Endangered Species UPDATE

Including a Reprint of the latest USFWS Endangered Species Technical Bulletin

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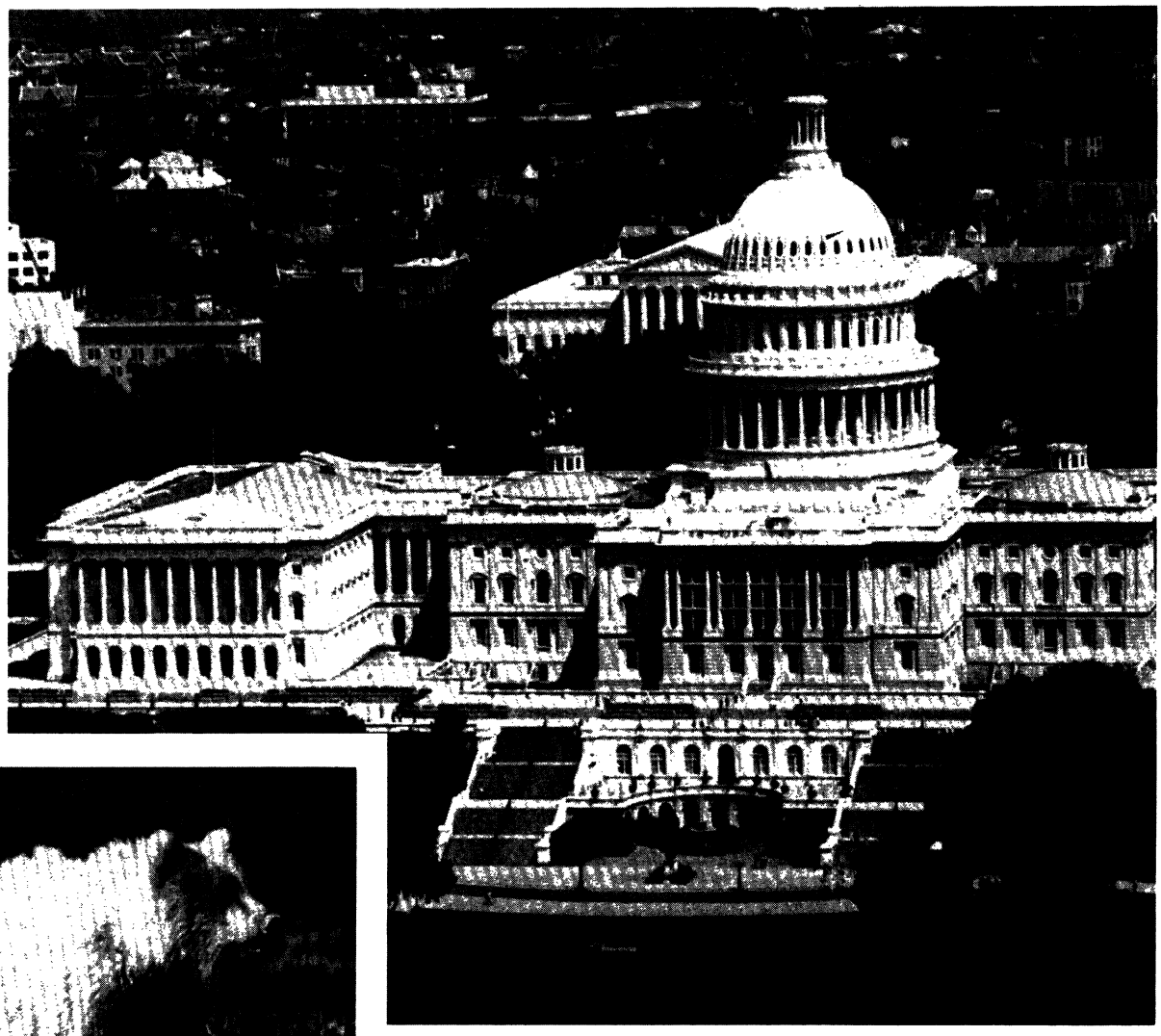

In this Issue:

The 1988 Recovery Amendment: Its Evolution and Content

by John M. Fitzgerald

[Note from the Editor: The August 1989 Special Issue of the UPDATE was devoted to an evaluation of the recovery planning process as implemented. The following article reviews the evolution of and need for the recent recovery amendments to the Endangered Species Act concerning species' recovery, and outlines the new recovery provisions as now required by law.]

On October 7, 1988, President Reagan signed into law a bill amending the Endangered Species Act, and authorizing increased appropriations to implement the Act through fiscal year 1992 (Public Law 100-478). One of these amendments, often referred to as "the recovery amendment," made more specific the general requirement that the Secretary develop and implement recovery plans. To incorporate these new amendments, the U.S. Fish and Wildlife Service (FWS) is in the process of revising its own recovery guidelines.

This article is intended to help ensure that as the FWS proceeds with its revision, as recovery team members prepare or revise their plans, as agency biologists and decision-makers prepare general guidelines and consider their responsibilities for specific species, and as budget officers help allocate resources, they will be acquainted with what the law now requires of them and why. In addition, it includes observations concerning the recovery of overseas species and coordination of recovery efforts with other programs.

The Need for a New Recovery Amendment

The 1988 recovery amendment was preceded by a long history of authority and direction that continued to become more specific in the face of wildlife declines, and the lack of effective and sufficient responses to these declines by government agencies.

The Endangered Species Act was first passed in 1973 to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide a program for the conservation of these listed species (Sec. 2 (b)). "Conserve" was defined as the use of "all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary..." (Sec. 3(3)). Under the Act all federal departments and agencies are required to conserve listed species and utilize their authorities to further the purposes of the Act, through consultation with the Secretary (of Interior or Commerce), and the active implementation of conservation programs for listed species (Sec. 2(c) & 7(a)(1)).

"...the 1988 recovery amendment...came after ten years of waiting for agencies to fully implement the first recovery amendment passed in 1978."

The original 1978 recovery amendment made mandatory the development and implementation of recovery plans, which up until that time had merely been implied in the Act. Mandatory, that is, unless the Secretary (of Interior or Commerce) were to find that developing and implementing a plan would not contribute to the conservation of the species (Sec. 4(f); H. Rpt. 95-1625, at 743). Since the 1978 amendment contained no specific timetables for developing and implementing recovery plans, nor other means of controlling the discretion of the Secretary, this supposedly mandatory duty was often honored in the breach. Over 160 recovery plans had been reviewed for approval before the end of 1982, but many observers felt that even the 75 or so plans that had been approved were largely left on the shelf, except for plans affecting a few "charismatic megavertebrates" such as the bald eagle and grizzly bear (Defenders 1984; Sen. Rpt. 240, 100th Cong., 1st Sess., 1987, 9).

In 1982, Congress added the requirement that, in developing and implementing recovery plans, the Secretary "shall to the extent practicable, give priority to those endangered species or threatened species most likely to benefit from such plans, particularly those species that are, or may be, in conflict with construction or other developmental projects or other forms of economic activity (Pub. L. 97-307, Sec. 2(a)(4))." This addition emphasized the common interest of both developers and conservationists in ensuring the recovery and delisting of such species.

However, the 1982 amendment still left considerable discretion to the Secretary in prioritizing and implementing recovery activities. By the end of 1986, although 210 plans covering 244 species (largely domestic) were approved, the FWS was still far short of its planning objectives, and few of these plans had been actively implemented. Out of the 425 U.S. species then listed, only four species had recovered, and the16 species estimated to be recovering were evenly matched in number by another 16 species that were on the verge of extinction or already gone (Defenders 1987). This did not include the other half of the listed species which were overseas, or the more than 200 candidates (many of which had already qualified for listing) that were declared

"extinct based on persuasive evidence" in the FWS's 1984 and 1985 candidate status reviews (49 Fed. Reg. 21664*ff*; 50 Fed. Reg. 37958*ff*; 50 Fed. Reg. 39526*ff*).

In a more specific example of the lack of accountability, the Secretary of the Interior actually ignored both the Yellowstone Park Plan and the Grizzly Recovery Plan, which had called since 1974 for the removal of the Fishing Bridge tourist facility from a prime grizzly feeding site within Yellowstone. A newer facility, Grant Village, had been constructed with the understanding that it was to replace Fishing Bridge. However, a federal judge in Wyoming refused "to second guess the Secretary's motives for not following the recovery plan" when both facilities were allowed to stand (National Wildlife Federation v. National Park Service (669 F. Supp. 384 (D Wyo. 1987))).

Another related problem was lack of adequate funding. The failure of Congress to appropriate more money for recovery was thought partly due to the difficulty in determining how much recovery steps would cost. This was particularly so since the Reagan Administration chose not to request funds to begin implementation of most recovery plans, or to report to Congress or the public the cost of alternative recovery steps for each species. Indeed, the Administration showed hostility to both spending and developing creative low-cost ways of enhancing recovery (e.g. increasing active coordination between consultation, law enforcement, and recovery programs), by cutting the endangered species program personnel and budget, and by proposing weakened regulations concerning taking and consultation (e.g. 46 Fed. Reg. 29490 (June 2, 1981); see also, Defenders 1985-1988). In one instance, the National Marine Fisheries Service (NMFS) had to be force-fed with funds, requested from Congress in testimony by Defenders of Wildlife, for the development of recovery plans for the humpback and right whales and the Gulf of California Harbor Porpoise.

Some conservationists hoped that an amendment to the Act requiring more detailed explanations of site specific recovery steps, along with corresponding timetables and cost estimates, might limit the discretion of the Secretary to ignore recovery plans, and at least require her/him to adopt a "no net loss" standard when choosing among different recovery options for a species or reviewing incidental take requests. It was hoped that at the very minimum this "no net loss" attitude would prevail, especially in light of the ruling that the Secretary must act not merely to avoid jeopardy, but "to increase the populations of protected species" (Defenders of Wildlife v. Andrus, 428 F. Supp. 167, 170, D.D.C. 1977). Thus, the 1988 recovery amendment, and the accompanying candidate and recovered species monitoring amendments, came after ten years of waiting for agencies to fully implement the first recovery amendment passed in 1978.

History of the Passsage of the 1988 Recovery Amendments

In early 1985, as Congress began the effort to reauthorize appropriations for, and address potential amendments to, the Act, conservationists raised concerns about the lack of recovery plans and the lack of implementation for the plans that did exist. As of July 1984, there were 803 listed species with only 154 having plans, and of these only 16 were known to be recovering (Defenders 1987). Additionally, by the mid-80s, the FWS was no longer producing annual recovery reports in a form that consolidated nationwide program activities, thus leading to the call for legally required reports to Congress and the public.

The conservation community, however, adopted a defensive strategy in the 99th Congress, suggesting few changes in the Act beyond additional funding, protection for plants not on federal lands, and the monitoring of candidate species. The respective congressional committees approved simple bills, with no substantive amendments in the Senate bill and only the candidate amendment in the House. Nonetheless, enactment of either of these modest bills was blocked by Senator Alan Simpson (R-WY) and a few other Senators who were dissatisfied with certain localized issues such as

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Suzanne Jones... .....Editor
Dr. Terry Root..... .....Faculty Advisor

Instructions for Authors:

The Endangered Species UPDATE welcomes articles related to species protection in a wide range of areas including but not limited to: research and management activities for endangered species, theoretical approaches to species conservation, and habitat protection and preserve design. Book reviews, editorial comments, and announcements of current events and publications are also welcome.

Readers include a broad range of professionals in both scientific and policy fields. Articles should be written in an easily understandable style for a knowledgeable audience.
Manuscripts should be 10-12 double spaced typed pages. For further information please contact Rob Blair at the number listed below.

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US Capitol Building
(House of Rep., Office of Photography)
Grizzly bear, *Ursus arctos*
(Gene Colling)

grizzly and wolf management. Rather than agree to weaken protection for wolves and grizzlies in exchange for such limited improvements, the conservation community decided to begin again in the next Congress.

The prospect for strengthening amendments grew better as the leadership of the Senate and its committees changed with the 100th Congress. While individual Senators, notably John Chafee (R-RI), had made strong efforts to improve the program and the law, the Senate leadership and the Administration were not eager to move the bill as long as Senators Simpson and McClure(R-ID) were not happy with the Act. Meanwhile, conservationists frustrated by the lack of recovery progress recommended amendments requiring recovery plans to include specific timetables and cost estimates.

Failure to develop and implement plans for even the most well-publicized species came to frustrate leaders of both Senate and House committees with jurisdiction over the Act, leading them to contact the FWS Director, at the request of Defenders, in early 1987 concerning the lengthy delay in approving and implementing the Northern Rocky Wolf Recovery Plan. This led to the formal approval of the plan in August of 1987 after several years of revisions, but little action was taken to implement the detailed schedule of activities called for in the plan, particularly concerning the central element of restoring wolves to Yellowstone National Park. [Although approved in August of 1987, the wolf recovery plan is already years behind schedule, and a bill by Rep. Wayne Owens (D-UT), H.R. 2786, to expedite recovery steps for wolves, is moving in Congress.]

As Congress was wrestling with the reauthorization of the Act, the General Accounting Office (GAO) finished a review of the FWS recovery process requested by House subcommittee chairman Gerry Studds (D-MA) in early 1987. The GAO report confirmed Defenders' reports of 1984-87 on many of the deficiencies of the recovery program, and, among other things, found that the lion's share of recovery funds was being allocated to more "glamorous" species, to the apparent detriment of others. This encouraged Congress to add the phrase "without regard to taxonomic classification" (Sec. 4(f) (1) (a)), to the existing requirement that the Secretary, in developing and implementing recovery plans, "devote resources to those species most likely to benefit from them." [However, in all fairness, some congressional earmarking of recovery funds, such as for the grizzly, wolf, and sea turtle, was necessary to counteract pressure from economic interests, such as the western cattle-grower's associations and some shrimp trawler groups, who would have preferred that agencies not fully implement the Act with regard to those species.]

By tying specific recovery costs to the achievement of specific benchmarks on the path toward recovery as discussed below, it was hoped that the new recovery amendment would help distinguish between instances where spending more will help directly to achieve recovery, and where there is merely a temptation to spend more because working with a certain species is considered "glamorous" or of more interest to many biologists. Given the common interest of conservationists, developers and consumptive users to delist species, there was no opposition to this concept of requiring more detailed accountability.

The resulting recovery amendment, contained in Senator Mitchell's (D-ME) ESA reauthorization bill S. 675, was reported from the Environment Committee on December 9, 1987. However, when the reauthorization bill was brought to the Senate floor in July 1988, much negotiating had yet to take place. Senator McClure began what appeared to be a miniature filibuster, along with Senator Steve Symms (R-ID). McClure threatened to offer on the Senate floor a series of at least three previously uncirculated amendments, including one which would require economic impact statements before implementing most provisions of the Act. Consequently, conservationists and their Senate allies agreed to accept two of those amendments in exchange for expeditious passage of the bill.

As included in the final version of the bill, McClure's two amendments require: public notice and opportunity to comment on recovery plans, and consideration of those comments prior to implementing new or revised plans ((f)(4) & (5)); and an annual species by species accounting, by federal agencies and states with cooperative agreements, of funds spent primarily for the conservation of listed species (Sec. 18). McClure's first amendment was very similar to the pre-existing requirement, now Section 4(h)(4), that the Secreatry seek public comments when creating guidelines for developing and implementing recovery plans. Despite adding to the many layers of planning and comment already required, the McClure provisions were thought by conservationists to have the potential to show public support for recovery, and to demonstrate that the sooner we act to prevent endangerment, the more efficient our conservation efforts will be. Moreover, they were a small price to pay for the release of the whole bill from the threat of filibuster.

Requirements of the 1988 Recovery Amendments

Under the new recovery amendment, the law now requires that each plan must contain: "i) a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species; ii) objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list; and iii) estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward .that goal" (Sec. 4(f)(1)(9B)). The amendment further directs the Secretary to report every two years on the status of efforts to develop and implement recovery plans for all listed species, and the status of all species for which recovery plans have been developed (Sec. 4(f)(3)). This report should expedite both the process of revising recovery plans, and the fulfillment of the pre-existing requirement that the Secretary review the status of all listed species at least once every five

(Continued on UPDATE page 4)

years and determine whether their listed status should change.

Monitoring: A Halfway House for the Recovered and Declining

Closely related to the recovery amendment are the "monitoring" amendments which extend the duties and opportunities for conservation work and funding on behalf of recently recovered, delisted, and category one candidiate species. ("Category one candidate" species are those deserving of listing but as yet unlisted, and placed by the Secretary in the category of "warranted but precluded" due to limited resources and listing actions of higher priority.) The candidate monitoring amendment requires the Secretary to implement a system to monitor the status of category one candidate species and make "prompt use" of the emergency listing authority to prevent a "significant risk to the well-being" of any such species (Sec. 4(b)(3)(C)). This provision was invoked by the Environmental Defense Fund, Defenders of Wildlife, and the Natural Resources Defense Council in a lawsuit brought to compel the listing of the western population of the desert tortoise (EDF et al. v. Lujan, Civ. 89-2034, D.D.C.), now currently listed on an emergency basis. However, whether the Secretary has yet implemented a system to monitor effectively all category one candidates as required, is very much in doubt.

While technically covering only those species petitioned for listing from outside the agency rather than those internally-suggested, the monitoring system was intended to respond to the long line of all qualified candidates languishing unlisted. Thus, administratively, the monitoring program should cover at least all species that qualify for listing but are as yet not listed—since many of these species have been declared "presumed extinct" while awaiting listing—and possibly cover other candidates (such as category two candidates which are those awaiting further research to determine whether they should be listed) (1985, 1988 status surveys; e.g. 50 Fed. Reg. 39526-39584).

Delisted, But Not Listless

To encourage agencies not to forget altogether about recently delisted species, and to encourage them not to oppose delisting due to a potential loss of matching funds, Congress also adopted amendments requiring the Secretary to establish with the states an effective system for monitoring recently delisted species, and allow states to receive matching "Section Six" funds for this monitoring process for up to five years after delisting (Sec. 4(g) and 6(d)(9)). The Secretary must also make prompt use of her/his emergency listing authority to prevent any significant risk to the well-being of any such recovered species (Section 4(g)). Although five years is a very short time biologically speaking, this requirement is at least a step in the direction of continuity.

Recovery of Overseas Species

"The point I want you to come around to understand is that this country wants a management program that will maintain these populations around the world."

--Rep. John Dingell (D-MI)
Chairman Hearings on the Act in 1973

Congress has not backed away from its declaration that all species should have recovery plans unless the Secretary specifically finds that a plan would not help. This means that to the extent that U.S. agencies may affect species overseas, such as through foreign assistance, export licenses, or notices concerning the export of pesticides banned in the U.S., there should be recovery plans in place to help guide conservation assistance and consultations under Section 7.

Recovery plans for species overseas took a backseat to domestic species' plans during both the Ford and Carter Administrations, and it was perhaps fair to have allowed several years for the process of implementing the Act to mature. However, it now would be difficult for the Secretary to find that recovery plans would not promote the recovery of species overseas, given the extensive involvement of our agencies in actions that affect these species.

Regulations revised in 1986 specifically reversed the original and explicit 1978 provision requiring Section 7 consultations concerning proposed actions by U.S. agencies that may affect listed species that are overseas. However, a February 1989 court decision declared that the 1986 reversal was illegal, and that the Act requires consultations concerning any agency action that may affect listed species overseas (Defenders of Wildlife v. Hodel, 707 F. Supp. 1082 (D. Minn. 1989)). Yet, despite the promise issued by President Bush and six other heads of state in July of 1989 to implement existing environmental laws to the fullest, and work to preserve rainforests and all the species therein, the Bush Administration has not corrected this regulation and is still appealing the case.

On another front, the Bush Administration is working through the FWS, the Agency for International Development, and other entities here and abroad to develop plans for providing funds, personnel, and other assistance to help conserve and expand rhinocerous and elephant populations. However, they seem to have studiously avoided calling these "recovery plans" so as not to set the precedent of obeying the Act with respect to overseas species.

Coordination of Recovery with Other Authority and Programs

The recovery plans, and the guidelines for implementing them, should be coordinated with a number of other activities in order to be most effective. For the endangered wildlife program of the FWS and its counterpart in the NMFS, recovery plans can be useful or necessary, in developing:

— the core of the overall wildlife conservation program required in Section 5(a) which is not limited to listed species or land acquisition;

— essential elements of Section 6 cooperative agreements;

— incidental taking statements and permits of Sections 7 and 10 which resist unsustainable taking that will measurably hinder recovery or reduce essential populations; and

— specific help for other countries'

conservation efforts as authorized in Section 8 and 8(a).

Within the FWS and NMFS as a whole there are other possibilities. The Fish and Wildlife Coordination and Conservation Acts, the "Farm Bill," the refuge planning program, and many other programs should not be implemented without some idea of the requirements of listed species as set out in detailed recovery plans revised to meet the requirements of the new amendment. Additionally, given the mandates of the Act for every agency to carry out a conservation program for listed species and for the Secretary to procure the services of other agencies' personnel, recovery teams and plans need not be too meek in the scope of their recommendations--especially when comparing low-cost alternatives, such as regulation or guidance, to outright land purchase in order to secure the resource management necessary for recovery. Internationally, in conjunction with various wildlife laws and treaties, recovery and related efforts such as consultation can be multi- and transnational, and can become not only models for the work of other nations and international bodies, but fully integrated with their work and decision-making.

Given the new requirements for extended public involvement and more up-to-date and specific details, the recovery teams and plans that result from this process will probably be better understood by both local and national constituencies. They will also provide better guidance for private groups and government agencies, including the FWS, in fulfilling their duty---the duty, that is, to return all listed species to a status where they are no longer feeble wards of the state requiring the special protection of the Act, but where they can be full partners in the on-going creation that is earth.

Note: "Defenders" citations in the text refer to annual publications from 1984-1989 by Defenders of Wildlife entitled "Saving Endangered Species," which review the Act and its implementation.

John Fitzgerald is the Counsel for Wildlife Policy at Defenders of Wildlife, and also served as one of the leaders of the Endangered Species Act Reauthorization Coalition.

Book Review

Rehabilitating Damaged Ecosystems Volumes I & II

Edited by John Cairns, Jr.

Restoration ecology is a bastard child slowly clawing its way to legitimacy. Some environmentalists shun discussion of the topic, believing that any report of the ability to restore damaged ecosystems will release the reins on developers to work under the pretense that areas damaged now can just be restored in the future. As evidence, environmentalists point to the trend in many states where developers are being allowed to fill wetlands at one location under the condition that they restore wetlands in another.

Theoretical ecologists look askance at the field of restoration ecology and deem it too "applied." The shadow of research funded by industry is often too strong for them to ignore when they are evaluating the scientific merit of restoration projects.

The people who are embracing restoration ecology are industrialists looking for solutions to the environmental degradation they have incurred, consultants employed by firms that are developing these solutions, and a handful of stalwart conservation biologists who are established enough in their fields to stand up to environmentalists and theoretical academicians. This presents a rather ironic scenario when one considers that the vast majority of ecosystems are influenced profoundly by humans, while the number of scientists studying pristine ecosystems is far out of proportion to the amount of untouched environment that remains.

Rehabilitating Damaged Eco-systems, a double-volume set edited by John Cairns, Jr., represents the most recent attempt to bring together the divergent thoughts and methods of the nascent field of restoration ecology. The book opens with a chapter by William Jordan which reconciles restoration ecology and ecological research. Jordan blithely acknowledges that the majority of research in restoration ecology has focused on methods that are effective and economical—in other words, that the problem has been approached in a technical manner. But he argues that theoretical ecologists can capitalize on the stressed state of damaged ecosystems to further elucidate studies on ecosystem functionings.

The remainder of the first volume is a series of detailed case studies devoted to restoration and rehabilitation of damaged ecosystems. These studies cover a variety of topics including river and stream restoration, revegetation of abandoned mine lands, reclamation of treated lands, creation of wetlands in coal slurry ponds, evaluation of strip pits and ponds, restoration of salt marshes in California, surface mine reclamation in Appalachia, and ecosystem restoration in West Germany.

The second volume of the book uses an article on both the artificial and natural rehabilitation of Mount St. Helens to segue into the more generalized concerns and issues of restoration ecology. Articles in this half of the book include an examination of the variation of species in undisturbed systems, the effects of insect pests and plant stress, the possibility of different endpoints in restoration projects, an examination of political and social factors in the Patuxent River clean-up, an example of decision analysis as a way to address uncertainty in decision-making, the bleak possibility of restoration after nuclear winter, and an article on the restoration of both the ecological and cultural facets of the proposed Guanacaste National Park in Costa Rica.

Rehabilitating Damaged Ecosystems should prove to be a valuable book for anyone seriously involved in the field of restoration ecology. Its price will keep it out of the hands of the general reader, but its publication has brought restoration ecology one step further on the path to legitimacy.

Rehabilitating Damaged Ecosystems is available from CRC Press, Inc., 2000 Corporate Blvd, NW, Boca Raton FL 33431, for $110 per volume.

Book review by Rob Blair, former ESU editor.

Opinion

The Implications of Hurricane Hugo on the Recovery of the Red-cockaded Woodpecker

By Suzanne Jones, UPDATE Editor

The devastation caused by Hurricane Hugo this past September in the southeastern United States is a grave reminder of the vulnerability of endangered and threatened species which are restricted to fragmented and limited habitats. Aside from the obvious threat of annihilation that catastrophic events pose for species having limited ranges, few populations, and low population numbers, such events also reveal the inadequacy of recovery responses that merely emphasize emergency crisis-response measures. One species in particular, the endangered red-cockaded woodpecker (*Picoides borealis*), was severely impacted by Hugo and aptly illustrates the need to focus on both short and long-term recovery efforts.

The red-cockaded woodpecker is an endangered colony-nesting species which lives in groups of two to five individuals in the excavated cavities of living "old growth" pine trees in the southeastern U.S. Listed as federally endangered in 1970, the species is now found primarily in national forests in the South due to the steady diminishment of its habitat by agriculture, development, and the harvesting of old growth trees. Prior to Hugo there were an estimated 2,000 active colonies worldwide, 562 of which were located in the Francis Marion National Forest in South Carolina. This Francis Marion population was considered to be one of three potentially viable populations remaining in the world, containing roughly one-fourth of the wild population.

According to the National Wildlife Federation, Hugo levelled more than 100,000 acres of the Francis Marion National Forest, and in the process destroyed the cavity trees of over half of the resident colonies. Only 1% of the colonies survived untouched. Fortunately, within Francis Marion live birds were found at the locations of over 70% of the damaged colonies, prompting the call for immediate action to provide nesting shelter for these birds.

Immediate emergency efforts include constructing artificial cavities in living trees by inserting nest boxes. Additionally, follow-up work is proposed to monitor woodpecker response to these artificial cavities since many other cavity nesters, including the flying squirrel, other woodpeckers, and bluebirds,were displaced by Hugo and may now compete for specialized red-cockaded woodpecker cavity space. A $633,000 emergency Hugo relief bill, which includes funds for, and directions to, the Forest Service for recovery of the red-cockaded woodpecker, was recently introduced in Congress.

However, while these publicly-visible short-term emergency efforts are vital and likely to be funded, long-term recovery measures are equally important for the survival of the species, and yet are likely to fall by the wayside. The massive destruction of timber by Hugo has set the stage for large-scale timber salvage and reforestation in the Francis Marion, and created the opportunity to restore the diverse array of native vegetative communities that once existed. Most important is the restoration of the longleaf pine forest ecosystem, which historically extended throughout large areas of southern coastal states, but which is now reduced to only 12-14% of its original coverage. According to the Nature Conservancy Heritage Program criteria, the longleaf pine forest and associated wiregrass understory provide essential habitat for up to 122 taxa of endangered and threatened plant species, and is also the ecosystem in which the red-cockaded woodpecker reaches its highest abundance.

Yet, restoration of natural community types generally is not compatible with the maximization of profits from sustained timber harvest. For instance, conventional site preparation techniques, such as grading and filling, are not conducive to the regeneration of wiregrass, an essential component of the longleaf pine ecosystem; the faster-growing loblolly pine is preferred by commercial timber interests over the native longleaf pine; and the lengthened harvest rotations, controlled burning, and thinning requirements necessary for old growth habitat differ from those which maximize timber production.

Thus national forests, and Francis Marion in particular, which are required by Congress to be managed for multiple uses, have once again become a battleground between the conflicting priorities of endangered species conservation and timber production. Consequently, while the popular emergency shelter-building measures carried out by the Fisheries and Wildlife Program of the Forest Service are likely to be implemented, the longer-term recovery measures such as restoration of native communities, which fall under the jurisdiction of forest management divisions within the Forest Service, are likely to be stymied by historically powerful timber interests. Yet both long and short-term recovery iniatives are necessary to restore a viable self-sustaining population of red-cockaded woodpeckers. The situation becomes all the more critical as the immense acreage of private timber land surrounding Francis Marion, also devastated by Hugo, is reforested as loblolly pine "tree farms," relegating this national forest, like so many others, to an island of potential habitat in a highly modified landscape.

If our attempts to preserve endangered species are to be more than temporary band-aids, it is imperative that ample appropriate habitat is protected and maintained so that species may sustain themselves. If the red-cockaded woodpecker is to weather another Hurricane Hugo, this conflict within our national forests must be openly addressed.

Note: Information for this article was gathered from Dr. Rudolph A. Rosen, Director of the National Wildlife Federation's Southeastern Natural Resources Center.

Bulletin Board

Highway Dept Joins TNC Efforts

The Nature Conservancy (TNC) and the Missouri Highway Department, which owns and manages some 385,000 right-of-way acres containing some of the rarest plants in North America, have agreed to work together to protect rare and threatened species occurring on Department lands. This innovative partnership began immediately with the protection of six roadside sites in southwestern Missouri, which are home to several globally-endangered plants such as Missouri bladderpod, Bush's poppy mallow, and royal catchfly. The Department joins TNC's Natural Areas Registry Program, a statewide effort created to secure voluntary conservation commitments from private landowners and public land managers. With their participation in the Registry Program, the Department has agreed not to mow or spray herbicide near sensitive plants. [This announcement, written by MO TNC, was sent in by roadside landowner, Jacqueline Bridges, who is particularly pleased with the increased number of wildflowers, birds and wildlife, and the decreased erosion that have resulted because of this no-mowing policy.]

Debt-For-Nature Swap Paper

Last autumn, Conservation International released *"The Debt-for-Nature Exchange: A Tool for International Conservation."* This authoritative report describes the history of the first two years of debt-for-nature exchanges, identifies the financial and programmatic factors which determine the feasibility of such exchanges, and provides a checklist for nonprofit organizations considering debt-for-nature swaps. This 50-page monograph is available from Conservation International, 1015 18th Street, NW, Washington, DC 20036; (202) 429-5660.

Animal Behavior/Endangered Wildlife Conference

The Midwest Regional Animal Behavior Society Conference, sponsored by the International Society for Endangered Cats and The Ohio State University, will be held in Columbus Ohio on April 27-29, 1990. The theme of the conference will be "The Role of Animal Behavior Studies in Conservation," with sessions on both captive and field-oriented research. Additionally, there will be an invited session on Midwest endangered and threatened wildlife. Those wishing to submit endangered wildlife papers should contact Gail E. Foreman, Director of Research, by February 15th. For more information, contact: ISEC, 4638 Winterset Dr., Columbus, OH 43220; 1-800-272-CATS, (614) 451-4460.

CITES Monograph Series

The Pacific Center For International Studies announces the publication of three occasional papers on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The three publications are:

**Asian Compliance With CITES: Problems and Perspectives*

**CITES: The Future of International Wildlife Trade*

**CITES And Regulation of Trade in Endangered Species of Flora: Problems and Prospects*

These papers are available for $6.00 each, from: William C. Burns, Director, Pacific Center For International Studies, 33 University Sq., Ste. 184, Madison, WI 53715; (608) 255-3233.

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