which they depend.[i] The term "ecosystem" was not commonly used in 1973. The ecosystem reference appears only once, and none of the ESA's implementation mechanisms directly address ecosystem conservation. Rather, the Act's protections are focused on the species themselves and apply wherever the species travel and live.

At the time the ESA was enacted, our understanding of the causes of extinction reflected our historical experience with over-harvesting of wildlife, and a conception of ecosystems in a steady state equilibrium. Today we know that the loss and degradation of habitat from human development activities is the greatest cause of the decline and disappearance of wildlife and plant species. Indeed, habitat damage is the principle basis for the endangerment of more than eighty percent of the species currently listed or proposed for listing under the ESA.[ii]

We also know that there is no "balance of nature." Ecosystems do not exist in picture perfect equilibrium. They are dynamic and unpredictable, sometimes chaotic. Ecological processes, which of course include the activities and interactions of animals and plants, take place over landscapes and regions.[iii]

The ESA Today: A Brief Overview

1. The Endangered Species List--Regardless of its rarity or vulnerability to destruction from human activities, a species is not protected by the ESA until it is "listed" [iv] by the Secretary of the Interior as either "endangered" or "threatened" throughout all or a portion of its range.[v] The ESA permits the listing of subspecies and distinct populations.[vi]

2. Critical Habitat Designation--Concurrent with listing, the Secretary of the Interior designates as "Critical Habitat" the portion of a species' habitat considered to be essential for breeding, feeding, and shelter.[vii]

3. Conservation and Recovery--Listed species must be "conserved" which means that agencies of the federal government must do whatever is necessary to bring species to the point where the protections of the ESA are no longer required.[viii] "Recovery plans" identify the steps required to accomplish this goal.[ix]

4. Consultation--Federal agencies must "consult" with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (if marine mammals or anadromous fish are at issue) before undertaking any actions that may "jeopardize the continued existence" of listed species or damage Critical Habitat. Activities that may result in jeopardy must be altered or stopped.[x]
5. Ban on Taking--The ESA prohibits killing or harming listed species or damaging their habitat by anyone, including private citizens. [xi]
6. Reintroduction--Species extirpated from their historical habitats or ranges may be re-introduced and managed until they reoccupy their original ecological niches.[xii]
7. Convention on International Trade in Endangered Species (CITES)—CITES is a multi-national agreement within the ESA that addresses illegal trade in endangered species around the world.[xiii] CITES serves as the endangered species law for many countries that otherwise lack regulatory protections for imperiled wildlife.

New Directions for Noah

As Noah undoubtedly realized, saving animals two by two is not ultimately a successful strategy for saving wildlife. Since habitat loss is the primary factor threatening species and ecosystems, habitat conservation is the best way to address the problem of species extinction. One way to do this is to vitalize the ecosystem protection goal of the ESA by creating a biological diversity land conservation system in the United States.

A biodiversity land conservation system would knit together the national landscape to protect and enhance wildlife species and the ecosystems upon which they depend. Such a system would involve both private and public lands strategically chosen and linked by a variety of creative legal arrangements.

The federal lands of the United States provide a good base for a conservation land system. The United States owns about 671.8 million acres of land—29% of the nation's land base.[xiv] Federal lands harbor nearly half of all species listed under ESA, and nearly 12% of listed species are found exclusively on federal lands.[xv] One means to significantly boost the protective capacity of the federal lands would be to combine roadless lands in national forests, Bureau of Land Management lands, and potentially tribal lands with conservation areas, such as wildlife refuges, national parks, and wilderness, and manage them in a coordinated way to sustain biodiversity. The addition of roadless lands to conservation lands would increase ecosystem representation and the size of habitat blocks necessary to support species requiring large ranges.[xvi]

Federal lands alone will not suffice to sustain a biodiversity conservation system. Federal lands tend to be located at high elevations and are relatively unproductive from a biological standpoint. Even our wildlife refuges have large gaps in their coverage of ecosystem diversity. More than 53% of all major ecosystem types are missing from the National Wildlife Refuge System, the only component of the federal lands established explicitly for wildlife conservation.[xvii] Furthermore, our federal land units are too small to be optimal for protecting ecosystems or wide ranging species and are not managed primarily for species or ecosystem protection.[xviii]

State and local governments have considerable authority to protect wildlife and habitat. The State of California has been in the forefront of the effort with its Natural Communities Conservation Planning Program, an innovative strategy relying on both voluntary actions and regulatory controls to protect habitat areas home to a variety of plant and animal communities.[xix] Many states have become partners with federal agencies and groups such as The Nature

Conservancy in habitat acquisition and wildlife protection programs. The Gap Analysis Project, for example, is a cooperative effort among federal and state agencies and universities. Gap analysis maps are extremely useful in identifying key areas for biodiversity protection.[xx]

Private lands must be part of any comprehensive biodiversity protection system. The most biologically productive lands in the United States are in private ownership. Private lands harbor more the 60% of all federally listed endangered species. Many of these are concentrated in "biodiversity hot spots" found primarily at lower elevations along coastal areas toward our southern borders.[xxi]

Private lands need not be acquired by government in order to play a key role in ecosystem protection. They can be linked with public lands through partnerships and creative arrangements such as conservation easements, corridor designations, and various kinds of Habitat Conservation Plans (HCPs). These arrangements work. A recent Land Trust Alliance census reports that the amount of private land protected doubled from 1999 to 2003, to more than nine million acres.[xxii]

The idea of a national biodiversity conservation system is not an impossible dream. The costs of its establishment have been estimated at between 5 and 8 billion dollars a year, sustained over a thirty year period.[xxiii] This is less than one quarter of the annual cost of maintaining the national highway system.[xxiv]

Conclusion

To set a new direction for Noah we must save more than the species on the brink of doom. We must protect rare and common plant and animal species and their habitat. To do this successfully will require the establishment of a biodiversity conservation system that includes all major ecosystem types, supports viable populations of native species in natural patterns of abundance and distribution, and sustains ecological and evolutionary processes.[xxv] In short, we must save some of everything, and enough of it to last.

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[i] Endangered Species Act (ESA), 16 U.S.C. § 1531 (b) (1973).

[ii] DAVID S. WILCOVE ET AL., ENVIRONMENTAL DEFENSE FUND, REBUILDING THE ARK: TOWARD A MORE EFFECTIVE ENDANGERED SPECIES ACT FOR PRIVATE LAND 2 (1996).

[iii] A. Dan Tarlock, *The Nonequilibrium Paradigm in Ecology and the Partial Unraveling of Environmental Law*, 27 LOY. L.A. L. REV. 1121, 1122 (1994).

[iv] ESA, 16 U.S.C. § 1533 (c).

[v] *Id*. § 1532 (6).

[vi] *Id*. § 1532 (16).

[vii] *Id*. § 1636 (b) (2).

[viii] ESA, 16 U.S.C. § 1532 (3).

[ix] *Id.* § 1533 (f).

[x] *Id*. § 1536.

[xi] *Id.* § 1538.

[xii] *Id*. § 1539 (j).

[xiii] *Id.* § 1537a.

[xiv] Carol Hardy Vincent, *Federal Land Management Agencies: Background on Land and Resources Management* 2 (Congressional Research Service 2004).

[xv] B. Stein, T. Braden and R. Warner, *The Significance of Federal Lands for Endangered Species, Our Living Resources—Human Influences* 4, 401, http://biology.usgs.gov/s+t/noframe/ul54.html.

[xvi] R.L. DeVelice and J.R. Martin, *Assessing the Extent to which Roadless Areas Complement the Conservation of Biodiversity*, 11 ECOLOGICAL APPLICATIONS 1008-1018 (2001); M. R. Crist, B. Wilmer and G.H. Aplet, *Assessing*

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[xvii] D. Crumpacker, S. Hodge, D. Friedley and W. Gregg, Jr., *A Preliminary Assessment of the Status of Major Terrestrial and Wetland Ecosystems on Federal and Indian Lands in the United States*, 2 CONSERVATION BIOLOGY 103, 113 (1988).

[xviii] T.W. Clark and D. Zaunbrecher, *The Greater Yellowstone Ecosystem: The Ecosystem Concept in Natural Resources Policy and Management*, 5 RENEWABLE RESOURCES JOURNAL 8-16 (1987); REED F. NOSS AND ALLEN Y. COOPERRIDER, SAVING NATURE'S LEGACY, PROTECTING AND RESTORING BIODIVERSITY 71-72 (1994).

[xix] 1991 Cal. Stat 765 (codified at Cal. Fish & Game Code §§ 2800-2840 (1991)).

[xx] Noss and Cooperrider, *supra* note xviii, at 113-118.

[xxi] Reed F. Noss, *Some Principles of Conservation Biology , As They Apply to Environmental Law*, 69 CHI.-KENT L. REV. 893, 905 (1994); A.P. Dobson, J.P. Rodriguez, W.M. Roberts and D.S. Wilcove, *Geographic Distribution of Endangered Species in the United States*, 275 SCIENCE 445, 551 (1997).

[xxii] Jessica E. Jay, *Third-Party Enforcement of Conservation Easements*, 29 VT. L. REV. 757-58 (2005).

[xxiii] Mark L. Shaffer, J. Michael Scott and Frank Casey, *Noah's Options: Initial Cost Estimates of a National System of Habitat Conservation Areas in the United States*, 52 BIOSCIENCE 439 (2002).

[xxiii] *Id*. at 443.

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