# The Political Economy of Endangered Species Consveration

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One of the many definitions of politics is the authoritative allocation of values (Easton 1953). Economics is concerned with the allocation of scarce resources (Samuelson 1976). Combining these definitions, political economy is the authoritative allocation of scarce resources based on values. Environmental issues are subjects of disagreement arising from different perspectives and values. Recognition of these differences reveals choices for resolving issues and their allocation implications, such as who gets the benefits, and who pays the costs. The question policy-makers face is how a representative set of values can be integrated into environmental policy decisions. The conservation of species threatened or endangered by extinction is an example of a policy choice where contending values have been politically allocated. The remainder of this paper is based on a slide presentation, and in place attempts to describe copyrighted images such as political cartoons and the covers of books and magazines.

## Economic Activity and Biodiversity Conservation

As the book titled *Saving All the Parts: Reconciling Economics and the Endangered Species Act* (Barker 1993) implies, the policy choice mechanisms in the ESA reconcile economic issues in favor of saving protected species, with almost no consideration of economic consequences. The ESA begins with a statement about economics: "The Congress finds and declares that ... various species of fish, wildlife and plants have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation." (ESA sec.2). The law is designed to redress the perceived imbalance between economic activity and species conservation. The goal of the ESA is conserving biological diversity, which in its simplest terms is the variety of life and its processes, including the variety of living things, the genetic differences among them, and the communities and ecosystems in which they occur (Keystone Center 1991). Although there are other laws focused on specific organisms, such as the Marine Mammal Protection Act of 1972, or specific places, such as the National Forest Management Act of 1976, the ESA is the only cross-cutting law for protecting all biodiversity, everywhere that it is imperiled. Along with the

protection of human health and the development of sustainable resource management policies, the protection of biological diversity is one of three fundamental values of the environmental movement (Paehlke 1995). We are all somewhat poorer because no one knows *The Song of the Dodo* (Quammen 1996), and the ESA is to prevent additional species extinctions.

In his book *Saving America's Wildlife*, historian Dunlap (1988) wrote, "Science is supposed to guide wildlife policy, but the reality is that policy-making involved choices and values more than decisions of fact. Scientific findings can, after all, be interpreted in different ways." Case studies of ESA implementation in Idaho, with species such as peregrine falcon, grizzly bear, and salmon, can enlighten discussions about the difficult choices society faces. Each species indicates something about environmental quality, and the fulfillment of human desires and needs for goods and services inevitably trades off some environmental quality. Saving each species presents difficult choices for which tradeoffs can be considered. As a political cartoon illustrates, salmon conservation involves a tradeoff with inexpensive hydroelectric power. In the cartoon, several gigantic salmon are threaded through the gills with a powerline suspended from transmission towers. The caption reads, "BPA Salmon Stringer," after the Bonneville Power Administration, the agency that moves electricity from the mainstem dams on the Columbia River system to cities and factories.

The political scientist Tobin (1990) observed that "[T]he protection of biological diversity raises fascinating economic, political, and institutional issues that will not soon fade." The overall goal of the ESA is species conservation (Tobin 1990). The Act has its own terminology, and discussions of species conservation and habitat protection are enhanced by using the terminology appropriately (O'Laughlin 1997). The Act defines species very broadly: "Species includes subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife." The Act defines conservation very specifically to mean recovery of species: "Conservation means to use all methods and procedures necessary to bring any endangered or threatened species to the point at which such measures are no longer necessary." (ESA sec.3).

## Recovering Species and Protecting Ecosystems

The concept of the ESA is simple, with just three parts: identify, protect, and recover. Implementation is problematic. Few would argue with the conclusion of the National Research Council report of a team of biologists

on *Science and the Endangered Species Act* (NRC 1995) that biologists alone should identify species to be added to the "list" of species threatened or endangered with extinction. ESA implementation problems arise in protection and recovery. Even though biologists are expected to solve them, conservation problems are social and economic rather than biological (Schaller 1992). Solutions to biological problems lie in social, cultural, and economic systems (Machlis 1992).

Some of the most difficult ESA choices or tradeoffs arise from providing habitat for non-human species. The need for this is beyond question: "Habitat, the spatial dimension of species, is absolutely crucial to species survival. Habitat is the theater in which the network of interactions between the physical and biological worlds play out. . . The authors of the ESA recognized that species conservation must include strong provisions for habitat protection." (NRC 1995). The issues of where habitat is needed and how it should be managed are at the core of the problem, because solutions generally involve changing land-use activities. When done through government regulation, such actions are guaranteed to raise contentious issues. Protecting "critical habitat" is therefore one of the ESA's most controversial features. This is a subset of the species' range "essential for conservation" (ESA sec.4); i.e., necessary for recovery. Critical habitat designation requires drawing lines on a map and allows consideration of the marginal economic impacts of such designation. Although the ESA requires designation of critical habitat during the identification or "listing" process, this has been done for less than 15% of the almost 1100 listed species. Why so few? Critical habitat is viewed by one legal scholar as redundant (Bean 1983) and by another as an example of how the U.S. Fish & Wildlife Service uses its discretionary authority to write implementing regulations contrary to the intent of Congress (Houck 1993). The Fish & Wildlife Service is responsible for most ESA actions, except for conservation of salmon and a few marine species that are the responsibility of the National Marine Fisheries Service (O'Laughlin 1997).

Driven by the ESA, the Pacific Northwest region has become a laboratory for large-scale experiments in ecosystem-based management for species conservation. First, in 1993, was FEMAT, an acronym for the Forest Ecosystem Management Assessment Team assembled following President Clinton's directive to conserve the threatened northern spotted owl in federal forests in western Washington, western Oregon, and northern California. Because the spotted owl inhabits late successional forests, conservation issues include the preservation of "ancient forests" and subsequent reductions in timber harvests from federal lands throughout the region. President Clinton also directed federal agencies to

come up with an ecosystem-based management approach for federal lands in the Interior Columbia River Basin. This plan has been in the making since 1993 under the ICBEMP, or Interior Columbia Basin Ecosystem Management Project. Two resource management issues drive the ICBEMP effort. First and foremost is salmon conservation under the ESA. A distant second is deteriorating forest conditions in the region, including overstocked stands and fragmented landscapes. These are not unrelated issues. Much salmon spawning and rearing habitat is in forested areas that can be adversely affected by activities such as roads, timber harvesting, cattle grazing, and river-based recreation, and events such as landslides and wildfires. Compared to conditions a century ago, the area of federal forests in the Basin likely to experience lethal wildfire has tripled. Comparing the past 25 years to the 60 years preceding it, fire control problems have doubled, including fire suppression costs, firefighter fatalities per year, and high intensity fires. Such fires pose threats to ecological integrity, water quality, species recovery, and rural homes (Quigley et al. 1996).

Ecosystem management is mentioned in the ESA: "The purposes [of the Act] are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a means for the conservation of such endangered species and threatened species." (ESA sec.2). The means to this end is the listing of individual species (NRC 1995). The Act does not provide a means for ecosystem "conservation" but focuses on individual species. The ESA definition of "conservation" applies to individual species, not to ecosystems. The NRC (1995) team of biologists said, "The field of ecosystem management has also emerged as a significant field of applied biology . . . where our knowledge is still inadequate. . . A challenge for the future is to find more integrated mechanisms to sustain both species and ecosystems that do not depend on case-by-case management." The NRC (1995) also recognized that the ESA is species-oriented, and the only way ecosystems can be effectively protected under the Act is through rigorous pursuit of critical habitat protection. This is not happening because less than 15% of the listed species have designated critical habitat.

There are 20 threatened and endangered species listed in Idaho: 3 mammals, 3 birds, 5 fish, 6 snails, and three plants. There are almost 1100 listed species, with the overwhelming majority of the 500 species added since 1990 being plants. Many invertebrates such as snails are being added, and some fish species are still being listed. Relatively fewer birds, reptiles, and mammals have been added recently. These species are all subject to special protections (see O'Laughlin 1997, O'Laughlin

and Cook 1995). Recovery is the "ultimate purpose" of the ESA, according to Jamie Clark (1996), director of the U.S. Fish & Wildlife Service. The ESA requires the agency to develop and implement a recovery plan for each listed species, identifying the site-specific management actions that will achieve the plan's goal for "conservation" (i.e., recovery) and survival of the species. The plan must provide objective, measurable criteria which, when met, determine that the species may be removed from the list. The plan must include time and cost estimates to achieve the goal and intermediate steps toward the goal. Although each listed species must have a recovery plan, only about half of them do.

**A Question of Balance**

The ESA presents a fundamental social dilemma. As Yaffee (1991) put it, "The endangered species problem is principally a land-use problem . . . [requiring] collective decision making in a society that tends to be suspicious of planned change." By design, the Act favors species conservation above all else. The ESA is based on the Noah principle, whereby a supreme commander — God, in Noah's case; the federal government in ours — dictates that all species must be saved from extinction. Noah has no choice. He must save them all. The book *Noah's Choice: The Future of Endangered Species* (Mann and Plummer 1995; see review in this journal by Tobin 1996) builds a case for creating a choice mechanism. The need for this is stated simply by conservation biologist J. Michael Scott and his colleagues: "Regardless how we feel about these [endangered] species, social, economic, and political realities preclude saving all of them." (Scott et al. 1991). This theme is depicted on the cover of the *Atlantic Monthly* (January 1992). Under the title "Playing God: Why we shouldn't try to save every endangered species" is a caricature of Noah pointing toward a pirate-style gangplank on the ark as several pairs of animals watch quizzically. The problem is illustrated by two panels in the cover story (Mann and Plummer 1992). The first pictures the front of Noah's ark at sea, with a pair of butterflies about to alight on the prow. The butterflies have touched down in the second panel, upsetting the ship's balance to the point where it is about to sink bow-first from the additional weight of the butterflies.

People react differently to endangered species conservation problems. For example, the *Spokesman-Review* of Spokane, Washington, ran an opinion piece by a staff copywriter titled, "No compromising on Endangered Species Act: the destruction of species imperials mankind." Within weeks the newspaper's editorial board rebutted with, "Endangered Species Act ignores the big picture." (*Spokesman-Review*

1991). These opposing values were also captured in a *Spokesman-Review* political cartoon featuring the "Clash of the Species." Here an exasperated cigar-chomping bulldozer operator is stopped in his tracks by a wood nymph surrounded by her non-human companions. As yet another example, instead of the traditional "Man of the Year" covers story to close out 1988, *Time* magazine designated Earth as the "Planet of the Year." Under that headline, the cover photograph was a globe wrapped by the artist Cristo in transparent plastic and bound with twine. Under this was the caption "Endangered Earth." Wrapped up in this package of concerns was an article with a strongly worded value statement: "Man must abandon the belief that the natural order is mere stuff to be managed and domesticated and accept that humans, like other creatures, depend on a web of life that must be disturbed as little as possible." (*Time*, January 1, 1989). This biocentric view is not a universal value (Eisgruber 1993). A parked firewood truck observed in Wallace, Idaho, displayed a bumper sticker expressing different values: "Endangered Species Don't Pay Taxes or Wages." At the bottom in much smaller type was an address and telephone number for a group called Endangered Westerners, Springdale, Washington.

If it is appropriate to attempt to balance biological considerations of species conservation with economic concerns, where can balance be found? The book *Balancing on the Brink of Extinction: The Endangered Species Act and Lessons for the Future* (Kohm 1991) focuses on the need to rescue species from the precipice before they lose their balance and tumble into the extinction chasm. That is one meaning of balance. Another perspective from the book *Balancing Act: Environmental Issues in Forestry* (Kimmins 1996) is more concerned with the environmental value of sustainable resource management than biodiversity, but nonetheless instructive. (The author is a Canadian forest ecologist, and Canada does not have an endangered species law comparable to that of the U.S.). Balance depends on information from different sources.

The ESA does not seek balance. The four individuals who wrote the law consciously decided not to provide a balancing mechanism (Mann and Plummer 1995). As a result, ESA "balance" is reflected in two political cartoons about spotted owl conservation. In one, a log labeled "Ancient Forests" balances as a teeter-totter across a standard. One end is up, where a chainsaw-carrying logger sits astride the log. The other end is down, where the spotted owl and other forest fauna perch on the log. The spotted owl says, "Thanks, fellas. This adds a little more weight to the case." That is one type of balance the ESA provides. Another ESA "balance" is depicted in a cartoon with four quadrants. In the upper left is an owl on a limb, captioned "endangered"; in the upper right is a

logger with a chainsaw, captioned "endangered"; in the lower left is a thick document identified as the U.S. Forest Service Spotted Owl Report by Jack Ward Thomas, captioned "endangered"; in the lower right are two men. One is orating and pointing his finger in the air, the other stands on a soapbox holding a large banner labeled "politics" in one hand and a tiny flag in the other. He is standing on one foot, obviously trying to maintain his balance. This quadrant is captioned "thriving." The message seems obvious, but may be worth interpreting. Conservation actions, biological science, and economic activity are endangered, while the politics of the situation prevail. When values clash, our system of government relies upon elected officials to decide what needs to be done about public problems. Neither biologist nor economists nor any other experts are empowered to make public policy decisions about values.

**Solutions and Choices**

Although some political cartoons convey their messages with a sense of humor, they are nonetheless sobering. Species conservation cannot be taken lightly, for the consequences are irreversible. The fate of these species is literally in our hands. Yet we must realize there are choices. Salmon conservation decisions need to take into account a range of issues. Some of these are generally identified as the "Four H's": habitat, harvest, hatcheries, and hydropower. The climatic conditions that affect ocean conditions also are a major consideration, but beyond human influence. A comprehensive and integrated view of these factors is needed.

The covers of three *Journal of Forestry* issues (September 1997, July 1997, and April 1982) portray some useful interrelated ideas. One cover superimposes its key points on a picture of a forest stream: "Perspectives on Land Use, Forest Health, Water Quality." Somehow these perspectives need to be integrated in decision processes. Another cover superimposes "The Law and the Forest" on another scenic forested stream. The prevailing law in all forests is the ESA, supplemented by biodiversity protection in the national forests (Coggins and Glicksman 1996, Montgomery and Pollack 1996). The dominance of biodiversity concerns in the law leads to the question posed in 1982 on the third cover. With a picture of a spotted owl appears the question, "The next snail darter?" We now know the answer is yes.

The snail darter is a small fish with a limited range in the hills of Tennessee, and conservation of it in the mid-1970s conflicted with an almost-completed hydropower dam in the Tennessee Valley Authority system (see Mann and Plummer 1995). This was the first ESA case

heard by the United States Supreme Court, which ruled that "Congress intended endangered species to be afforded the highest of priorities. . . The plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost." (TVA v. Hill 1978). In response, Congress created the "God Squad" as a new feature of the ESA (sec.7), empowering high-level government officials to exempt a project from the ESA. The committee met and because there were other alternatives for meeting the objectives of the dam project did not exempt the dam from the ESA. Congress responded by writing special legislation to complete the dam in spite of the ESA. Since then additional populations of snail darters were discovered, and the status of the species "downlisted" from endangered to threatened.

The spotted owl was the second ESA case heard by the Supreme Court, and the God Squad met for the second time to consider the petition from the U.S. Bureau of Land Management to exempt from the ESA some timber sales on 4,400 acres federal lands in spotted owl territory. The committee decided to allow about half of the timber sales to proceed under an exemption, but not the other half. All of these sales were later halted by the chosen "Option 9" alternative from FEMAT, now called the Northwest Forest Plan.

Is economic analysis appropriate in the ESA? The reply must be yes, because it is allowed in a very limited way in three places: 1) critical habitat designation, 2) "God Squad" deliberations, and 3) the enumeration of recovery plan costs. What can economic analysis contribute? A mechanism for developing information upon which to make informed choices. There is some literature on the subject. O'Laughlin and Cook (1995, Chapter 13) reviewed Hyman and Wernstedt (1991), Eisgruber (1993), and Polasky (1994). Other positive perspectives on the role of economic analysis in species conservation are works by Harrington (1981), Souder (1993), Scott et al. (1995), Seasholes (1995), Montgomery and Pollack (1996), and Shogren (1997).

Where or when should economic analysis be used in ESA processes? It is not appropriate for making decisions about which species need the special protection of the ESA. However, economic analysis is currently allowed in decisions for designating critical habitat, which is currently part of the listing process. Perhaps that explains why so few species have designated critical habitat. Is economic analysis appropriate for guiding protection actions? This is debatable, but habitat protection translates into land use, and economic analysis provides useful information to guide land-use decisions. Who should do the economic analysis? One would hope economists would do the work. However, in

the case of the spotted owl, two federal biologists argued that accommodation for socio-economic concerns occurred at every step of ESA implementation (Thomas and Verner 1992). An economist argued that these were "cursory considerations of social and economic impacts, with no input from other disciplines nor any attempt to balance biological and social and economic risks." (Beuter 1991).

Salmon conservation is the driving force behind the Interior Columbia Basin Ecosystem Management Project. Ecosystem management is urged by the ESA, but because the means are not identified, executive agencies have had to create the means. What will happen next with this large-scale experiment to save salmon? The first salmon listing in the region was in 1990, a recovery plan was drafted in 1995, yet at this writing in mid-1998 there is no approved recovery plan, and none in sight. The snail darter and spotted owl cases are instructive, but there is no guarantee history will repeat itself. If it does, expect a lawsuit to wind its way through the system and reach the Supreme Court, and/or expect one of the agencies or states affected by the operation of dams to petition for an exemption from the God Squad. A larger question with national implications appears on the cover of the *Journal of Forestry* (August 1994): "Ecosystem Management: Will It Work?" The journal has several thoughtful replies (see, among others, Salwasser 1994, Gerlach and Bengston 1994), but the cover itself sends a message. On a caricature of the planet are intermingled open spaces, meadows, forests, waters, and marshes, with skyscrapers and factories on the horizon. Throughout the illustration are various types of wildlife, and people engaged in various activities, including fishing, boating, hiking, logging, and carrying protest placards. There are approximately the same number of wildlife and people. In my opinion, the composition seems harmonious and balanced. A large-scale experiment in ecosystem-based management is going on now in the Interior Columbia Basin. Whether harmony and balance will result is an open question. Observers of this effort are reminded simply that ecosystem management is two words.

"Ecosystem management" defies simple definition and raises many operational problems. As Oregon environmental activist Andy Kerr put it, when he hears the term ecosystem management, he thinks about the ecosystem, while he says others think about management. The struggle between these views and values is reflected in the range of ICBEMP alternatives. The preferred alternative in the draft environmental impact statement is active management. Another alternative is passive management. Some environmentalists reject both of these options, and argue for no management on the federal lands. The potential degradation of habitat for non-human species is an important part of

such value-based arguments.

Politics is the authoritative allocation of values (Easton 1953). Although politicians and citizens alike often argue that politics should not interfere with public lands management, management decisions of government are always political (Huffman 1994). Citizens who argue otherwise are naive, and politicians who argue otherwise are disingenuously trying to trump the claims of other political interests (Huffman 1994). These concluding observations may seem outrageous to some people, but they merely reflect the way the political economy of the environment seems to work.

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