

# Endangered Species UPDATE

*Including a Reprint of the latest USFWS  
Endangered Species Technical Bulletin*

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**School of Natural Resources**



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# Issues and Controversies in the Forthcoming Reauthorization Battle

by

Michael J. Bean

Most observers expect that the next congressional reauthorization of the Endangered Species Act will be a donnybrook. The reauthorization process will likely get under way with congressional hearings early in 1992, but when it will end is far less clear. Although the Act's current authorization expires September 30, 1992, Congress may prefer not to have to deal with this issue in an election year and simply defer it to the following year. That has happened before. Whatever the timing, however, the reauthorization battle is likely to be a highly contentious and difficult struggle between those who want to maintain and strengthen the Act and those who think the Act has wrongly reordered priorities to the detriment of the nation and its citizens. This article examines some of the key issues and themes that will be aired in that struggle.

## The ESA: Stunning Success or Colossal Failure?

Debate is already shaping up around the question of whether the Act has worked. Critics of the Act are sounding the theme that it hasn't. An October 6, 1991 article in the *St. Louis Post-Dispatch* begins with the following quote: "We should abandon the Endangered Species Act. It isn't working. By trying to save everything, we end up saving nothing. We should cut our losses." That advice came from Tom Wolf, a panelist at a recent gathering of the conservative Political Economy Research Center. Syndicated columnist Alston Chase wrote earlier this year that the Act is "almost a complete failure at achieving its stated goal of preventing extinction of plants and animals." Milan Yager, who is the spokesperson on the Act for the National Association of Home Builders, starts his standard stump speech with a recitation of the Act's alleged failures. "During the 18 years the statute

has been in place, only five listed species have moved from endangered to threatened, or off the list," the October 20, 1991 Fort Lauderdale *Sun-Sentinel* quotes Yager as saying. Yager then delivers his coup de grace, "Something is wrong when a statute that costs hundreds of billions of dollars to administer can only in 18 years help five species."

Hundreds of billions of dollars? Perhaps Carl Sagan inspired this bit of rhetorical excess — more on the Act's costs in a moment. For now, let's focus on Yager's other contention: in 18 years, the Act has only "helped" five species. One quickly gets the sense that facts may not matter very much in the forthcoming debate, that they can be invented to suit one's ends. In the perhaps naive belief that facts ought to matter, here they are: The number of species that have been moved from endangered to threatened, or off the list entirely is not five, but seventeen; an eighteenth (the gray whale) has recently been proposed for delisting.

Are these the only species the Act has "helped?" Hardly. They do not include the whooping crane, of which there are more alive today than at any time in the last half century, the peregrine falcon, breeding populations of which have been restored to the eastern United States, or the red wolf, black-footed ferret, California condor, or Guam rail, all of which have been successfully bred in captivity and reintroduced to the wild. In all, the Fish and Wildlife Service has identified about 60 U.S. listed species currently increasing in numbers or expanding their ranges. Yager counts none of them as having been "helped" by the Act because they have not yet been reclassified.

Neither does Yager's count include those species whose extinctions have been prevented, or made less likely, even though their numbers and ranges may not yet have begun to increase.

While it is impossible to know what would have happened in the absence of the Act, it seems highly likely that at least the twelve listed species from the Ash Meadows area of Nevada, the mission blue butterfly and Coachella Valley fringe-toed lizard of California, the cui-ui fish, the Wyoming toad, the Cumberland monkey-faced pearly mussel, Schaus' swallowtail butterfly, the red-cockaded woodpecker, and many of Hawaii's native birds would today all be extinct, or much closer to it, but for the Endangered Species Act. The Act has not stopped all extinctions in the United States, but it has almost certainly reduced to a trickle what would otherwise have been a torrent of extinctions.

All of the above is not to say that the Endangered Species Act has been an unqualified success. A lot of species have clearly been helped by the Act, but a lot more could be and many that have been helped could be helped still further if more resources to do the job were available. That brings us back to the other matter that Milan Yager brought up, the Act's costs.

## The Act's Costs: Inordinately Expensive or Miserly Cheap?

The Defense Department would no doubt be filled with envy if it thought, along with Milan Yager, that "hundreds of billions of dollars" were being spent to administer the Endangered Species Act. In 1991 the Fish and Wildlife Service received the largest annual appropriation it has ever received to administer the Act — \$38.7 million. Just how much is that? Well, it is less than the amount budgeted for repairs of the Woodrow Wilson Bridge (one of seven bridges spanning the Potomac River in the Washington area) in the recently approved federal highway bill. It's even less than the projected annual cost of operating one of the newest units of the

National Park System, the Presidio in San Francisco.

The total amount appropriated to the Service to administer the Act in its entire history is less than \$337 million. That amount does not include Section 6 grants to the states to support their endangered species programs -- about another \$59 million since the Act was passed. Nor does it include the cost of lands acquired with moneys from the Land and Water Conservation Fund. These are harder to quantify precisely since many lands are often acquired for multiple purposes; protecting endangered species is just one such purpose. The Fish and Wildlife Service estimates its land acquisition expenditures for endangered species since 1974 at \$238 million.'

Add all these numbers together, plus the very modest amounts appropriated to the Commerce and Agriculture Departments for administering their duties under the Act, and the total is little more than \$700 million in the Act's entire history. That's about what will be spent this year on nuclear weapons research at the Sandia National Laboratory, one of three nuclear weapons research laboratories in the United States. Milan Yager's assertion that the Act costs "hundreds of billions" of dollars to administer is not simply wrong, it's several hundred-fold wrong.

What would be required to carry out the Act effectively? In September 1990, the Inspector General of the Interior Department estimated that a total of \$4.6 billion would be needed to implement fully recovery plans for all listed species as well as the candidate species that are likely to be listed in the future. According to the Washington Post of November 29, 1991, that is slightly less than the \$4.7 billion that Americans were expected to spend on video games in 1991. But even that figure, less than one-fortieth of Milan Yager's number, must be taken with a very large grain of salt. The Inspector General's figure is nothing more than the product of multiplying 2,286 species (the number of species that the Inspector General thought would eventually be listed) by \$2 million per species, the assumed cost of recovery for each species.

Where did the \$2 million per species come from? This was the high end of a fiscal year 1985 Fish and Wildlife Service survey of 120 listed species that concluded the average cost of recovery for those species would be between one and two million dollars each. The 2,286 species included most of the then-listed species, all of the then-category I candidate species, and 1,300 (about 40 percent) of the then-category II candidate species. The accuracy of the \$4.6 billion figure therefore depends upon several critical assumptions: first, that the \$2 million recovery cost for the 120 species examined was accurately estimated; second, that the average recovery cost for these species is the same as for all listed species and those candidate species that will eventually be listed; and lastly that the Inspector General's guess as to how many candidate species would eventually be listed was correct. Of these assumptions, the second is highly suspect. In 1985, plants represented only about a quarter of all listed U.S. species. Since 1985, about two-thirds of all U.S. species that have been listed are plants, a trend that is likely to continue, as most candidate species are plants. Since the recovery costs of plants are typically much lower than for animals, it is likely that the average recovery costs for the 120 species examined in 1985 greatly exceeds the average cost for most of the species listed since then.

Notwithstanding the many reasons to treat the Inspector General's estimate with caution, critics of the Act have enthusiastically embraced it. In fact, some have gone completely overboard with it. Frank Dunkle, who served as Director of the Fish and Wildlife Service during the Reagan Administration and left amid a swirl of controversy over alleged irregularities in personnel practices, has surfaced again recently as the author of a draft document recommending changes in the Endangered Species Act on behalf of the Nationwide Public Projects Coalition. Dunkle takes the Inspector General's \$4.6 billion estimate of total implementation costs and turns it into an estimate of annual implementation costs. Dunkle's memo actually says the following: "According to the above mentioned audit, 'It would cost 4.6 billion a year to fully implement

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### *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, contact the editors at the number listed below.

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### *Cover:*

Texas snowbell (*Styrax texana*).  
Photo by San Antonio Botanical Center.

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the Act.” The passage Dunkle purports to quote does not exist. Thus, this is an example of not just inventing facts to suit one’s ends, but actually inventing a quote to establish those “facts.”

The truth is that no one can rigorously defend either the Inspector General’s estimate or any other estimate. Nevertheless, it is abundantly clear that more resources are needed than are currently being made available for the Act’s administration. The Inspector General said so, the Fish and Wildlife Service agreed, the environmental community thinks so, and this is the inescapable conclusion of those who decry the “failure” of the Act to accomplish more than it has to date. How much more is needed? A useful comparison would be with the highly successful federal programs to assist states in the conservation of game species, both fish and other wildlife. By most reckoning, the Pittman-Robertson and Dingell-Johnson Acts, which channel federal excise taxes to the states in support of game conservation, have been highly successful in conserving the few dozen species of game wildlife that are the object of those programs. At present, about \$300 million annually of federal expenditures go to support these programs. If that is what is needed to have successful conservation programs for a few dozen game species, it seems likely that at least that much would be required for successful conservation programs aimed at recovering the more than 600 species in this country that face the threat of extinction. Against that need, the amount currently being appropriated is a pittance.

### **The Act Needs More “Balance,” But Which Way?**

Perhaps the theme that will be sounded most frequently is that the Act needs to strike a better “balance” between conservation needs and other social objectives, most notably economic growth. The two premises of this theme are, first, that major conflicts between species conservation needs and other objectives are widespread and common and second, that the Act offers no satisfactory means of resolving these conflicts. Is either premise correct?

Some people think so. Dean Kleckner, president of the American Farm Bureau, was quoted in the August 17, 1991 *Rocky Mountain News* as follows: “Environmentalists have figured out that all they have to do to stop commerce or development is to run out and find an endangered species.” And Alston Chase, in a syndicated column around the same time wrote that “the United States is rapidly reaching endangered-species gridlock,” because the Endangered Species Act “is resoundingly successful at halting economic development.”

When pressed to offer examples of commerce or development that have been “stopped” or economic development that has been “halted,” these critics have a list that ranges from short to non-existent. Everybody’s list starts with the spotted owl; many lists stop there. But there are more than 600 listed species in the United States, and most of these have been protected for nearly two decades. Considering how many species have been protected for so long, what is truly remarkable about the Endangered Species Act, therefore, is not how many major conflicts it has spawned, but how few. The statistics relating to Section 7 of the Act bear this out.

Section 7 has long been recognized as the Act’s most stringent provision. It prohibits federal agencies from authorizing, funding, or carrying out any action that is likely to jeopardize the continued existence of a listed species. No exceptions from this duty are permitted, except by way of an exemption from the Endangered Species Committee, commonly called the “God Committee.” How many federal activities (including private development activities that require a federal permit) have been stopped as a result of Section 7? Virtually none. Nearly 50,000 federal activities were evaluated for potential conflicts with Section 7 during the period 1976-1986. More than ninety-nine percent of these were found either not to jeopardize any listed species or to be capable of avoiding jeopardy through minor modification. In all, only a handful of projects have not gone forward as a result of Section 7. None of these was deemed sufficiently important to warrant seeking an exemption from the God Committee.

The God Committee is about to meet, for the first time in thirteen years, to consider an exemption for certain federal timber sales that conflict with the spotted owl’s needs. That process may ultimately resolve the conflict that tops every critic’s list of the Act’s excesses. It is worth pointing out, however, that virtually all of the litigation to date, and all of the court orders enjoining federal timber sales, have been based upon laws other than the Endangered Species Act, most notably the National Forest Management Act and the National Environmental Policy Act.

It is also worth pointing out that although the reduction in federal timber sales attributable to the owl in the Northwest may represent a dark cloud on the horizon of the region’s loggers, others in the forest products industry see a silver lining in it. The August 4, 1991 *Washington Post*, in a column entitled “The Owl’s Golden Egg,” quotes Mark Rogers, a wood industry analyst, as saying that the Northwest timber industry’s excess production capacity has kept its profits low and that “[n]o tonic could be better for the depressed wood products industry” than an owl-induced reduction in that capacity. Rogers’ own research paper was entitled “What’s Good for the Spotted Owl is Great for the Wood-Products Industry.” The Northwest’s loss, moreover, is likely to be the Southeast’s gain, where much timber production had already shifted even before the spotted owl became an issue.

All of this is not to suggest that the Endangered Species Act’s requirements with respect to the spotted owl will not be disruptive of local economies in the Northwest. The Act’s exemption process, however, authorizes the exemption of qualified activities of only regional significance.

While the spotted owl tops nearly every critic’s list of the Act’s excesses, other examples involve speculation about what might happen in the future rather than impacts actually experienced to date. Perhaps the best example is a September 17, 1991 editorial in the *San Diego Union* concerning the coastal California gnatcatcher. The editorial begins by citing construction industry

*Continued on UPDATE page 4*

estimates "that an endangered species designation for the gnatcatcher would cost it \$20 billion and up to 200,000 jobs." The bases for this calculation were not revealed. They appear to be that no development of any kind would be permitted anywhere that the gnatcatcher might occur. The *Union's* editorial writer might have asked, before accepting the industry's assertions at face value, whether the listing of other species has ever had such an effect. It hasn't, as myriad examples reveal. The listing of the desert tortoise certainly hasn't stopped development in Las Vegas and surrounding Clark County, Nevada. Nor did the listing of the Coachella Valley fringe-toed lizard halt all development in burgeoning Palm Springs. Together, Hawaii and Florida harbor more than 180 listed species, more than a quarter of the total. Nevertheless, development there continues apace. It is true that in each of these examples, development proposals have had to be (or ought to be) carefully evaluated and activities modified to ensure their compatibility with species conservation needs, but development has most decidedly not been halted.

Similar apocalyptic scenarios are being painted with respect to the possible future listing of the delta smelt in the San Francisco Bay and various native salmon runs in the Pacific Northwest. Notably, with the exception of one salmon run, none of these species has actually been listed yet. Nor have their conservation requirements been determined. Those requirements will almost certainly require some departures from business as usual, since business as usual has contributed to the imperiled state of these species. Anyone who puts a price tag on these departures today is relying more on the gullibility of the audience than on the competence of his economists.

### **Subspecies and Populations: Does the Act Protect Too Much?**

Another issue in the forthcoming debate will be the wisdom of continuing protection for subspecies of vertebrate populations. Interior Secretary Manuel Lujan in 1990 pondered aloud about the need to protect every subspecies. Others have echoed that thought. The Inspector

General of the Interior Department, in his 1990 report, off-handedly suggested that perhaps the Act should be limited to full species, so as to make its costs more commensurate with the levels of funding Congress has been providing. Former Fish and Wildlife Service Director Frank Dunkle has recently proposed that the Act not protect subspecies (and presumably populations) of species that are common elsewhere.

Eliminating protection of subspecies and populations would definitely reduce the potential costs of the Act's administration; more than ten percent of the currently listed taxa are subspecies or geographic populations. Probably not coincidentally, it would also eliminate some of the major current and potential controversies, including those over the northern spotted owl (a subspecies), the coastal California gnatcatcher (a subspecies), and the various native salmon runs that are either listed or under consideration for listing (populations).

At the same time, however, elimination of protection for subspecies and populations would end years of effort to recover some of the best known and most popular animals that the Act now protects. Among them are the bald eagle, peregrine falcon, California sea otter, grizzly bear, Florida panther, gray wolf, Sonoran pronghorn antelope, Aleutian Canada goose, Key deer, Everglades snail kite, Columbian white-tailed deer, masked bobwhite quail, and brown pelican. It would also remove one of the provisions of the Act that increases the Act's flexibility. The authority to list and protect individual populations means that other populations can remain unlisted. If an all-or-nothing choice were required between protecting a species everywhere or nowhere, it is likely that for at least some species the choice would be everywhere. Sacrificed would be the flexibility to apply the Act's protections selectively, where they are most needed, and to withhold them when they are not.

### **Animal Welfare Ahead of Human Welfare?**

Perhaps the most basic theme that the Act's critics will sound is that the Endangered Species Act has subordi-

nated human interests to the interests of other species. At times, this argument borders on the truly bizarre. An op-ed column in the November 10, 1991 *Milwaukee Journal* by Zhan Tapola prominently features the spotted owl in its contention that "the ideology of the environmental movement is not pro-nature. It is not pro-animal or pro-earth. It is anti-mankind." While that may represent an extreme view, the notion that the Act and its supporters prefer pupfish to people is not uncommon.

The challenge for supporters of the Act will be to demonstrate that the real choice is not between people and pupfish but between long-term human welfare and more immediate perceptions of human need. Considered in isolation, the loss of a species of no known value is likely to seem a small price to pay in return for some immediate economic benefit. But viewing the problem in that manner is akin to deciding whether to quit smoking one cigarette at a time. One more cigarette, by itself, is unlikely to jeopardize our future health, just as the loss of one more species, by itself, is unlikely to imperil our future well-being. At the same time, however, we know that it is the cumulative consequence of a lifetime of decisions to smoke just one more cigarette that threatens our health. In a similar manner, we need to understand that it is the cumulative consequence of a pattern of decisions to sacrifice just one more species that threatens our future well-being. The choice, therefore, is not between humans and other living things; rather, it is a choice between immediate gratification and long-term human welfare.

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# Book Review

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## Balancing on the Brink of Extinction

1991. Island Press. Washington DC.

*Balancing* evolved from eight articles published in a special issue of the *Endangered Species Update* and contains 22 separate essays. Despite the wide range of perspectives and styles, Kohm has cogently identified common themes and reasonably divided the book into four substantive sections. Kohm's own essay on the background and structure of the Act presents a clear and concise introduction to the history of endangered species preservation.

Part I contains essays addressing the Act's history and its legal and political implications. Michael J. Bean and Holmes Rolston III present especially provocative and insightful essays. Bean discusses the successes and failures of the Act, extracts lessons learned since the Act's implementation and addresses the role of political pressures in agency decision-making. He concludes that the Act's greatest future challenge will be to have administrative decisions under the Act based on scientific data rather than on political pressures. Rolston's philosophic approach nicely balances Bean's legal perspective. Though Rolston addresses the difficult conceptual legal concepts of private property rights and unconstitutional "takings," he does so in a refreshingly nonlegal manner. Rolston bemoans the differences in the Act's protection of flora versus that for fauna and argues that there is no biological or philosophic reason for this distinction.

The essays in Part II focus on individual sections of the Act. William Reffalt presents a sobering analysis of the Act's listing process. He points out the effects of listing, discusses the ever-increasing backlog problem and assesses the progress of the listing process since the Act's inception. The Act's Section 7 interagency consultation process is the focus of Steven L. Yaffee's essay which concludes that not only does Section 7 make sense substantively, but, through its implementation, it also makes sense as endangered species policy. Yaffee concludes that endangered species will

be protected only as long as there is the political will to do so. Through a detailed examination of the organizational structure and processes involved in the recovery of the black-footed ferret, Clark and Harvey demonstrate how federal-state power struggles can have a deleterious effect on recovery programs and provide a useful framework for improving organizational structure in order to most effectively implement recovery plans. International aspects are presented in disheartening clarity by Mark C. Trexler and Laura H. Kosloff who discuss the relative failures of international Section 7 consultations, Section 8 international assistance, and CITES implementation. From these failures, useful lessons for the future are drawn.

By chronicling specific disputes, Part III gives insight into areas where implementation of the Act has been especially controversial and troubling. A. Dan Tarlock discusses how implementation of the Act has affected, and is likely to affect, Western water law. Tarlock believes that the inadequacy of judicially-created rules in this area should provide the necessary incentive to impel all affected parties to reach creative solutions and bargains rather than resorting to the courts to resolve disputes. Dennis D. Murphy notes the disproportionately few invertebrates listed under the Act. The lack of a specific constituency is cited as a major contributor to the problem of discrimination against invertebrates as well as de facto and formalized priority systems for taxonomic classification and listing under the Act. Not entirely optimistic about predator recovery, Kevin Bixby sees the most important contributions of the Act for predator conservation to be the ending of indiscriminate killing, the funding of predator research, the development of interagency cooperation and the reversal of anti-predator public attitudes. Jim Serfis analyzes how pesticides affect species listed under the Act and concludes that if anything has been learned

Edited by Kathryn A. Kohm

since implementation of the Act, it is that we must become good politicians and not just good scientists.

Many of the essays in the earlier sections of *Balancing* concluded that the Act, in and of itself, is not adequate to protect or restore endangered species, let alone prevent species from becoming threatened or endangered. The essays in Part IV address the Act in terms of the most effective means of conserving biodiversity and call for a broader, more comprehensive, approach. Reed F. Ness makes a convincing argument for a pluralistic approach including both species and ecosystem strategies and addresses multiple levels of biological organization—from genes to the entire biosphere. Malcolm L. Hunter, Jr. presents an extremely convincing paradigm for maintaining biodiversity in the face of our massive biological ignorance. This "coarse-filter strategy," is based on Nature Conservancy tradition and offers a realistic approach to ecosystem preservation. Gap analysis, another conservation strategy, has become the object of much recent attention and is addressed in an essay by Scott et al.

Many of the essays focused on rational solutions—what makes scientific sense in light of the data so far collected. However, as other essays noted, the role of politics and the legal system are often given too little consideration. If the ideas presented in these essays are to become reality, they must confront science, politics, and jurisprudence. *Balancing* offers intriguing and provocative ideas and helps us take another step forward in the fight to preserve that which is balanced on the brink of extinction.

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## Endangered Plant Species Shortchanged: Increased Funding Needed

Plants now make up nearly half of all US species listed as endangered or threatened under the Endangered Species Act. In coming years, as more imperilled plant species are added, they will comprise two-thirds of the list.

Despite their numbers, endangered plants received a mere 8% of recovery funds spent by the US Fish and Wildlife Service (FWS) in 1990. If grants to the states (Section 6) are considered, the picture is even worse: plants received just 3% of these funds. Nearly 70 endangered plant species (over 1/4 of listed species) received no FWS funds at all. FWS Research has spent little if any money on studying endangered plants.

Using its own priority ranking system, as of 1990 FWS had identified 136 plant species as being of "high priority" for recovery efforts. Yet, in that year, all federal agencies combined reported spending only \$792,800 on these plant species. Half of the total — \$326,700 — was spent in one region, that encompassing Arizona, New Mexico, Texas, and Oklahoma. In 1990, FWS spent \$256,200 on 67 of these species; no expenditures were made on the remaining 69 species. This, despite the Senate's instructions during the 1988 Endangered Species Act reauthorization to cease neglecting plants and "lower" animals and despite more recent attention from appropriations committees.

Ensuring conservation and recovery of endangered plants is usually less expensive than conserving large animal species. However, all endangered plant species would benefit from some attention. Some species will require extensive research, propagation efforts, and aggressive protection programs. The following species provided examples of recovery work waiting to be done:

1. The eastern prairie fringed orchid *Platanthera leucophaea* is found in the upper mid-west as well as Maine and Virginia. The FWS Draft Recovery Plan identifies \$3.5 million in protective efforts which should be undertaken over 3 years; only \$32,000 was actually spent

in 1990.

2. In Florida, where 15 plant species are listed, no federal funding for plant recovery was available until this year. Florida's most seriously endangered plant is the fragrant prickly apple *Cereus eriophorus* var. *fragrans*. FWS funds are needed to protect known populations, to seek additional populations, and to research biological needs. Illustrating what can be done when funds and good will are present, the state has purchased habitat for many endangered plants endemic to the Florida scrub community. The FWS is now considering seeking funds to create the Lake Wales Ridge National Wildlife Refuge to protect remaining patches of this unique community.

3. In North Carolina only \$2,000 in a Section 6 grant has been spent on the small whorled pogonia *Isotria medeoloides* since it was listed in 1982. The six known populations of this woodland orchid are declining; one has disappeared, two have only one plant each.

4. A total of 3,000 plants of two endangered species — the Penland's penstemon *Penstemon penlandii* and Osterhout's milkvetch *Astragalus osterhoutii* — are found on specific soils in only one county in northern Colorado. These plant populations need to be fenced to keep out off-road vehicles and trampling cattle. Only one rather poor site has been protected so far.

5. In California, rapid population growth and development threaten the largest number of unique plant species of any state. One example is the San Mateo thornmint *Acanthomintha obovata* ssp. *duttonii*. Once found in five sites in San Mateo County, the thornmint is now found only in two small populations. No protection has been provided at either site from erosion caused by suburban runoff, off-road vehicle riding, or competition from introduced weeds.

6. Hawaii has the second largest number of vulnerable plants. The Mauna

by Faith Campbell

Kea silversword *Argyroxiphium sandwicense* ssp. *sandwicense* had declined to only 300 plants in 1987 due to browsing by introduced sheep. Survival and recovery will require fencing out sheep and preventing damage by fire and other human disturbances. Reaching the goal of restoring at least three large populations will cost an estimated \$800,000 over 16 years. In 1990, only \$3,000 in Section 6 funds was spent.

7. The FWS Caribbean field office spent \$25,000 in 1990 for propagation of a few of the many highly endangered plants found on Puerto Rico and the US Virgin Islands. Vahl's boxwood *Buxus vahlii* has a total population in the wild of about 125 plants. Most are found on a site surrounded by a housing development. A second site is threatened by a proposed power plant.

The Endangered Species Act states that in developing and carrying out recovery plans, the FWS should "give priority to those ... species, without regard to taxonomic classification, that are most likely to benefit..." Nevertheless, the FWS has resisted calls from conservationists to give greater attention to plant species recovery. Members of Congress have also contributed to the problem by "earmarking" funds for the most popular mammal and bird species. We can change this misallocation of resources by making our own views known. Please ask your Senators and Representatives what ideas they have to remedy this imbalance. Would they consider an amendment to the Endangered Species Act that would require a certain proportion of recovery funds and Section 6 grants be spent on listed plant species? If not, what other approach would they recommend? Please ask them for a prompt response, and forward that response to the Natural Resources Defense Council so that we may determine our strategy.

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# Bulletin Board

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## US Fish & Wildlife Endangered Species Technical Bulletin

The Endangered Species UPDATE is thinner than usual this month because it does not include the US Fish and Wildlife Endangered Species Technical Bulletin. The Technical Bulletin has not become extinct, it has simply not been reproducing at its normal rate. Due to an unexpected staffing shortage, the Federal office producing the Technical Bulletin has been unable to keep up their usual pace of producing an issue every month. Waiting for the Technical Bulletin created a significant delay in production of the October 91 issue of the UPDATE. Publication of the Technical Bulletin will be returning to normal in the future, but in the short run, we have decided not to hold up delivery of the UPDATE. We feel this is especially important given the developing reauthorization battle and the valuable contributions which authors are making available to the us. We know that our subscribers value the Technical Bulletin highly and we appreciate the ability afforded us by the Fish and Wildlife Service to provide this important information to you. Dissemination of this information was the founding purpose of the UPDATE. The Service is working diligently to return to their regular publication schedule and we will include the Bulletin again as soon as it becomes available. We hope you will agree with our decision to publish the UPDATE without delay. Your comments are requested. Thank you for your patience.

*Alice L. Clarke*

Editor, ESU

## George Wright Society Conference: Research & Resource Management in Parks & on Public Lands

The George Wright Society is presenting the 7th Conference on Research & Resource Management in Parks & on Public Lands in Jacksonville, FL November 16 - 20, 1992. This year's conference, "Partners in Stewardship," includes the following themes: 500 Years of Change - Human Manipulation of the Environment, Heritage Education - A Blueprint for Survival, and the 21st Century - Getting Ahead of the Curve. Abstracts will be considered for both papers and posters unless authors specify one or the other exclusively. For information on suggested topics, submission deadlines, and registration information, contact The George Wright Society, PO Box 65, Hancock, MI 49930-0065. USA. (906)487-9722, (906)487-9405 Fax.

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*Announcements for the Bulletin Board are welcomed.*

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# Endangered Species UPDATE

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