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24 Renewing the Conservation Commitment

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As we write this in early 2005 there are several ESA-related pieces of legislation pending before Congress. Most of the proposed legislation is championed by Republican leaders from western states, who promise to strengthen the use of science or ensure fairer treatment of private landowners. It has become a perennial drama on the American political stage: “conservatives” rally to rein in a law that they believe has reached too far and “conservationists” mobilize to defend the law that they believe offers the best hope for protecting biodiversity from relentless economic exploitation. There is much posturing, finger pointing, and, ultimately, political stalemate (Barry 1991).

With the current political balance in the nation’s capital, ESA reform is suddenly a real possibility. Idaho senator Mike Crapo, Rhode Island senator Lincoln Chafee, California representative Richard Pombo, and others have announced their intent to forge a bipartisan congressional coalition to achieve ESA improvement by moving critical habitat designation into recovery planning, strengthening the role of the states, and expanding incentives for habitat conservation on private land. Given these developments, it seems especially timely and important to synthesize and reiterate ideas and recommendations from the three-year Endangered Species Act at Thirty project. The authors in this volume and its companion, *The Endangered Species Act at Thirty: Conserving Biodiversity in Human-Dominated Landscapes*, have many specific constructive recommendations that fit within three recurrent themes: the role of the federal government in species conservation, the emergence of new actors and institutional relationships, and the limits of the ESA as a tool for conserving biodiversity.

Theme 1. Implementation of the Endangered Species Act Falls Short of the Statute's Intent

All participants agreed that steady federal leadership, funding, and technical expertise are required to implement coherent species protection and recovery strategies. They highlighted numerous examples of federal-state-private partnerships that were making a difference on the ground. They also agreed that inconsistent federal policies have hindered recovery actions and diminished private-sector interest in conservation partnerships (Bean, this volume; Swain, this volume). While the act has prevented the extinction of hundreds of species that would have disappeared without intervention, and while protection under the act has improved species' chances for recovery, there are obvious flaws in the federal government's implementation of the law:

- The entire program is chronically and grossly underfunded (Miller et al. 2002). One result is that the implementing agencies are operating with a shortage of trained staff.
- Implementation is too vulnerable to the political whims of the congressional and administrative branches of government (DeShazo and Freeman, this volume).
- The listing process is too late (Wilcove et al. 1993) and too lengthy (Greenwald et al., this volume) such that the agencies are letting population size and habitat decline too far before listing species, leaving species' chances of recovery low even with extremely lengthy and costly recovery measures.
- Recovery programs have perpetuated biologically unrealistic expectations of rapid species recovery.
- Conservation opportunities are being lost to unnecessary bureaucratic delays, costs, and rigid adherence to doctrine (Swain, this volume; Doremus, this volume).

The Listing Process Is Broken

Effective species conservation under the ESA depends fundamentally on a timely, scientifically credible, and unbiased listing process. All agree that the current process—which averages eleven years between initial consideration and final listing, is driven by litigation, and increasingly condemns species to warranted-but-precluded status—is far from ideal. The federal list represents a diminishing percentage of actual at-risk species, perhaps 15–20 percent at present, and an increasing fraction of species are listed as endangered versus threatened (Scott, Goble, et al., this volume). In short, the agencies are falling farther

and farther behind the actual conservation need (Master et al. 2000; Scott, Goble, et al., this volume).

A number of administrative and legislative reforms to the listing process have been proposed that would variously increase funding for listing, create more explicit biological guidelines, expand the role of state agencies, limit administrative listing moratoria, and limit litigation. Greenwald et al. (this volume) go so far as to recommend mass listing of at-risk species by an independent scientific body such as the National Academy of Sciences; Burnham et al. (this volume) also recommend having listing and delisting decisions made by the academy.

Absent significant funding increases, the agencies may need to better prioritize species for listing. Currently, agency priorities are driven by litigation and crisis management. Instead of this "worst-first" mode of operating, conservation efficiencies might be achieved by focusing on species in hotspots of rarity and endangerment, on keystone species, or perhaps on umbrella species whose listing could benefit a large number of other species (J. Cochrane, pers. comm.).

Critical habitat designation can cause extensive and expensive delays. Although the agencies maintain that critical habitat designation adds little protection (Clark 1999; Bruce Babbitt remarks, November 13, 2003; Craig Manson remarks, November 13, 2003), empirical analyses contradict these assertions (Greenwald et al., this volume). The benefits of critical habitat designations on species recovery continue to be debated and no consensus emerges from the analyses and discussions in this project. Similarly, there was no consensus on whether it would be advantageous to designate critical habitat at the time the recovery plan is drafted. At a minimum, implementation of critical habitat will require increased funding. The process would also benefit from closer cooperation with state agencies in compiling and analyzing available information and from increased analytical rigor and consistency in critical habitat delineation (Ruckelshaus and Darm, forthcoming; Reed et al., forthcoming; Scott, Goble, et al., this volume). These steps are unlikely to reduce the conflicts over critical habitat designation but would at least increase the credibility of the final products. To reduce conflicts with private landowners, the federal government should consider expanding financial incentives such as tax reductions or habitat conservation and improvement funds (Shaffer et al., this volume; Parkhurst and Shogren, this volume).

Recovery Does Not Happen Overnight

The recovery program is also underfunded by a factor of two to five (Miller et al. 2002), and the limited funds available are distributed inequitably due to

political and social pressure as well as agency priorities (DeShazo and Freeman, this volume; Kareiva et al., this volume; Suckling and Taylor, this volume). Currently less than 0.5 percent of listed species account for over 50 percent of state and federal recovery expenditures (Kareiva et al., this volume). A systematic analysis of all currently listed species in order to identify and invest in species that could be recovered at relatively low cost could improve recovery statistics (M. Bean, pers. comm.). Ideally, such prioritized investments would come from a new “special opportunities” recovery fund to avoid diverting existing funds in a way that would amount to triage for the species at greatest risk.

There are biological limits to the rate at which species with small populations and limited habitat can be recovered. It is therefore reasonable to expect the number of recovered species to be a small fraction of those listed. Citing the small number of delisted species as evidence of a failed policy is disingenuous absent full funding and reference to the relevant biological time frames (Doremus, this volume). The public must be better informed with realistic cost estimates and reasonable expected time scales for recovery.

Even when recovery goals are met, the risk factors that led to a species’ decline are often not adequately mitigated (Burnham et al., this volume) and agencies are thus understandably reticent to delist the species. Downlisting and delisting might be expedited through the creation of “recovery management agreements” between the federal agencies and local conservation management entities that have the regulatory authority to ensure that risk factors are meaningfully addressed and that the species continues to be managed for recovery (J. M. Scott et al., forthcoming). Such agreements would acknowledge that few listed species can be delisted without assurances of continuing conservation management.

For a significant subset of listed species, irreversible habitat degradation, exotic species, and climate change make it unlikely that they can ever be fully recovered and delisted. Instead their continued existence will require ongoing, active conservation management. Policy makers and the public must be made aware of this reality, perhaps by creating a new ESA status to recognize species that may never achieve full recovery. These “conservation reliant species” would include wild populations that are self-sustaining as long as ongoing management actions (e.g., exotic species control, scheduled water releases from dams, controlled burning) are taken on their behalf (J. M. Scott et al., forthcoming).

Based on experience to date, successful recovery often requires new institutional models in order to procure long-term, cross-agency and cross-jurisdictional management and funding. Currently, recovery planning is not well coordinated with other ongoing habitat conservation and management efforts, even

in obvious cases such as integrating the national wildlife refuge system into the design of recovery plans (Davison et al., this volume). Better interagency coordination could also leverage additional federal funds for species recovery. For example, federal habitat restoration programs authorized by the Farm Bill and the Partners for Fish and Wildlife Program could be deployed to improve the chances for more rapid and lasting species recovery. Interagency coordination is easier said than done, but there are some highly successful recovery programs (e.g., the Willamette Valley/Puget Trough Cross-Program Recovery Effort) that could serve as role models for others to emulate (Clark and Wallace, this volume; Environmental Defense 2004).

Conservation Opportunities Are Being Lost

Almost every discussion of ESA reform begins with the verb “streamline,” whether addressing conservation incentives, listing, recovery planning, permitting, or delisting. Federal streamlining is not always feasible or desirable (Doremus, this volume), but virtually all stakeholders and legal analysts in this project agreed that bureaucratic complexity is undermining opportunities for effective conservation. Ironically, a number of the ESA reform bills currently before Congress actually increase the process rather than streamline it.

Opportunities for administrative streamlining include reduction of ambiguity and redundancy between the administering agencies (NOAA and USFWS), elimination of unnecessary multiple layers of administrative review, and better coordination among federal and state conservation programs in terms of priority setting and funding (Bean, this volume; Swain, this volume; Burnham et al., this volume). Unfortunately, federal programs often operate at cross-purposes in the same locations because of conflicting policies and priorities for subsidizing habitat conservation versus subsidizing habitat conversion through agriculture, water, and transportation programs. Reconciling these deeply embedded policy conflicts will take more than coordination and instead would require a hard look at social priorities, program costs, and comparative benefits.

As emphasized by Goble (forthcoming), Yaffee (this volume), and Clark and Wallace (this volume), the administration of the ESA has shifted from a top-down, prohibitive regulatory approach to a de facto permitting system where resolution is increasingly achieved by negotiation, conflict resolution, and compromise. This requires the federal agencies to be more flexible, opportunistic, and responsive to other actors both in public and private sectors. It also requires involving state and local governments and the public early and throughout the ESA decision-making process (Behan, this volume).

Decision Making Can Be Improved with Better Information

The Endangered Species Act at Thirty project did not focus on the role that science plays in the implementation of the act since the topic has been the subject of several previous studies (National Research Council 1995, 2003, 2004a; Hoekstra et al. 2002a; Boersma et al. 2001). Science plays a central role in determining the status of species for listing, reclassification, and delisting decisions (ESA sec. 4(b)(1)(A)), in designating critical habitat (ESA sec. 4(b)(2)), and in making jeopardy determinations during consultation (ESA secs. 7(a)(2), (c)(1)). Each of these decisions is to be made “on the basis of the best scientific and commercial information available.” Science also plays a key role in recovery planning.

Despite the fact that there is little in the record of the act’s implementation to support claims of unsound science, the use of science in ESA decision making has recently come under intense criticism. Several bills pending in Congress call for changes in the act to promote “sound science.” Such calls date back at least to 1978 and some commenters interpret these proposals as an attempt to impose additional scientific hurdles to regulatory action (Doremus 2004; Wagner 2003). There is, of course, always room for improvement (Doremus, this volume; Ruckelshaus and Darm, forthcoming; Waples, forthcoming; Reed et al., forthcoming; Hoekstra et al. 2002b; Boersma et al. 2001). During this project, the most frequently voiced concerns focused on the need for better data on species status and trends (Scott, Goble, et al., this volume; Reed et al., forthcoming; Waples, forthcoming), the need for more scientific transparency in reporting the methods and assumptions underlying listing decisions, determinations of critical habitat, establishing recovery goals, and the design of habitat conservation plans (Ruckelshaus and Darm, forthcoming), and the need for greater interaction between scientists and managers in identifying key uncertainties and information needs. There were several calls for increased rigor and clarity in defining recovery, jeopardy, harm, adverse modification, and other terms that are in the everyday lexicon of the act’s implementation. In addition, it is also true that we are making decisions based on woefully incomplete information. Biodiversity on private lands in the United States is not systematically surveyed or monitored, and information is especially weak for rare and endangered species because they are difficult to survey and often little studied. Obviously, investing in better biological surveys can improve the reliability of listing decisions.

These problems, however, generally reflect the substantial uncertainties both as to facts (e.g., the population size of an at-risk species) and as to the underlying science (e.g., what is the taxonomic status of a species) (National

Research Council 1995). While both types of uncertainties could be reduced with enough time and money, the ESA reflects a different fundamental policy choice: decisions are to be based on the best data available. Congress chose not to study species into extinction.

Theme 2. Successful Conservation Institutions and Relationships Are Emerging

The Endangered Species Act is a powerful young law with broad impacts on both the implementing agencies and the regulated community, and the social and legal impacts of the act are still evolving. The act has precipitated a wave of legal and administrative reforms at all levels of government, including the enactment of state endangered species acts (Doremus, this volume), incorporation of natural resource planning into local land use decision processes (J. M. Scott et al., forthcoming; Tarlock, this volume), and new kinds of conservation partnerships and management systems (Yaffee, this volume; Rodgers, this volume). Meaningful public involvement has proven critical in example after example (e.g., Behan, this volume; Yaffee, this volume; Clark and Wallace, this volume). These changes in the administration of the act and in related governance structures are being sorted out in conservation “experiments” ongoing in many parts of the country. Based on results to date, several authors in this volume conclude that successful conservation and recovery programs only emerge through local engagement, creative conflict resolution, and problem solving. They suggest that attempts to fix the act via significant top-down ESA reform are ill-advised and premature at best (Clark and Wallace, this volume; Yaffee, this volume; Burnham et al., this volume; Niles and Korth, this volume).

Many ESA-induced institutional changes have been in response to the large spatial scales required for species conservation and recovery. Although localized restoration and recovery efforts continue to play an important role in endangered species conservation, most single-species and multispecies habitat conservation and recovery programs must operate over large areas—thousands to millions of acres—invariably spanning public and private lands and multiple jurisdictional boundaries. Today’s showcase habitat conservation programs (e.g., Southern California’s Natural Communities Conservation Planning Program, Pima County’s Sonoran Desert Conservation Plan, Wisconsin’s Karner Blue Butterfly Habitat Conservation Plan) have involved creating and maintaining new institutional relationships in order to integrate traditionally segregated local public land and water planning, private land management systems, and state and federal natural resource management. These innovative programs require a willingness on the part of federal and state agencies to take risks, to be more forthcoming with data and information, and to relinquish some

authority and funding to other entities. How far the federal government can and should go in this direction is not clear. As noted by Doremus (this volume), "Striking the balance between flexibility and accountability will be the key implementation challenge for the next generation of the ESA."

An Expanded Role for the States

It was telling that in their keynote remarks in Santa Barbara, Idaho governor Dirk Kempthorne, former secretary of the interior Bruce Babbitt, and assistant secretary of the interior Craig Manson all called for more use of cooperative agreements with the states. Since 1973, the role of states has expanded continuously but still falls short of state roles under similar cooperative federalism provisions in the Clean Water Act (Act of June 30, 1948). To date, however, the states have been reticent to establish regulatory programs that are as protective as the ESA (Goble et al. 1999), a basic requirement of cooperative federalism.

There are strong arguments in favor of an expanded state role (Niles and Korth, this volume). States have the governmental structures and expertise in land use planning necessary to conserve habitat. For nonfederal lands, state personnel are usually more familiar with the landowners, the affected species, and the field conditions and thus are better able to design successful conservation strategies. State funding for endangered species already exceeds that of the federal government and is expanding further through federally funded state wildlife grants and landowner incentive programs. Most states now have endangered species programs (Goble et al. 1999; Niles and Korth, this volume) and all maintain heritage databases on species of special concern. Many states are developing wildlife conservation plans as a requirement for continued state wildlife grants, and these plans present an important opportunity to identify, prioritize, and conserve vulnerable species and their habitats before they become endangered (Shaffer et al., this volume). If fully implemented, state conservation plans provide an opportunity to get ahead of the extinction curve.

There are also reasons to be cautious in transferring authority to the states, notably potential conflicts of interest in devolving ESA authority to the same jurisdictions whose land- and water-use decisions often create the problem (Clark and Wallace, this volume). Furthermore, states have shown little propensity for interstate coordination of conservation efforts, whether it be in jointly maintaining lists of species and communities of concern, setting regional conservation priorities, or implementing status and trends monitoring. Perhaps a good starting point for state-led management and recovery programs would be the sizeable set of narrowly distributed species whose distributions are largely or wholly confined to one or two states.

Although the appropriate balance of federal and state authority is a matter

of continuing debate, most commenters agree that states should be consulted earlier in the ESA process and should play a greater role in recovery planning and implementation. Expertise, data, and information should be freely shared among state and federal agencies. An expanded role for the states will certainly require increasing federal money to the states, perhaps by a significant increase in the section 6 Cooperative Endangered Species Conservation Fund.

Private Landowners Carry Much of the Conservation Burden

With 50 percent of listed species having 80 percent or more of their known occurrences on private lands, it is obvious that the act must also be responsive to the capabilities and competencies of private landowners.

Most observers agree that habitat conservation plans are an important tool of the ESA but that as currently administered they are too costly and complex for small individual property owners. A number of participants called for regional and state conservation plans to prioritize areas for conservation and offsite mitigation banking, thereby reducing piecemeal and often ineffective onsite mitigation on small landholdings (Shaffer et al., this volume; Thompson his volume; Fox et al., forthcoming). The Southern California Natural Communities Conservation Planning Program serves as an early model of this kind of approach.

There was also consensus that incentive-based approaches promoted by former interior secretary Bruce Babbitt, such as safe harbor agreements, candidate conservation agreements with assurances, conservation banking, and new financial assistance programs that provided funds to states and private property owners, were steps in the right direction. Such programs, however, need to be made more accessible and less costly to participating landowners (Bean, this volume; Parkhurst and Shogren, this volume). Large corporate landowners can afford in-house legal and biological experts to help navigate the labyrinth of ESA-related processes and programs. Individual ranchers, farmers, small developers, and other private landowners who lack this capacity are understandably threatened by and frustrated with the time and costs of ESA compliance, are wary of any federal ESA-related programs, and are unlikely to be attracted by cumbersome incentive programs (Swain, this volume; Thompson, this volume).

Private landowners are also confronted with a myriad of non-ESA conservation programs operated by state and federal agencies and nongovernmental organizations (Swain, this volume). Information about these programs should be organized and presented in a way that is easier for individual owners to access and understand. Creation of “one-stop shopping” Web sites and offices where landowners could obtain information on the habitat and species conser-

vation programs available from all agencies would help to relieve landowner frustration.

There is a profound lack of data and information on the cost of the ESA to the nation's private lands, whether it be the cost of agency enforcement, landowner compliance, or incentive systems (Parkhurst and Shogren, this volume; Sunding, forthcoming). The examples provided to this project suggest that there are multiple direct and indirect costs and benefits of the ESA that need to be better quantified, documented, and analyzed in order to design cost-effective incentive programs for private landowners.

Theme 3: The ESA Should Be the Last Rather Than the First Conservation Bulkhead

Critics of the Endangered Species Act often cite the long and growing list of endangered species and the small number of recovered species as indicators of a failed policy, but these trends are symptomatic of a more fundamental problem: we are not making choices at the local, state, and federal levels that could prevent species from becoming endangered in the first place. Tinkering with the ESA will not solve this problem.

This is not to say that we cannot operate the ESA more proactively. Candidate conservation agreements with assurances are a move in that direction but thus far have seen limited use (Thompson, this volume). Adding an "at-risk" category to the ESA that would precede listing a species as threatened or endangered might serve as an earlier-warning system to help guide proactive conservation (Paul Weiland, pers. comm.). Increased funding for measurement and monitoring could help to better ascertain the status of at-risk species so that we might intervene earlier. Systematic statewide and regional conservation planning can prioritize areas for species protection and recovery (Shaffer et al., this volume; Behan, this volume; Swain, this volume) and help design conservation mitigation banks and other incentives for more robust, market-driven conservation solutions (Fox et al., forthcoming; Heal, forthcoming).

In practice, however, waiting until species are at risk before acting to conserve them is an end game that leaves few options; all too frequently, the final moves are limited to setting aside the few remaining bits of habitat to be managed as biological reserves (Rosenzweig, this volume). This approach has become politically and economically untenable as the United States continues to expand; a projected 60 million new housing starts by 2030 promises additional large increases in the number and distribution of at-risk species (Scott, Goble, et al., this volume). Although we can gain efficiencies using multispecies reserves, eventually rapid climate change and the large area requirements of

most species make biodiversity in all but the largest reserves dependent on surrounding nonreserved areas (Rosenzweig, this volume; Root et al. 2003).

Ultimately, the Endangered Species Act and its derivative reserve-based conservation may slow but cannot prevent the accelerating, pervasive erosion of native species and ecosystems from the American landscape. If we want to restore and maintain the biota of the United States and the benefits that biodiversity provides, we must look beyond reserves and find ways to accommodate more native species in the areas where we live, work, and recreate. A new land ethic is needed in which the responsibilities of private property are acknowledged (Freyfogle 2004; Leopold 1949).

There are encouraging examples in this volume and elsewhere showing that working farms, ranches, residential, and even urban areas can be part of the conservation solution (Thompson, this volume; Rosenzweig, this volume; Beatley, forthcoming). Similarly, freshwater and marine ecosystems can be restored and managed for sustainable exploitation without jeopardizing non-market species (Armsworth et al., forthcoming). To be sure, most programs and projects are still experimental and many have been motivated by the threat of listings under the ESA (Yaffee, this volume; Doremus, this volume), but economic reasoning and aesthetic and conservation values have also been significant forces for change (Brosi et al., forthcoming; Heal, forthcoming; Norton, forthcoming; Callicott, forthcoming).

Reconciling the needs of humans and other species is a daunting challenge requiring scientific research to better understand species requirements, reeducation of an American population conditioned to lifestyles that leave little room for other species, new market incentives, political will, and leadership. But based on the chapters presented here, such changes are imaginable. In another thirty years, perhaps the ESA will have assumed its proper role as the final conservation option, and practicing sustainability will be the first bulkhead of biodiversity conservation in America.