

# Endangered Species UPDATE

*Including a Reprint of the latest USFWS  
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**School of Natural Resources and Environment  
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***In this Issue*** Conservationists and  
Regulated Interests  
Pursue ESA Reform

Strengthening Amendments  
to the Current ESA

Does NEPA Apply to  
Critical Habitat Designations?

Involving Local Citizens in  
Species Conservation

*Editor's Note: The merits of the Endangered Species Act have been intensely debated in the 104th Congress, stalling efforts to reauthorize the Act. The following two articles discuss two different perspectives on current reauthorization efforts. Chris Williams emphasizes a need to strengthen the Act by incorporating concerns of all stakeholders. He highlights the efforts and outcome of a working group made up of conservation organizations and regulated parties. Heather Weiner describes the proposed Endangered Natural Heritage Act, suggesting changes that would strengthen the scientific basis of the current Act.*

## **Finding Common Ground: Conservationists and Regulated Interests Pursue ESA Reform Together**

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Christopher E. Williams

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The Endangered Species Act (ESA) suffered blistering rhetorical and legislative attacks in the 104th Congress. It has thus far survived intact, but not unscathed. Lacking a vote to reauthorize its funding and, in effect, provide congressional reaffirmation of its provisions, the ESA is vulnerable to amendments and budget riders calculated to cripple its key provisions. One example was the moratorium on the listing of new endangered and threatened species. Proponents rationalized the moratorium as a "time-out" to listings while the Act was being reconsidered in the reauthorization process. Opponents of the ESA in Congress use the Act's uncertain status as an increasingly effective debating point when arguing for ever deeper cuts in the budget for endangered species programs. The continuing uncertainty regarding the Act's future leaves the U.S. Fish and Wildlife Service and the National Marine Fisheries Service unsure of their mandate and thus vulnerable to a host of political pressures. Service personnel unofficially acknowledge that the agencies are often reluctant to act boldly to conserve endangered species without the clear authority of a reauthorized ESA.

Moreover, the logjam of ESA reauthorization prevents improvements to the Act that are vital to fulfilling its mandate to conserve endangered and threatened species. The successes of the ESA are well documented and rightly celebrated. In some respects, however, the Act is failing its mission. Many listed species are continuing to decline. Habitat loss, on private land particularly, continues at an alarming rate. The

Act's "emergency room" approach to conservation largely ignores the potential benefits of preventing the decline of species before the emergency room becomes necessary. The ESA proscribes behavior that is destructive to species and habitat, but provides few incentives to engage in management activities that are important to successful species conservation.

The current state of play of the reauthorization does present an important opportunity, but perhaps not the one that many conservationists perceive. Though many challenges to the Act by the 104th Congress have been curbed, it does not necessarily follow that the political ground is fertile for an ESA amended on terms dictated by the environmental community. In the 103rd Congress, for example, a majority perceived as sympathetic to environmental causes controlled Congress and the White House. ESA supporters held the reins of the key committees, the environmental lobby was perceived as one of the strongest in Washington, and public opinion polls indicated strong support for the Endangered Species Act. Still, Congress failed to reauthorize the Act, as opponents of the law mustered enough strength to block legislation backed by conservationists. Efforts by both sides of the debate have come to nothing and it is apparent that neither conservationists nor regulated parties can reauthorize the ESA based solely on their own agenda.

Recognizing this, the Center for Marine Conservation (CMC), Environmental Defense Fund (EDF), The Nature Conservancy (TNC), and World Wildlife Fund (WWF) decided to adopt an

entirely new strategy. They agreed to seek moderate voices in the regulated community who would be willing to take part in a dialogue about the reauthorization. The four conservation groups entered discussions with the following groups: National Realty Committee, an organization of major landowners, developers and financial institutions; the Western Urban Water Coalition, representing urban water utilities throughout the west; the Georgia-Pacific Corporation; Plum Creek Timber Company. The Western Governors Association and the International Association of Fish and Wildlife Agencies, representing state interests, also participated.

After months of negotiations, the working group produced a series of proposals that address many of the concerns raised by the regulated community, and significantly advance conservation of endangered, threatened and declining species.

### **Summary of Proposals**

Before describing the ESA working group's reform proposals, it is instructive to first point out what is not included. There is no change to the basic prohibition against take, no provision for private property takings compensation, and no abandonment of the goal of species recovery, all prominent features in previous industry-backed legislation. Instead, the proposals reaffirm and expand the ESA's commitment to conservation by making recovery plans part of the affirmative obligation of every federal agency, and extending the duty of federal agencies to avoid

jeopardy to species from U.S. activities overseas. In addition, the working group proposals encourage the type of habitat-based planning long advocated by leading conservation biologists, provide monetary and regulatory incentives for private landowners to participate in conservation efforts, and establish programs to stop the decline of species before they reach the desperate state of endangerment.

### Habitat Based Planning

Central to the working group's reform proposals is a provision for Natural Systems Conservation Plans (NSCPs). Building on the promise of multi-species planning efforts underway in California and Florida, this provision creates a legal and procedural framework for habitat-based planning to maintain, protect, restore and enhance ecosystems, natural communities, and habitat types. An initial planning agreement, entered into by the Secretary of the Interior, the appropriate state agency, and the prospective parties to the plan, will identify a handful of species that will serve as "indicators" of the health of the ecosystem, natural community, or habitat type. The planning agreement will also identify "specialized species," those endangered, threatened, or vulnerable species whose conservation needs are not adequately represented by indicator species.

The Secretary of the Interior will approve an NSCP if he determines that the plan provides reasonable certainty that the ecosystems, natural communities, or habitat types within the plan area will be maintained in sufficient quality, distribution, and extent to support those species typically associated with those ecosystems, natural communities, or habitat types, including any listed or candidate species. The Secretary is prohibited from approving the plan if he determines that the plan will jeopardize the continued existence of any listed indicator or specialized species, or will cause any unlisted indicator or specialized species to become threatened or endangered.

The incentives for regulated parties to enter into NSCPs are considerable. The entry into a planning agreement

and the approval of an NSCP are not subject to the requirements of the National Environmental Policy Act. The planning agreement may authorize limited incidental take of particular species before completion of the NSCP, provided that the Secretary determines that such incidental taking will have a negligible impact on the conservation of the species. Activities within the scope of an NSCP approved by the Secretary will not be subject to ESA section 7 consultation requirements or Section 9 take prohibitions. The most potent incentive of all, however, is the "no surprises" provision which attempts to provide certainty to the regulated community.

### Providing Certainty

A primary concern of the regulated community is certainty that conservation agreements they enter into today will remain unaltered tomorrow. The working group proposals would codify a "no surprises" policy similar to that already put in place by the Clinton Administration. Once a Habitat Conservation Plan (HCP) or a NSCP has been approved, neither the Secretary nor any federal or state agency that participated in or had the opportunity to participate in the development of the plan would be permitted to impose additional mitigation or compensation requirements on the permittee or plan participant. This prohibition does not apply if the permittee or plan participant consents to the mitigation or compensation, the Secretary has revoked approval of the HCP or NSCP, or the Secretary determines that the modifications do not impose additional restrictions on land use or water rights and will not increase the costs to the permittee or plan participant.

The working group proposals make several improvements on the Administration's "no surprises" policy, designed to provide greater assurance that regulatory certainty will not be achieved at a cost to species conservation. For example, the provision makes clear the Secretary's authority to modify conservation agreements at public expense, with or without the consent of the permittee or party to the plan, if he

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*Cover:* California red-legged frog (*Rana aurora draytoni*), the first species to be listed since the lifting of the listing moratorium. Photograph by D. Liittschwager & S. Middleton. ©1996 Liittschwager/Middleton.

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determines that the HCP or NSCP is detrimental to species survival or recovery. The proposals also provide for greater public comment on HCPs, multiple opportunities for public comment on and judicial challenge of approvals to NSCPs, and increased monitoring of HCPs to assure that they are meeting their ecological as well as procedural requirements.

Addressing the need to take action to conserve species before they are teetering on the brink of extinction, the reform proposals would authorize the Secretary to enter into pre-listing agreements with landowners and other non-federal persons to encourage the conservation of species before they decline to the point that listing under the ESA is required. As incentive to enter into such agreements, participants would be assured that, in the event that the species is ultimately listed, the participants' obligations under Section 7 and 9 of the Act would be limited to the terms of the agreement. The proposals would authorize the Secretary to enter into "safe harbor" agreements with landowners to actively manage their land to promote endangered species habitat, in exchange for assurances that their obligations under the ESA will not increase if the habitat attracts listed species. The package also provides the incentive of estate tax relief for landowners who agree to manage their lands for the benefit of endangered species, and income tax credits for landowners who enroll habitat on their property into a "habitat reserve program."

### The Bridge-Building Process—Dangers and Rewards

Given the polarized climate that existed at the time the working group began to meet, it seemed prudent to keep the negotiations private, at least temporarily. Participants realized that this left them vulnerable to charges of cutting "secret deals," but the alternative was to risk the process being killed in its infancy by extremists from both sides. As events unfolded, it became clear that such concerns were entirely justified.

Since its proposals have been made

public, the working group has been attacked from all quarters for taking the audacious step of opening a dialogue with the "other side." Environmentalists condemned WWF, EDF, CMC, and TNC as "corporate front groups" and accused them of "betraying" the conservation community. The regulated participants have come under tremendous pressure from their erstwhile allies to abandon the process, and have been accused by a columnist of fostering a "collusion between...big business and environmentalists" in order to "further enrich the privileged classes." All the participants took comfort from the old adage that if extremists on both sides are mad at you, you must be in the right place.

Recently, more thoughtful voices have confirmed that the ESA working group is indeed headed toward the right place. A letter to Senators Chafee and Baucus and Rep. Saxton from leading biodiversity experts Dr. E.O. Wilson of Harvard and Dr. Thomas Eisner of Cornell praised the working group's effort for "clearly mov[ing] the Endangered Species Act in the direction that we and many other scientists have long advocated." Dan Silver of the grassroots Endangered Habitats League in California wrote in a recent letter that natural systems conservation planning "is literally giving us hope where

none existed before." He went on to conclude that "it is of utmost importance that the environmental community continue to vigorously pursue common ground with the regulated community in the context of a reauthorization package."

Recognizing an opportunity to break the logjam of ESA reauthorization, Rep. Saxton, chair of the House subcommittee with jurisdiction over the ESA, has shown great interest in the proposals of the working group. In the Senate, a negotiation is underway to produce a consensus bill acceptable to Senators Chafee, Kempthorne, Baucus, and Reid. The working group package figures prominently in those discussions.

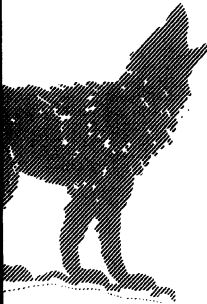
In a recent statement on the Senate floor, Senator Reid praised the ESA working group for their "good faith effort to find common ground." The result of that effort is the only ESA reform proposal to date that enjoys the support of conservationists and regulated interests. The Endangered Species Act has lacked a firm foundation for almost five years. That foundation can only be built on common ground.

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# Endangered Natural Heritage Act: Strengthening Amendments to the Current ESA

Heather Weiner

The Endangered Species Act (ESA) provides an important nexus between law and science. Yet members of Congress, the Administration, and some environmental groups, are advocating that the ESA incorporate more economic and legal flexibility to help landusers. Without a doubt, adopting economic incentives that encourage private landowners to implement conservation measures could benefit many species (Defenders of Wildlife 1995; Fischer and Hudson 1993). However, an important message is being lost during this discussion: the ESA works because it is based on science, not politics. The Act is especially crucial because it is one of the few federal laws available to conserve our nation's biological diversity (Snape 1996).

The U.S. Fish and Wildlife Service (FWS) estimates that over 41% of all species listed since the inception of the Act have been stabilized or are improving (Fish and Wildlife Service 1995). Despite the ESA's achievements in saving some species from extinction, numerous other species are slipping through the loopholes and cracks in the current Act. Scientists estimate that about 34% of the 294 species listed between 1989 and 1993 are still declining dangerously and the status of another 44% remain unknown (Fish and Wildlife Service 1995).

This loss of biological diversity in the U.S. can be curbed by strengthening the biological basis of the ESA. A broad coalition of ESA experts has developed more effective mechanisms to slow and eventually halt human-caused species diversity loss. These proposed changes to the ESA are not new—they are the most essential amendments taken from the recommendations of legal scholars, implementing agencies, the National

Academy of Sciences (NAS), and from ESA amendments introduced in previous Congresses.

The Endangered Natural Heritage Act (ENHA) is a set of legislative proposals that would close the legal and scientific loopholes in the Act, ensure the recovery of listed species, and reduce the need to list species in the future. Some examples of the weaknesses in the current Act, and ENHA's legislative recommendations to these problems, follow.

## Protect Candidate Species

Candidate species and species proposed for listing currently receive no real protection from federal agencies. Species usually become candidate species only when their situation is worsening (e.g., low population levels, habitat disappearing). While awaiting listing, many of these species are reduced to very small populations, sometimes to the point of extinction (Defenders of Wildlife 1995; U.S. Department of Interior 1990). For the years 1985-1991, the average population of a vertebrate species at the time of listing was 1,075 individuals (Wilcove et al. 1992). The NAS recognized that a species is more likely to reach recovery if its population is big enough to withstand genetic, environmental and natural obstacles (National Research Council 1995).

**Recommendation:** Amend the ESA so that federal agencies are directed to conserve declining species before they need the full protections of the Act. Require consideration of impacts on candidates and species proposed for listing during consultations on federal activities. Require the Services to make a final decision on whether to list each candidate species within four years of being placed on the candidate list.

## Protect Non-Vertebrate Species

Currently, plants and invertebrates can be listed at only the species or subspecies level, allowing the last remaining U.S. population of a species to go extinct (ESA Section 4). Preservation of populations distinct to the U.S. is especially important for maintaining genetic diversity, since a given population of species may have made genetic adaptations to particular physical conditions. Unfortunately, plants and invertebrates are not afforded the same protection as animals on private and federal lands.

**Recommendation:** Authorize the Secretary of the Interior to list populations of plants and invertebrates if they are threatened with extinction in the entire United States. Increase protection for plants on lands receiving federal funds or approval. Prohibit the taking of a plant species on privately owned lands when such takings would jeopardize the continued existence of the species.

## Habitat Protection is Critical

As the National Academy of Sciences notes, the time between listing and recovery plan implementation is one of the most vital times for protecting a species' essential habitat. Yet critical habitat designation is one of the most abused portions of the ESA. Though Congress intended that critical habitat be designated routinely, concurrent with species listings, critical habitat rarely is designated at all. One reason for this delay is that sometimes there is incomplete information about a species' habitat needs at the time of listing. As a result, critical habitat has been designated for only 25% percent of all listed species in the U.S. (Defenders of Wildlife 1995). Moreover, species listed prior to 1978

are not required to have critical habitat designated.

**Recommendation:** If information is not available to support full critical habitat designation at the time of listing, require the designation of known existing occupied habitat (called "essential habitat"). Refine and finalize full critical habitat designation in the final recovery plan. Mandate that species listed prior to 1978 must also have critical habitat designated. In addition, make it clear that current requirements to take economic impact into consideration should not be used to delay critical habitat designation.

## Recovery Is the Goal

### Recovery Plans

Currently, there is no explicit requirement for federal action agencies to implement recovery plans. State and federal agencies often evade implementation of recovery plans, thus increasing the burden on FWS, National Marine Fisheries Service (NMFS), and private citizens to take actions to recover listed species. Additionally, recovery plan objectives are often subjective and vague, making it difficult to determine clearly whether they are being followed. This diminishes their effectiveness, and the lack of specificity contributes to controversy when specific projects need to be modified to protect species. Since little more than half of all U.S. listed species have final recovery plans (Fish and Wildlife Service 1996), a mandatory recovery plan deadline is needed.

**Recommendation:** Direct federal agencies to implement recovery plans as part of the ESA Section 4(f) requirement to develop recovery plans. Require each significantly affected federal agency to take the lead in developing an implementation plan that identifies its affirmative responsibilities for contributing to the achievement of recovery goals. Encourage state and local governmental entities to develop implementation plans that contain affirmative actions to promote recovery. Authorize funding for these agencies to develop and implement recovery actions.

**Recommendation:** Make it explicit that objective scientific benchmarks should be established for listing, recovery, and delisting decisions. Criteria should include healthy population levels necessary for survival and critical habitat and biological requirements necessary for recovery. As the NAS recommended, a rational, scientific evaluation of survival and recovery goals is needed.

Also, require the Secretary to prioritize actions that will: 1) have the greatest potential for achieving recovery of listed species; 2) avoid imminent extinction; and, 3) benefit the largest number of species. Require the Secretary to identify, within the recovery plan, the types of actions that are likely to hurt the species and violate the Act. Finally, require recovery plans to be finalized within 30 months of final listing decisions.

### Takings

Incidental take permits are being issued for species that are continuing to slip into extinction. The cumulative impact of incidental take permitting, such as in the case of allowing many small Habitat Conservation Plans (HCP), are not considered in light of the species' total progress toward recovery.

**Recommendation:** Reduce the total allowable annual incidental takes authorized for a species not making progress towards recovery.

### Consultations

Section 7 of the ESA requires formal consultation for all federal agency actions that may affect listed species. Federal agencies often claim to have obtained FWS or NMFS concurrence on "no effect" determinations through "informal" ESA consultations, such as a phone call. Often these informal consultations leave no paper trail, making it difficult for the public to ensure that the federal agency and Secretary are properly carrying out their duties not to jeopardize the species or adversely modify its critical habitat.

**Recommendation:** Address the abuse of consultations by: 1) requiring documentation and public access to records of all formal and informal consultations; and, 2) soliciting public comment on draft biological opinions. In addition, require that "informal" consultations be documented in writing so their adequacy can be reviewed.

### Jeopardy

Due to the way "jeopardize the continued existence" of a species is defined in current regulations (50 CFR, Section 402.02), a federal action can proceed if the project hurts a species' chances of recovery, but does not imperil its bare survival. This interpretation is also used in the issuance of incidental take permits. While any one action cannot be shown to be "jeopardizing the continued existence" of the species, there is a serious cumulative impact of these small losses of habitat.

**Recommendation:** Clarify that impairing recovery is the measure of jeopardy in section 7 interagency consultations. Also, clarify that the standard for HCPs is recovery, not just survival, of the targeted species.

### Strengthen Habitat Conservation Plans

Habitat Conservation Plans are often prepared with insufficient attention to the needs of species and inadequate opportunity for general public comment. Conservation representatives tend to be outnumbered by industry and governmental representatives during the HCP process. In addition, HCPs are being approved that jeopardize the survival and recovery of listed species.

**Recommendation:** Require that HCPs be independently peer reviewed by persons without a conflict of interest. Incidental takings and HCPs should be permitted only after there is a scientific, quantifiable determination that the impact on the species as a whole will be truly de minimis.

(ENHA continued on UPDATE p. 14)

## Does NEPA Apply to Critical Habitat Designations? Ninth and Tenth Circuit Courts Disagree

Marty Bergoffen

The primary cause of species endangerment is habitat loss. This fact has been recognized by Congress, which afforded habitat protection a primary place under the Endangered Species Act (ESA). Part of this habitat protection includes designation of habitat critical to the survival and recovery of threatened and endangered species, including explicit instructions on the process to be used to designate such habitat.

Two recent court cases have addressed the question of whether an Environmental Impact Statement (EIS), required under the National Environmental Policy Act (NEPA) for projects which could significantly impact the environment, must be conducted when designating critical habitat for listed species. The courts differ in their opinions: the U.S. Court of Appeals for the Tenth Circuit holds that NEPA does apply, the Ninth Circuit finds that it does not. An analysis of the two decisions shows that the Tenth Circuit's decision is based on faulty premises and a questionable interpretation of legislative history.

### Ninth Circuit Decision

In Douglas County, Oregon, the county challenged the critical habitat designation of the Northern spotted owl (*Strix occidentalis*) because the Fish and Wildlife Service (FWS) failed to prepare an EIS concurrent with the designation. The Ninth Circuit, in *Douglas County v. Babbit*, held that NEPA does not apply to critical habitat designations. The ruling against the county was based on a number of reasons.

- Several environmental laws have been found to override the NEPA requirements. For example, the Federal Insecticide, Fungicide, and Rodenticide Act has procedures for Environmental Protection Agency registration of pesticides to be sold in the United States that were deemed to make NEPA

requirements "superfluous" (see *Merrill v. Thomas* 807 F.2d 776 (9th Cir. 1986), cert denied 484 U.S. 848, 1987). Another example comes from the ESA itself, which requires listing of endangered and threatened species to be based "solely on the best scientific and commercial data available" (see 16 U.S.C. Section 1533a). NEPA, on the other hand, requires consideration of all available information when considering the environmental effects of a proposed federal action.

- Review of the legislative history of the ESA critical habitat designation process also provided fodder for the Ninth Circuit decision. The 1978 House Committee Report on the language that was actually adopted indicated "the members contemplated the structure of the entire process for designating critical habitat" (48 F.3d at 1503). The Ninth Circuit court thus found that the critical habitat procedure made NEPA requirements "superfluous," in that the exact requirement for critical habitat designation were laid out. This holding was in agreement with the Sixth Circuit, which pointed out in dicta that NEPA did not apply to critical habitat designation (see *Pacific Legal Foundation v. Andrus*, 657 F.2d 829, 835 (1981)). This interpretation was adopted by the Secretary of Interior and published in the Federal Register as policy (48 Fed. Reg. 49,244 (1983)). Congress had the chance to change this interpretation when it amended the ESA in 1988, but failed to do so. Moreover, the statutory process created by Congress to designate critical habitat allows *no* discretion in some circumstances; when a species is about to go extinct, critical habitat *must* be designated. Thus the ESA directly conflicts with NEPA's allowed discretion in choosing alternatives. Because NEPA explicitly states that it is subservient to other laws, the Ninth Circuit found that the ESA process displaces the NEPA process.

- The Ninth Circuit found that NEPA does not require preparation of an EIS for actions that *preserve* the physical environment. Because NEPA was designed to improve the environment and prevent irreparable damage by evaluating the effects of *human-caused* alteration, actions which do not alter the environment do not require NEPA analysis. Finally, since critical habitat designation would protect the environment by precluding destructive practices, the Ninth Circuit held that the ESA furthers the goals of NEPA, and, therefore, no NEPA analysis is required. The court found that while NEPA requires very broad environmental analysis of impacts on the human environment, the ESA only allows consideration of impacts relating to the preservation of the species, including economic impacts.

### Tenth Circuit Decision

In Catron County, New Mexico, the Tenth Circuit considered critical habitat designation for the Loach minnow and spikedace, two small fishes of the Gila river in western New Mexico. A February 2, 1996 decision on Catron County Board of Commissioners, New Mexico, v. U.S. Fish and Wildlife Service held that the FWS must comply with the terms of the NEPA process when designating critical habitat for species listed as endangered or threatened. The court specifically states that "[i]n view of the focus of the ESA critical habitat designation, we do not believe that the NEPA inquiry has been duplicated, nor do we believe the statutes are mutually exclusive" (75 F.3d at 1436). In arriving at this finding, the Tenth Circuit examined Congressional amendments and legislative history as well as the language of NEPA and ESA.

- Through analysis of the statutory language of each law the court found that although the procedures of the ESA



critical habitat designation and NEPA may parallel and occasionally overlap, partial fulfillment of NEPA's requirements is not sufficient. The court arrives at this conclusion by contrasting the ESA's purpose, which is to prevent species extinctions, and NEPA's purpose, which is to ensure informed decision-making with respect to environmental impacts. The court bolsters this analysis by finding that "action under the ESA is not inevitably beneficial" (75 F.3d at 1437). This conclusion is based on the arguments of Catron county, which fears that designation of critical habitat for the endangered fishes will preclude or impair flood control projects that benefit public and private property.

- The Tenth Circuit examined the meaning of Congressional silence about critical habitat and NEPA in the 1988 ESA Amendments, and rejected the Ninth Circuit's holding. While conceding that failure to revise laws in the face of judicial or agency interpretation has meant Congressional acceptance in the past, the Tenth Circuit pointed out that, in this case, Congress gave no indication of awareness of previous interpretations by the courts or the Department of Interior. Further, Congress amended other parts of ESA Section 4, but not the subsection devoted to critical habitat. Therefore, Congress could not acquiesce to what it was not aware of, and the Tenth Circuit is not bound by this silence.

- In considering the legislative history of the ESA's critical habitat designation process, the Tenth Circuit relies on statements made by Senators McClure and Wallop in considering an ultimately unadopted amendment. After an amendment offered by Senator McClure to require NEPA analysis was rejected, Senator Wallop indicated that he believed that an EIS would still be required for critical habitat designations.

## Analysis

The Tenth Circuit's analysis is flawed. Although the Tenth Circuit rejects the ongoing Federal contention that critical habitat designation is a mere paperwork exercise (at least in part because much of the ESA has been reduced to a mere "survival" standard

with no consideration of recovery of listed species), further examination shows this analysis is faulty for a number of reasons.

First, the legislative history relied on by the Tenth Circuit is dubious at best. The beliefs of one senator on an amendment that was rejected can hardly be held as representative of the beliefs of the entire Congress. The Ninth Circuit's decision, on the other hand, relies on legislative history assembled and adopted by the entire House Conference Committee. Furthermore, the language commented on by this committee was the actual ESA language adopted by both houses. Therefore, it appears that Congressional intent is much more likely to be found by the Ninth Circuit than the Tenth.

Second, the Tenth Circuit argues that Congress was not aware of FWS's interpretation of the critical habitat provision. Given that this interpretation was originally created by the Sixth Circuit and ultimately adopted by the Secretary of Interior and published in the Federal Register, it is difficult to accept an argument that Congress was unaware of this interpretation. It is also obvious that Congress knew of this interpretation because they closely examined the entire ESA in 1988. Again, the Ninth Circuit's interpretation seems more probable than the Tenth Circuit's position.

Third, it is unreasonable to suppose, as the Tenth Circuit did, that listing decisions and critical habitat decisions are different with regard to NEPA. The two decisions are not, in fact, in opposition. Actually, the two are intrinsically linked factors in the Congressionally established regime for ensuring survival and recovery of threatened and endangered species. Further, both decisions have a precisely defined procedure, which the Tenth Circuit feels is insufficient. This regime, however, is both sufficient and essential for protective efforts and should be followed by FWS, and not delayed, streamlined or ignored, as has been the case in the past.

Fourth, with respect to the Tenth Circuit's affirmation of the preliminary injunction, it is apparent that there was

no balancing of harms. Although the court considered the potential damage to property, treating it as an actual occurrence, there was no consideration of damage to the Loach minnow or spikedace, nor the interests of FWS in protecting these species. Therefore, the conclusion that an injunction was appropriate was at least premature, if not inappropriate.

Finally, the decision fails to account for the holistic relationship between humans and their environment by insisting that benefits to an ecosystem are not necessarily benefits to humanity. Because humans are intrinsically supported by clean air and water as well as the abundance of biological diversity, efforts aimed at protecting these assets must benefit humans and nonhumans alike. In order for critical habitat for a listed species to harm humans, as the Tenth Circuit posits, that species would have to occupy an area unoccupied by humans, but from which humans nevertheless derive a benefit—a most implausible situation.

## Conclusion

If the Tenth Circuit decision holds, habitat protection for imperilled species will surely decline due to the onerous task of preparing both NEPA and ESA documentation for critical habitat designations. On the other hand, as the Ninth Circuit decision agrees, the protection afforded by the ESA was certainly meant to complement, not impede, NEPA, and, therefore, requiring both processes will only ultimately impair the enforcement of both. It is therefore crucial that the findings of the Ninth Circuit in Douglas County be accepted over those of the Tenth in Catron County. To do otherwise is to invite doom for many listed species.

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The last issue of the *Endangered Species UPDATE* featured an article on diversity and conservation of bats in North America. This issue's AZA section profiles bat conservation efforts by zoos, in addition to the *Conservation Spotlight* and *News from Zoos* on the following pages.

# AZA Taxon Advisory Group Profile: Bats

Nina Fascione

Historically, bats have not been a high priority for the zoo world. The choice of bat species exhibited was often based on an individual curator's or director's preference and the species' availability from the wild. Additionally, relatively little outreach was made to educate the public about the natural history and ecological importance of bats. Fortunately, the past few decades have witnessed significant changes in the philosophy and objectives of professionally managed zoos in North America. Bat programs in zoos are likewise improving through the efforts of individual zoos and the collaboration of zoo personnel.

Bats were one of the first taxonomic groups for which an AZA Taxon Advisory Group (TAG) was established. The Bat TAG began in 1991 and is composed of curators, biologists, educators, and academic advisors. The TAG is pursuing the goal of bat conservation through a variety of strategies, including public education, research, fundraising to support field conservation, and the development of effective husbandry techniques.

One of the first tasks of the Bat TAG was to determine the number and species of bats residing in North American zoos. A 1991 survey of 128 North American zoos (receiving an 85% response rate) indicated that 56 institutions housed 22 species of bats. Of these, one, the Rodrigues fruit bat (*Pteropus rodricensis*), was listed as an endangered species. The Rodrigues fruit bat Species Survival Plan (SSP) was established in 1992. (Since the survey was completed, a captive breeding program has been established for the endangered Pemba Island fruit bat, *Pteropus voeltzkow*.) The survey also clearly demonstrated zoo personnel's growing interest in bats and bat conservation.

The TAG next created a North American Regional Collection Plan (RCP) to recommend which bat species to exhibit and why. The goal of an RCP is to make the best use of zoo collections in service of science and wildlife conservation by creating regional cooperative breeding programs. Species may be included in an RCP for a variety of reasons. For example, straw-colored fruit bats (*Eidolon helvum*), a common African species, are a favorite of zoo curators because they are colorful, active, and social—all desirable characteristics for education and general animal management. The TAG does not maintain that all bats in zoos need be, or should be, endangered species. On the contrary, unless captive breeding is deemed necessary for a species' survival, such as for the Pemba Island fruit bat, the TAG does not generally recommend zoo programs for endangered species. The

basic philosophy of the TAG is that captive breeding efforts should support species' conservation in nature, not replace them.

To further aid animal managers, the TAG produced and distributed the *Fruit Bat Husbandry Manual*. The Manual is intended to provide general husbandry guidelines for managers of frugivorous bat species, by far the most common group of bats found in zoos. Topics include housing, management, behavior and social organization, reproduction, nutrition, and health.

TAG members with expertise in specific areas share their talents and ideas through subcommittees, such as the Nutrition Subcommittee, which is working to develop nutritional guidelines for captive fruit bats. Last year, the Reproduction Subcommittee conducted a survey of bat reproduction in AZA-member institutions in order to identify husbandry challenges. The Zookeeper Subcommittee put its efforts into fundraising, raising over \$1,200 last year through projects such as recycling aluminum cans and selling candy. Funds purchased T-shirts for distribution on Tanzania's Pemba Island to increase interest in conservation of the Pemba Island fruit bat. The TAG's Education Subcommittee is working to raise awareness of bats, both within zoos and among the general public. Subcommittee members conducted a survey of bat education programs in zoos and, based on the results, are compiling an educator's notebook to distribute to AZA-member institutions and other interested groups. The notebook will provide information for educators interested in teaching about bats.

Each SSP and TAG is to develop a five-year action plan for its conservation projects. The AZA and the TAG will then raise funds to complete these projects. In some cases, the TAG or SSP will support academic collaborators to complete projects of mutual interest; in other cases, committee members will conduct the actual projects themselves. Initial action plans for both the Bat TAG and the Rodrigues fruit bat SSP are still being developed, however, projects will likely include field conservation support, nutritional studies, reproduction studies, and education programs.

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Nina Fascione is co-chair of the AZA Bat Advisory Group. She works on wolf recovery issues as a program associate in the Species Conservation Division of Defenders of Wildlife.

# Conservation Spotlight: Wyoming Toad

The Wyoming toad (*Bufo hemiophrys baxteri*), like many amphibians, is in decline. Unique to a small area of Wyoming, it has never been found outside the Laramie Basin. The toad was fairly common in that range until the mid-1970s when its numbers started to decline rapidly. The reasons for its demise remain unclear. Possible causes include climate changes, increased predation (mainly by birds), use of insecticides, habitat loss due to changes in irrigation practices, and lack of genetic variation. By 1984, the Wyoming toad was federally listed as endangered. In 1994 the Wyoming Game and Fish Department (WG&F) brought into captivity the last known wild Wyoming toad populations in an effort to prevent extinction.

The Wyoming Toad Recovery program began as a joint effort between the WG&F and the U.S. Fish and Wildlife Service. Three AZA institutions—Colorado Spring's Cheyenne Mountain Zoological Park, Omaha's Henry Doorly Zoo, and Toledo Zoological Gardens—soon got involved and received tadpoles and toads. The AZA Amphibian Advisory Group asked for assistance from other zoos and aquariums, and 20 institutions responded. To prevent the loss of captive populations, a number of husbandry issues had to immediately be addressed, including climate simulation, diet, and the high incidence of "red leg," a bacterial infection to which the toads are highly susceptible. Successful husbandry techniques has led to a dramatic decrease in the mortality rate, dropping from around 50% to less than 10% mortality.

Zoos have had a positive impact on the captive breeding of the Wyoming toad. R. Andrew Odum (Toledo Zoological Gardens) and Robert Johnson (Metropolitan Toronto Zoo), both of whom have experience in captive management of similar taxa, recommended changes in husbandry practices and in methods used to induce reproduction in Wyoming toads. The Sybille Black-Footed Ferret Center, part of the WG&F, and AZA-member zoos are currently involved in efforts to study the effects of hibernation on male and female reproduction, as well as the use of synthetic hormones to induce the toads to lay eggs.

As a result of the improved breeding and husbandry techniques, captive populations of the Wyoming toad greatly increased in 1995, allowing release of many animals back into the wild. To increase their chances for survival, the tadpoles were placed in "head start" tanks at the release sites. These tanks are wading pools, covered with screen, that house tadpoles and toadlets. Tadpoles and toadlets have separate tanks, allowing for different survival needs. Tanks are checked regularly to remove toadlets from the tadpole tank and to make sure that the toadlets are not able to escape through gaps between the screen and the pool wall. Measures have also been taken at the release sites to protect the tanks from grazing cattle, as



Photo by R. Andrew Odum, Toledo Zoological Gardens

well as to biologically control the mosquito populations without pesticides. During the summer months, tadpoles and toadlets were released at three different sites in the Laramie area: Lake George, Rush Lake and Mortenson Lake. These sites will be monitored closely over the next few years to see if Wyoming toads are able to reestablish their place in the wild.

The Wyoming toad program has become a model effort of the cooperation among two government agencies and AZA-member zoos. Reproductive efforts are currently underway and successes have been reported by the WG&F and many of the zoos holding toads. It is hoped that releases back into the wild in 1996 will be measured in the 10,000s of toads. (Excerpted from K. Swaringen, *AZA Communiqué*, April, 1996.)

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# NEWS FROM ZOOS

## Osborn Laboratories of Marine Sciences Adopts New Mission



Photo © Wildlife Conservation Society

The Osborn Laboratories of Marine Sciences, located at the Wildlife Conservation Society's (WCS) New York Aquarium for Wildlife Conservation, has adopted a new mission and will focus its research effort on endangered aquatic species and their habitats. This new aquatic research mission is one aspect of a three-part WCS initiative on ocean conservation. Called COWRI, the Critical Ocean Wildlife Recovery Initiative, the two other areas of focus will be policies that emphasize sustainable use of ocean resources and increasing public awareness of the importance of the ocean and its wildlife resources. (From Paul Boyle, *New York Aquarium for Wildlife Conservation*.) (Photo: corals in research culture tank at NY Aquarium's Osborn Laboratories.)

## Cleveland Metroparks Zoo Initiates International Field Research Course



Hugh Quinn, Cleveland Metroparks Zoo

The Cleveland Metroparks Zoo, in cooperation with Cleveland State University (CSU) and the Forestry and Wildlife Department of the University of the Andes (ULA) in Merida, Venezuela, has developed an international field research course offered through CSU's biology department. The Tropical Ecology and Conservation Biology course was designed by Dr. Patricia McDaniel, the zoo's research coordinator, and instructors include Dr. Hugh Quinn, the zoo's general curator, Dr. Michael Walton and Dr. Ron Canterbury, CSU Biology Department, and Miguel Ilija, ULA Wildlife Department. The objective of the course, which attracted 10 graduate and undergraduate students in its first year, is to provide participants with an understanding of in-situ conservation, from both a theoretical and practical perspective. (From *AZA Communiqué*.) (Photo: grasping frog (*Phyllomedusa tarsius*), one of many amphibian species encountered by students during research.)

## New England Aquarium Receives Support from Pew Charitable Trusts to Produce Wildlife Documentary

The New England Aquarium in Boston, MA, received a \$266,000 grant from the Pew Charitable Trusts to produce a 20 minute documentary titled "Magnificent Fish." The film, written and narrated by author Peter Benchley, will focus on efforts to conserve the ocean's large pelagic fish, such as sharks, tuna, and billfish. The film will be previewed this September at the AZA Annual Conference in Honolulu, HI. The documentary's public premier will take place in late 1996 or early 1997 at the New England Aquarium. It will then be shown at zoos and aquariums across North America. (From Greg Stone, *New England Aquarium and Pew Charitable Trusts*.)

### Calendar

July 26-28, 1996:

The Second International Symposium on the Trade of Bear Parts for Medicinal Use will be held at the Bell Harbor International Conference Center, Seattle, Washington. For further information, contact Judith Ball, General Curator, Woodland Park Zoo, 5500 Phinney Avenue North, Seattle, WA 98103; Tel: (206) 684-4834.

September 17-21, 1996:

The AZA Annual Conference will be held in Honolulu, Hawaii. For further information, contact Ken Redman, Honolulu Zoo, 151 Kapahulu Avenue, Honolulu, HI 96815; Tel: (808) 971-7174; Fax: (808) 971-7173.

*Correction: In the April/May issue we inadvertently left out the author of the Bear Taxon Advisory Group Profile. Diana Weinhardt is the Bear TAG co-chair, and is curator of large mammals at the Houston Zoo; 1513 North MacGregor, Houston, TX 77030.*

## Has the ESA Killed Good Land Stewardship on America's Farms and Ranches?

Noreen Walsh

In a recent issue of *Endangered Species UPDATE*, Hyde (1996) described an apparent conflict between proper land stewardship by America's farmers and ranchers and expanding government regulations, including impacts of the Endangered Species Act (ESA) on owners of private property. Hyde's premise was that while farmers and ranchers have many good reasons to maintain their land in good condition, the restrictions associated with the ESA are undermining the links between the owners of the land and good stewardship. Are we thus to believe that farmers and ranchers are deliberately leaving land to future generations that is in poorer condition than when they received it, because of the possibility that a listed species may one day occur there? I believe Hyde is not giving enough credit to America's farmers and ranchers and the relationships they are forming to help maintain and improve wildlife habitat on their land.

### Examples of Good Stewardship

I think many would agree that we cannot categorize all farmers and ranchers as good or poor land stewards, and this is not my intent. However, a quick review of some of the recent issues of various agricultural periodicals, including *The Cattleman* and *Farm Journal*, yields several examples of farmers and ranchers engaged in exemplary acts of land stewardship, some of which involve listed species. The November issue of *The Cattleman* reported on an encouraging success story in Cameron County, Texas (Matthews 1995). When the endangered aplomado falcon (*Falco femoralis*) was reintroduced into its historic habitat in the Lower Rio Grande Valley in 1987, farmers and ranchers were concerned about restrictions on the use of commonly used pesticides in the area. Wayne Halbert, who operates a family cotton farm and serves as gen-

eral manager of the Harlingen Irrigation District, formed the "Agriculture/Wildlife Coexistence Committee," comprised of farmers, ranchers, representatives of chemical companies, environmental groups, and state and federal government agencies (Matthews 1995). The group worked with the Environmental Protection Agency to revisit some assumptions used in making decisions about pesticide use. The committee generated several creative ideas that would "allow them [ranchers and farmers] to grow cotton and raise cattle without placing the birds at risk" (Matthews 1995).

Halbert's idea was to solve the "people problem" first; people need to make a living. In the case of the aplomado falcon, carefully managed cattle grazing can be highly beneficial for maintaining the necessary open habitat these birds prefer. Through this process, public attitude toward restoration of the aplomado falcon changed from hostility to support, and when the first wild chick hatched in May of 1995 "landowners and cattle ranchers cheered" (Matthews 1995). Carl "Bud" Parker, a cattleman in Cameron county, stated: "I hope this program works. It will work if we just let it. I want my grandchildren and my great-grandchildren to see the same things here that I saw when I was growing up" (Matthews 1995).

Solving the people problem first was a theme echoed by Joseph Fitzsimmons, owner of the historic San Pedro Ranch in south Texas who asked: "If we ignore the very people who must do what is necessary to save the land, then how can we cobble together a coherent, effective means for conservation?" (Perkins 1995). The San Pedro Ranch, a 45,000 acre spread on the Rio Grande plains, is a beef producing operation with 2,000-3,000 steers. It follows a holistic management plan that considers "conservation, cash, and

cattle" together (Perkins 1995). In 1994, the Texas CattleWomen presented San Pedro Ranch with its Environmental Stewardship Award. Fitzsimmons commented: "We believed the only true capital here is the biodiversity of the natural resources. Like capital in a bank account, we decided to protect our capital and live off our income. Our income is the grass and browse that we produce, and we would be fools to harm something that generates this income" (Perkins 1995).

In Cochise County, Arizona, and Hildago County, New Mexico, a private, non-profit organization composed primarily of ranchers has dedicated itself to protecting the open character of this one million acre piece of publicly and privately owned desert Southwest (McDonald 1996). Calling themselves the Malpai Borderlands Group, the organization strives to blend land stewardship with economic reality. Preserving the open, unsubdivided character of the land and preserving the traditional ranching community are among their goals. One ranching family has cooperated with the U.S. Fish and Wildlife Service (FWS) to monitor an extremely rare cactus, the Cochise pincushion cactus (*Escobaria robbinsorum*). During the 1994 drought another family in the group worked to ensure the survival of the rare Chiricahua leopard frog (*Rana chiricahuensis*) by keeping critical populations on their property alive in stock ponds. Other stewardship activities initiated by this group of ranchers include a regional fire management plan, restoration of riparian habitat, and research on rare plants and animals of the region.

In central Oklahoma, several ranchers have cooperated with The Nature Conservancy since the early 1990s to allow monitoring of the endangered black-capped vireo (*Vireo atricapillus*). Black-capped vireos nest in scrubby vegetation, characteristic of an early

successional stage. Without periodic disturbance, such as fire, many areas suitable for nesting are invaded by eastern red cedar (*Juniperus virginianus*) or Ashe juniper (*Juniperus ashei*). Wild-fire suppression throughout much of the bird's range has contributed to the decline of this migrant songbird over the last century. Closed canopy stands of cedar not only mean unsuitable nesting areas, they also cause a decline in the amount of grass and forb growth. This loss of ground cover leads to potentially severe erosion problems. Decreases in forage production and vegetation diversity, and increases in erosion, are problems that can and should be solved to benefit both the cattle rancher and the black-capped vireo.

A recent *Farm Journal* article also highlights contributions of farming and ranching families to wildlife conservation through land stewardship (Anonymous 1996). At Smith Cattle, Inc. in Tribune, Kansas, the link between agricultural productivity and wildlife management is paramount in their operation. The Smiths believe that the diversity of wildlife is an indicator of the health of their land and they actively manage to provide habitat. Family spokesman Mark Smith was quoted as saying: "If you want future generations to have and use the land, you have to keep it in good shape. Part of that is maintaining the diversity of wildlife that's on the land" (Anonymous 1996). Ray McCormick of Vincennes, Indiana, works to ensure sufficient wildlife habitat on his 2,400 acre corn, bean, and wheat farm. He employs no-till farming on 1,800 acres and states: "No-till improves the whole environment. You end up with better water quality, an abundant insect population and a good food supply. All of that is important to wildlife" (Anonymous 1996). McCormick also has enrolled 220 acres of river bottomland in the Wetlands Reserve Program, is restoring native prairie on 150 acres, and works with the FWS to seasonally flood fields and wetlands for use by migrating waterfowl (Anonymous 1996).

Ranching and farming families, such as the Smiths and McCormicks, believe that good land stewardship ben-

efits their operations in the long-term, and is one way to ensure that fewer species end up needing protection under the Endangered Species Act. Other landowners, who are solving problems cooperatively and coexisting productively with listed species, give hope that we can break through the current gridlock over the Endangered Species Act for the benefit of all concerned.

Instead of waiting for Congress to legislate new incentives, several innovative private sector groups are acting on their own. Rick Mooney (1996), a wildlife specialist with the *Farm Journal*, recently reviewed several creative approaches that share the responsibility for wildlife conservation. Pheasant hunters in South Dakota have organized themselves into "Pheasant Country Limited," a group that pays landowners to set aside at least 10 acres of land as wildlife habitat. In 10 years they have enrolled 2,600 acres. Most payments to farmers are less than \$200/year, but many farmers are earning additional income by charging access fees to hunters. In north-central California, Ducks Unlimited loans equipment to assist farmers in creating seasonally flooded wetlands from rice field stubble as an alternative to burning. These seasonal wetlands will then provide waterfowl habitat in an area where the vast majority of wetlands have been lost to development. Defenders of Wildlife has set up a fund to compensate Western ranchers who lose stock to the recently reintroduced endangered grey wolves (*Canis lupis*) in Yellowstone and parts of Idaho (Mooney 1996). Defenders of Wildlife also offers rewards of \$5,000 to landowners whose property supports grey wolf dens (Schildwachter 1996).

### **Government and Private-Landowners Work Together**

Few today would argue with Hyde's contention that the establishment of incentives for private landowners to conserve listed species and their habitat is a good idea. In 1995, the Clinton administration released a "10-Point Plan for the Endangered Species Act" that identifies incentives as a specific goal. In an article entitled "What's Wrong with the

Endangered Species Act?," Watkins (1996) says: "...most environmentalists say critics are right when they complain that with regard to private lands there are too many sticks—in the form of fines and potential imprisonment—and not enough carrots—in the form of economic incentives." It seems as if this is one idea on which all sides are in agreement.

Meanwhile, enhancements to the way the current Endangered Species Act is implemented on private land have generated measurable success. One such enhancement is a new approach to Habitat Conservation Planning called "Safe Harbor." Through this arrangement a landowner works with the FWS to restore or enhance habitat for listed species. The landowner is free to do anything he wants on the new habitat; the only obligation is to maintain the original habitat present at the time of the agreement (Williams 1996). (For more on "Safe Harbor," see Bonnie and Bean 1996; Hawkins 1995). This concept, originally developed for the red-cockaded woodpecker (*Picoides borealis*) in the southeast, is being adapted for Attwater's prairie chicken (*Tympanuchus cupido attwateri*) in south Texas, for the San Joaquin kit fox (*Vulpes macrotis mutica*) and other species in California's Central Valley, and for the northern spotted owl (*Strix occidentalis*) in California and Washington (Williams 1996). The approach is gaining favor because landowners are assured they will not be penalized in the future if they assist listed species now.

Another initiative developed to reduce unnecessary restrictions on private landowners is a proposed "Residential/Small Impact Exemption." This exemption falls under the authority of Section 4(d) of the ESA, which allows design of special management programs for species listed as threatened (Lehman 1995). Three kinds of activities would be covered under this exemption: 1) activities conducted on a contiguous parcel of land 5 acres or less that is occupied by a single household dwelling and is used principally as a residence; 2) activities conducted on any size parcel that result in the disturbance of no more than 5 acres; and, 3) other

activities not likely to have adverse effects upon the species. Although this proposed policy can only exempt activities affecting threatened species, the Clinton administration's "10-Point Plan" also calls for potentially extending the exemption to endangered species.

Hyde suggests there is apprehension over severe penalties resulting from implementation of the ESA. Mollie Beattie, former Director of FWS, addressed the myth that hundreds or thousands of landowners have been prosecuted by FWS for things they did on private land (Beattie 1995). The reality is that the General Accounting Office reported in 1994 that, between fiscal years 1988 and 1993, the Service obtained injunctive relief only four times to stop or delay activities harming endangered species on non-federal lands (Beattie 1995). In addition, concerns about reduction in property values due to the presence of endangered species may be inflated. A commonly cited example is that of a decline in property values in the Austin, Texas area due to presence of the golden-cheeked warbler (*Dendroica chrysoparia*). Land values did decline in the mid-1980s, but most of the decline occurred in 1987, coincident with the Savings and Loan crisis. The golden-cheeked warbler was not listed as endangered until 1991. A subsequent analysis of the data showed that two-thirds of the counties with golden-cheeked warblers experienced property value reductions smaller than the average Texas property value reduction during that time period (Meyer 1994).

The FWS seeks to reduce unwarranted concern about penalties and property values in several ways. The first is by delineating, at the time of listing, specific activities that would not constitute "harm" or "take" of listed species. This policy was adopted by FWS in 1994, and serves to eliminate uncertainty about what actions or land use conditions are considered harmful to listed species. Secondly, for species already listed, the Service has entered into a number of "No Take" memoranda of understanding that delineate specific conditions for a given activity on the

property of concern; under these conditions the landowner is assured that his activities will not be in violation of the Endangered Species Act. A third way the Service has sought to reduce concern about future land use restrictions is through the "No Surprises" policy implemented in 1994. Under this policy, landowners with approved habitat conservation plans and incidental take permits would not need amended plans, even if newly listed species occurred within the permit area.

Another myth alluded to by Hyde is that species listings and critical habitat designations are not based on sound science. The National Academy of Sciences, in response to a 1991 bipartisan request from Congress to evaluate the science behind the Endangered Species Act, recently released its report titled "Science and the Endangered Species Act." The 16 member committee concluded that the "scientific underpinnings of the Act are generally sound and that its stated goals are appropriate and defensible" (Murphy 1995). The committee stated: "The Endangered Species Act, in emphasizing habitat, reflects the current scientific understanding of the crucial biological role that habitat plays for species" (Murphy 1995). It is the implementation behind this sound science that Murphy (1995) called "a policy dilemma of the highest order."

To reform the ESA, Hyde (1996) proposed three solutions: creation of incentives for landowners to conserve habitat, increased cooperation with state and local governments, and clearly stated goals and objectives for recovery and delisting of species based on sound and objective science. However, the Clinton administration's "10-Point Plan" already identifies each of those points, and the latter two were implemented by FWS policy published in 1994. Perhaps we are further down the road to implementation reform than Hyde thinks.

So, while Hyde maintains that the current situation "makes it a curse to be host to listed species on ranches and makes producers unwilling partners in the preservation of natural resources" (Hyde 1995), I can only hope that she is wrong. Indeed, the examples cited above

show that good stewardship on America's farms and ranches is not considered a liability by all. By respectfully recognizing concerns of other parties and focusing on points on which most parties can agree, we can move forward toward a workable implementation of the Endangered Species Act that benefits ranchers and non-ranchers alike by maintaining America's natural heritage intact for future generations to enjoy.

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(ENHA continued from UPDATE p. 5)

In addition, HCPs and permits allowing adverse impacts on species should be allowed only if they do not negatively impact recovery.

### Protect Imperiled Species in Other Nations

Federal agencies, such as U.S. Agency for International Development, and U.S. contributions, such as to the World Bank, can directly and indirectly sponsor projects that threaten species abroad.

**Recommendation:** Clarify that section 7 consultation obligations apply to federal actions that may affect threatened and endangered species abroad as well as within the United States.

### Determine Scientific Trends

Currently, there is no mechanism in place to track trends about species or ecosystems throughout the country. The National Biological Service (NBS), now part of the U.S. Geological Survey, is not designed to completely inventory or monitor this nation's wealth of biological diversity. While the NBS does provide some data on status and trends of selected resources, less than 15% of its budget is devoted to these tasks. Scientists estimate that only 1.5 million of the 30-100 million species on this planet have been identified (National Research Council 1995).

**Recommendation:** As recommended by NAS, a scientific commission should be established to study and identify species and ecosystems at risk. This National Commission on Species Extinction would survey and identify species at risk, including indicator species, umbrella species, species about which little is known, candidate species, and imperiled ecosystems, as well as their importance to human welfare.

### Conclusion

The Endangered Natural Heritage Act is needed to close the legal and scientific loopholes in the current

ESA, to ensure the recovery of listed species, and to reduce the need to list more species in the future. The problems and recommendations discussed above are in no way intended to be the final word on how to improve the ESA. They do, however, remind us that the ESA has plenty of room for scientifically-based improvements. While some ESA proposals focus on increasing the Act's flexibility for landusers, ENHA improves the ESA's ability to proactively conserve biological diversity.

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## ENDANGERED SPECIES & WETLANDS REPORT

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# Bulletin Board

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## Ecological Society/Conservation Biology Annual Meeting

The combined meeting of the Ecological Society of America and Society for Conservation Biology, titled "Ecologists/Biologists as Problem Solvers" will be held at the Rhode Island Convention Center in Providence, Rhode Island from August 10-14. The conference takes a cross disciplinary and applied approach, via symposia, workshops, papers and plenary sessions, to the role of science in management and policy-making related to environmental issues. Other participating societies include the American Society of Naturalists, the Association for Tropical Biology, and the North American Chapter of the International Society for Ecological Modeling. Registration postmarked by August 1 is \$155 for members, \$180 for non-members. Student rates are available. Contact: ESA Headquarters Office, 2010 Massachusetts Ave., NW, Suite 400, Washington, DC 20036; Tel: (202) 833-9773; Fax: (202) 833-8775. Full program and registration information available on the World Wide Web at <http://www.sdsc.edu/~ESA/ESA.html>.

## Software Available for Evaluating Monitoring Programs

A DOS-based software package designed to evaluate the effectiveness of plant and animal monitoring programs is now available, free of charge. The package estimates such factors as the statistical power of monitoring programs relative to the number of plots monitored, the magnitude and variation in the index monitored, plot weighting schemes, and duration and interval of monitoring. Software is appropriate for local or regional scale monitoring programs with less than 250 monitoring plots. The program is available at the National Biological Survey's Inventory and Monitoring web and ftp site. The monitor program, a manual for the program in Word Perfect 5.1 format, and a manual for the program in ascii text format are available at the following addresses: <http://www.im.nbs.gov> (click on the software site), or <ftp://im.nbs.gov/pub/software/monitor>. For further information, contact: James Gibbs, Dept. of Biology, 419 OML, P.O. Box 208104, Yale University, New Haven, CT 06520-8104.

## Manual of California Vegetation Now Available

The California Native Plant Society Press recently published a manual designed to provide a unified, quantifiable classification of California's vegetation types. The manual is the result of an effort by universities, environmental organizations and land management agencies to develop a uniform vocabulary and common language for describing California's major vegetation types. Information includes topics such as definitions for over 275 vegetation series habitats, unique stands and vernal pools; identification and ranking of plant communities by conservation priority for development projects; and quantitative vegetation descriptions of critical habitats. This Manual is available for \$55 hardcover, \$39 softcover. Contact: California Native Plant Society Press, 1722 J Street, Suite 17, Sacramento, CA 95814; Tel: (916) 447-2677; Fax: (916) 447-2727.

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*Announcements for the Bulletin Board are welcomed. Some items from the Bulletin Board have been provided by Jane Villa-Lobos, Smithsonian Institution.*

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# Endangered Species UPDATE

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