

ENDANGERED SPECIES

Technical Bulletin Reprint

Wildland Management Center
School of Natural Resources
The University of Michigan

The State of the States In Plant Protection

By Sarah Gates Fitzgerald

The small whorled pogonia, a tiny greenish-yellow flowered plant, is one of the rarest orchids in the country: It grows in only a handful of isolated pockets scattered among 16 eastern states. But the past year has been a particularly good one for the little orchid. From December 1985 to May 1986, five states—Maine, Vermont, Illinois, Virginia and Connecticut — passed new laws to help protect endangered plants like the small whorled pogonia. And a sixth state, New Jersey, is currently considering conservation legislation as well.

Why should the small whorled pogonia need state protection at all? After all, the U.S. has had plant protection in place under the Endangered Species Act (ESA) since 1982; and the small whorled pogonia was put on the federal list of endangered plants in that same year. The reason lies in the limits of the federal ESA—that law offers only partial protection to plants.

State laws fill gaps

State laws can fill in legal gaps, covering activities that the federal law does not regulate and prohibiting activities on lands that the federal law does not reach. But state laws vary considerably in their effectiveness: Some states give absolutely no protection to their rare flora, while others are models of aggressive plant protection. So although plant lovers generally look to the federal ESA for protection, the fate of many plants may be decided by the rigor of the law of the state in which they happen to grow. Conservationists are now looking hard at the state protection laws.

Limits of the federal law

The federal ESA is based on the common-law principle that plants are conceptually part of the land, and

hence under the control of those who own the land. The ESA therefore outlaws the actual removal, or "taking," of listed plants when they grow on federal lands.

But while citizens cannot legally buy or sell a federally-listed plant, or dig one up from a national park or forest, they could pick one from their own or their neighbor's yard and not violate the ESA, because the ESA does not regulate plants found on state or private lands.

The federal law does not require U.S. agencies to make sure that their projects and activities do not imperil endangered species; and it does prohibit international or interstate trade in plants. Still, it does not prevent state agencies or private developers from plowing under or burning down every last federally protected plant on their acreage (or even driving the plants

across state boundaries, if the plants are not to be sold).

Given the limitations of the federal law, states could offer many protections that the federal system cannot. For example, state law could stop state agencies or private owners from destroying rare plants. Some states hesitate to control citizens' use of rare flora on private land because they fear it interferes with landowners' constitutional property rights. However, when World Wildlife Fund asked a prominent Washington law firm to prepare an opinion on the legality of plant protection, the first reported that, under the policy power, "states should be able to enact broad protective legislation, regulating even the actions of landowners on their own property, in order to prevent harm to states' citizens from loss of rare plant life."

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Many states now have laws to protect plants like this dwarf lake iris which is protected as a threatened species by the State of Michigan.

Plant Protection

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States could regulate the in-state trade in plants. They could also protect species they consider rare or especially valuable, but that the federal law does not list. And for states like Hawaii, with only a handful of plant species on the federal endangered list but many hundreds awaiting consideration, or like California, with some 640 candidate species, state protection could offer a speedy alternative to slow-moving federal efforts.

State endangered-plant laws can also be valuable educational tools, informing the public about the plants in their neighborhoods. As botanists James Reveal and Rose Broome wrote in 1979, "The loss of the majority of rare species is typically through ignorance. The destruction of habitats, while frequently wanton, is not often out of malice toward any rare organism."

The legal tools available could enable states to address the major threats to native flora: habitat alteration and collecting. Off-road vehicle use, mining, forestry, construction, agriculture and other human activities take far and away the greatest toll on native plants. Overcollection also poses a serious threat to many cacti, succulents, orchids and insectivorous plants.

In 1983, World Wildlife Fund and the Environmental Defense Fund prepared a "model plant protection act" to outline the basic provisions of a strong, enforceable state endangered-plant law. The model act includes the following key provisions:

The legal tools available could enable states to address the major threats to native flora: habitat alteration and collecting.

- It prohibits the taking, possession, sale or transport of any protected plant species without state and/or federal permits;

- It clearly defines *take* to include "pick, collect, cut, transplant, uproot, dig, remove, damage, destroy, trample, kill or otherwise disturb";

- It gives the state the authority to create its own protected-species list, including endangered and threatened species and species of special concern to the state; and

- It empowers the state to regulate trade in protected species and to acquire critical plant habitat.

New Jersey, Washington and several other states subsequently used this model to develop their own legislation.

A number of states have had strong laws in place for some time: According

to Linda McMahan, coauthor of the model law and senior program officer at the Center for Plant Conservation in Jamaica Plain, Massachusetts, "The California laws are the strongest in the country in terms of absolute protection."

California has a three-pronged approach. Its Native Plant Protection Act regulates taking, transport, possession and sale of state-listed plants on private or state land and allows the state to transplant rare species from private lands if development threatens them. Its Desert Native Plant Act protects cacti and succulents through a restrictive permit and tagging collection system. And through its Endangered Species Act, California requires that state agencies consult with the state's Fish and Game Department whenever their activities may affect protected plants or animals.

The Endangered Species Act provision works in the early planning stages: For example, California Fish and Game experts regularly suggest mitigation measures for proposed highway construction projects. These suggestions are usually taken to heart: In the early 1980s, for example, California rerouted a road proposed for the Sierra foothills to avoid the only known population of the Scadden Flat checkerbloom, *Sidalcea stipularis*.

A question of enforcement

Some botanists have complained that California does not enforce its endangered species laws as aggressively as it could. However, the consultation process works well and the state has a very active "citizen police force" and an enthusiastic native-plant society to aid state efforts.

Illinois is one of the 25 states with a law that expressly regulates the taking of protected plants. But Illinois' new endangered-species law, passed in 1985 and effective July 1, 1987, has the potential to go further than the California law. Illinois will require an in-state consultation process like California's. But Illinois will also require that agency action "shall not result in the killing or injury of any listed Illinois

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animal species." This last publication currently applies only to animals, but could become a valuable tool if applied to plants as well.

Several states in the American Southwest have endangered-plant laws with strong "taking" provisions to stop cactus rustlers. These states include Arizona, New Mexico, Texas and Nevada. Arizona passed the first modern state plant conservation law in 1967 to prevent the drain on cactus owing to collection for the landscaping and horticultural trades. The Arizona Native Plant Law now protects 222 desert species, including the fan palm, elephant tree, organ pipe cactus and two species of Mexican jumping bean plants.

No one may take a protected plant in Arizona without a permit from the state agricultural commission and, when the plant grows on private land, without permission from the landowner. All legally collected wild plants must have an official state tag attached; and the tag cannot be clipped off until the plants reach their final destinations, usually private homes or gardens.

Arizona has about forty enforcement agents, "cactus cops" who patrol as much as possible of the 90,000 square miles of collecting terrain. These agents regularly inspect nurseries to keep local cactus dealers on their toes. According to Doug Fuller, botanist with the trade-monitoring organization TRAFFIC (U.S.A.), "Arizona nurserymen seem to be very conscientious about the law." The state aggressively prosecutes offenders and levies stiff jail sentences and fines ranging up to \$5,000. In one year, a relentless cactus cop made 91 arrests, resulting in 37 convictions (he also received over one hundred threats on his life).

Other southwestern states have good laws but little or no provision for enforcement. New Mexico passed a strong anti-rustling law in April 1985, making it illegal to take protected plants from public lands and prohibiting transport of protected species from private land without state permission. It does not regulate plant loss through destruction, eating or burying. Denise Gross, Endangered Plant Law

coordinator for the New Mexico Division of Natural Resources, explained, "At first ranchers were very concerned about the new law, until they realized that no one expected them to be responsible for what their cows ate."

New Mexico's Natural Resources officials report that local media and the general public generally support the law because they see it as a way to stop the drain of a state resource to (primarily foreign) cactophiles.

There is reportedly "not a dime" in the New Mexico budget for cactus cops, so botanists must rely on cooperative state parks officers and other enforcement agents to catch

Some states have a high number of imperiled species but no rare-plant protection law; some states have good laws but little or no provision for enforcement.

cactus rustlers. This method works reasonably well for New Mexico. On New Year's Eve last year, state troopers spotted a suspicious-looking trailer vehicle heading for Carlsbad, New Mexico, apparently looking for new territory from which to harvest cacti. After law officers stopped the van three times for inspection, the would-be cactus thief gave up and headed back to Texas.

Unfortunately, New Mexico's New Year's Eve bandit probably discovered happy hunting grounds in the Lone Star State, with the third-largest number of rare-plant species in the U.S. and a poor enforcement record. Texas passed an endangered-plant law in 1981 — it prohibits collection of protected species from private land for commercial sale (but not for other purposes). Texas required landowner permission and a state permit for collec-

tion — but unlike Arizona, Texas lacks any tagging and permit system, and until recently had no knowledgeable botanists to put the law into effect. Jackie Pool, a biologist with the Texas Natural Heritage program, reports, "There is no way to know whether a plant was taken legally or not."

Texas is rapidly losing its 72 species and varieties of cacti: TRAFFIC (U.S.A.) estimates that some ten million cactus plants are shipped out of the state each year.

Nevada, with the eighth highest number of imperiled plant species in the U.S. (135), requires that anyone taking Christmas trees, cacti or yuccas from state lands for sale must have a state permit. As in Arizona, collected plants must be tagged by state officials, and cactus traders must have the landowner's permission to collect. In Nevada, the enforcement record is mixed, but nevertheless brighter than in Utah, Colorado or Wyoming — all cactus-growing states without any collection laws.

What does a landowner own?

In the north country, development pressures and overcollecting of orchids and other horticulturally valuable species have prompted Michigan, Iowa and Vermont to pass plant laws that are among the most comprehensive in the country. These three states require state permission for anyone taking protected species on public or private lands. Even the landowner must get state approval before plucking or bulldozing rare plants on his or her property.

Michigan now protects the American chestnut, purple turtlehead and 11 other endangered plants as well as 200 threatened species, including toadshade, white lady's slipper orchid and blue lettuce. The Michigan Conservation Commission may also protect any species that looks so much like a listed species that it might be difficult for collectors and enforcement agents to tell them apart.

The Vermont law, as amended in May 1986, is also comprehensive, and has in addition strong enforcement provisions: Violators in Vermont risk a

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\$1,000 fine for taking an endangered plant, a \$500 fine for a threatened plant.

Unlike Michigan, most states with endangered-plant legislation require collectors other than the landowner to have the landowner's, and sometimes the state's, permission to "take," but allow the landowner to take as he or she pleases. Such states include Wisconsin, Georgia, Pennsylvania, New York, Ohio and Virginia.

In addition, many state plant laws grant "taking" exceptions to developers, farmers, utilities or logging operations. For instance, Wisconsin, Florida and California all exempt public utilities from rare-plant restrictions;

Hawaii has an endangered-plant law on the books that is extremely protective but virtually unenforced.

Wisconsin, Minnesota and Vermont exempt agricultural activities; and Virginia allows rare-plant taking "where necessary to alleviate... the impact on progressive development." Such exceptions were usually politically necessary to get state legislatures to pass plant protections.

Some states, like Georgia and Texas, have plant-protection laws that only prohibit collecting for commercial trade in rare plants but do not prohibit collecting for other purposes. Still other states — Louisiana and Indiana among them — have strong endangered species laws on the books, but these apply only to wild animals, not plants. (The Louisiana law originally protected members of the plant kingdom, but when lawmakers amended it in 1981 they inadvertently dropped the plants. According to Nancy Craig, coordinator of the Louisiana Natural Heritage program, the oversight occurred because "there just wasn't anyone in the state government working on plants." Craig added that it should not be difficult to write plants back into the law in 1987.)

States leaving plants vulnerable

Some states have weak plant protection laws—or none at all. Washington and West Virginia do not have endangered species laws for plants but do have archaic measures to protect flowers and plants growing along roadways, whether rare or not. Perhaps the greatest concern should be directed toward those states with a high number of imperiled plant species but no rare-plant protection law. Judging from species counts compiled by the Smithsonian, states needing special attention on that score include Utah (194 imperiled species), Oregon (182), Washington (86), Colorado (68) and Idaho (61).

Citizen groups in Colorado, Oregon and Washington have tried unsuccessfully to have endangered-plant laws passed in their states. One conservation botanist in Oregon summed up the reasons for that state's failure to pass a law: "a tight state budget, a weak, timber-dependent economy, and the strength of pro-development interests in the legislature."

Some western states appear to be unconcerned about plant protection. For instance, several years ago the government of Montana named the state's weed control supervisor to oversee endangered-plant issues in the state.

Hawaii

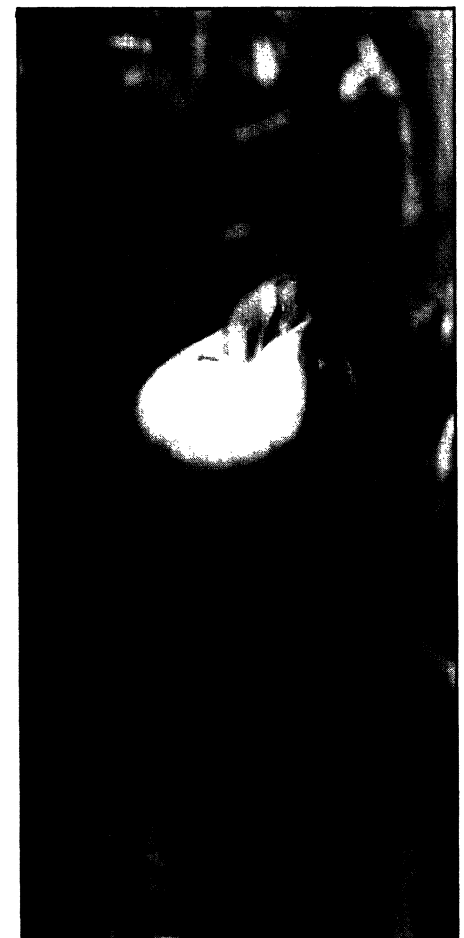
When it comes to legal protection, the state of Hawaii must be considered in a conservation category of its own. Home to the rarest plant on the federal endangered species list—*Kokia cookei*, which is down to a single small tree in an island arboretum — Hawaii contains a staggering number of rare and threatened endemic flora. Most Hawaiian plants evolved in the island setting before humans arrived; as John Fay of the U.S. Fish and Wildlife Service Office of Endangered Species points out, "these species are very noncompetitive when new species are introduced." Susceptible to development pressures and to disturbances created by introduced plants and goats, pigs, horses and other animals more than 700 of the islands' 2,000 to

2,500 native plants are candidates for listing under the ESA and 18 are already on the endangered list.

Hawaii has an endangered-plant law on the books that is extremely protective but virtually unenforced. The law restricts "taking" on state and private land but does not get at the root of plant endangerment in Hawaii. Fay says that "the underlying problem is that so many species are endangered and the threats are so intractable... that we need to start working on an ecosystem approach."

The OES field office in Honolulu is currently working with the state botanist and other Hawaiian officials to address some of these issues.

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Michigan now protects over 200 threatened plants including this white lady's slipper orchid.

Photo by Thomas H. Arter, The Nature Conservancy

Opinion: Scarce Resources and Endangered Species

By Michael E. Soulé

A few flagship species are, today, receiving the lion's share of the funding. Is all the attention on a handful of endangered species really justified? I am often asked this question by sincere conservationists who are concerned with the apparent favoritism that is lavished on a few charismatic or cuddly animals, such as the peregrine falcon, the California condor, the black-footed ferret, the giant panda, the various rhinos, and other large vertebrates.

My usual, pat answers went something like this: I don't see a real problem with singling out a few species for special attention. Granted, it is undemocratic, perhaps even feudalistic, to grant special stays and dispensations to a few courtier species that happen to enjoy our condescension. But, we must look at the alternatives, and try to enumerate the advantages and disadvantages of this interspecific cronyism.

One justification for the present system, the "keystone principle," is that the favored species are often large animals, and therefore are keystone predators of major herbivores. There is increasing evidence that their disappearance from a community can initiate serious ripple effects. The propagation of these effects can lead to major changes in the interaction of species, and to disappearances of entire guilds such as ant-following and ground-nesting birds in the tropics and early successional stages (such as those created by browsing).

A second argument, also ecological, is the "umbrella argument;" it goes like this. Yes, the tiger and grizzly get special attention, but look at the benefits. These large generalist, animals require a lot of space, and lots of habitat diversity. In addition, if our objective is to make a park or nature reserve that is large enough to hold a minimum viable population of these species, it must be huge — thousands of square kilometers in most cases. Therefore, a "trickle-down" effect of these space-intensive species is to provide a lot of habitat for other, less attractive species — species that need protection, but which lack sex appeal.

An implied assumption made by

those who would support a more egalitarian allocation of scarce conservation funds is that if the funds were not spent on condors or tigers, they would be available for kangaroo rats, lizards, and rare plants and insects. Is it true? Often it isn't. It is a principle of fund raising that money that is given for one cause is not necessarily available for other, similar causes. This could be called the "niche theory of giving." That is, the people who contribute to Greenpeace to save baby seals and to the WWF to save pandas, won't give to buy hectareage of tropical forests or to support research on endangered snakes, and vice versa. The implication is that there isn't much we can do about democratizing conservation. So, we might as well spend the money on those species that are lucky enough to attract it.

A few flagship species are, today, receiving the lion's share of the funding. Is all the attention on a handful of endangered species really justified? Conservation biologist Michael Soulé thinks the question deserves attention.

Another principle of fund raising tends to soften the blow, however. This could be called the "cornucopia rule" — there is plenty of money out there; it is simply a matter of identifying the "universe" of donors who are interested in your cause, and then making the correct pitch. Indeed there are societies to save endangered bats, fishes, and insects.

Adding all this up, it was easy to convince myself that one shouldn't be alarmed by conservation elitism. But, now, I'm not so sure. Let's re-examine the preceding arguments.

First, there are many species that don't profit from the keystone principle. The reason is that many charismatic species are really not ecological keystones. For example, the disappearance of condors, peregrines, whooping cranes, and even grizzlies from many regions would have very little impact that could not be dampened by counterpart species. Second, the trickle-down or umbrella effect, the *noblesse oblige* of animal emperors, really doesn't confer benefits on many smaller, threatened taxa. Many threatened species are habitat specialists whose ranges don't happen to coincide with those of their charismatic "benefactors."

Second, there are many species that require more than just space — they need special management interventions such as improved nesting sites, or denning sites. Other species must depend on management for the control of diseases, control of competitive or predatory exotic species, control of hydrological variables, or protection from humans. The world is so disturbed in many places that mere benign neglect is of little or no help.

Third, the cornucopia rule has only limited validity. It fails altogether in government agencies where funds are definitely finite, and where money spent on species A diminishes the pool of dollars for species, B, C, and D. This can be a source of great anguish for many dedicated biologists in state and federal agencies, who must take from B in order to give to A, and who must risk the alienation of their colleagues in the process.

So, I am not so flippant about the supposed benefits and inevitability of our current caste system. But I don't know what to do about it.

One of the unspoken rules for the essayist is to always end on a positive, constructive note. I'd like to, but it would be premature. Perhaps it is time, though, to turn up the volume on this dialogue.

Michael Soulé is the president of the Society for Conservation Biology. He is currently a Fellow in Biology at the Smithsonian Institution in Washington, D.C.

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Alternative approaches

Some states are getting along well without endangered-plant laws. For instance, Maine has a strong voluntary habitat preservation program. The state sponsors a Critical Areas Program that identifies important plant habitats and then works with landowners to add these sites to a state protection registry. With help from The Nature Conservancy, program director Hank Tyler has registered more than 163 sites with unusual botanical features. The Nature Conservancy also owns two reserves in Maine to protect the only New England populations of the linear-leaved sundew and the white-fringed prairie orchid. Hank Tyler says, "Maine is unusual in that most of our rare-plant areas can be voluntarily protected."

Like Maine, Massachusetts lacks an endangered-plant law but has a strong voluntary protection system. The Massachusetts Natural Heritage Program, funded in part by a state non-game wildlife budget, identifies particularly important plant habitats and

works with state land managers, or with The Nature Conservancy when private lands are involved, to gain written or verbal agreements to protect rare plants. Massachusetts also has a strong state environmental protection act, similar to the National Environmental Policy Act, which requires that all state projects with potential impact on endangered wildlife be reviewed by the Department of Fish and Game. Since the state's Heritage pro-

Several states get along well without endangered-plant laws.

gram is located within this department, Heritage botanists review up to a thousand state projects every year.

Heritage botanist Bruce Sorrie reports that they are generally successful in getting project changes made when necessary. In 1980, for ex-

ample, Heritage staff consulted with the Department of Public Works to reroute a proposed highway away from the site of 60 percent of the world population of the New England white-bracted boneset, a federal candidate species.

Some thirty-five states have natural heritage programs to protect habitat. These are usually operated by the state governments with technical support from The Nature Conservancy.

The most effective strategy for state plant conservation often incorporates both legal protection and voluntary habitat conservation. According to Linda McMahan, "States can't do just one or the other; they need both enforcement powers and a heritage strategy."

North Carolina and Ohio are good examples of this two-tiered approach, with the states' natural heritage programs registering voluntarily protected lands and their endangered-plant acts protecting plants from being taken or populations depleted.

Another approach states can take is

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Resources. . .

PLANT TRADE LAWS ENFORCED Ginseng

The U.S. Fish and Wildlife Service continues enforcement of plant trade laws. Recently, two dealers pled guilty to illegal trade in ginseng. (The U.S. exported over million pounds of ginseng root in 1985.) Because FWS has little jurisdiction over exports and imports that violate CITES, it relies on the Lacey Act, which outlaws interstate trade (as well as exports) in certain kinds of plants if a state law has been violated. Charles D. Heaton of Illinois was sentenced to 3 years' probation and fined \$5,000 after pleading guilty to illegal sales of 271 pounds (price \$47,000) and purchases of 150 pounds (price \$25,000). The prosecutor originally asked for a fine of \$30,000. After a multi-year investigation, Hersey (Pa.) Hide and Fur Company pled guilty to major violations in December.

The Animal and Plant Health Inspection Service (U.S. Department of Agriculture), which has jurisdiction over exports and imports regulated by

CITES and the Lacey Act, played no role in these investigations. APHIS has not brought a case since 1978.

Cactus

In a purely domestic case, Arizona and FWS investigated theft of a single saguaro cactus that was sold to a Las Vegas nursery. The plant was a conspicuous, crested specimen. Indicted in the case are three long-time cactus dealers, Roland Biddlecome, Karen Clontz, and Glen Clontz.

Agency Botanists

So far, the Forest Service and BLM have responded moderately well to the House and Senate appropriations subcommittees instructions in increase their botanical expertise. The Forest Service has retained a botanist in Region 4 (Ogden, Utah); placed a botanist in Washington, D.C., to help the program manager on sensitive plants, and added a botanist at the regional level in Region 5 (San Francisco). BLM has replaced a botanist in

Arizona; additional botanists should be hired soon in California (2) and Utah (1).

MEETINGS

The University of Colorado is sponsoring a Tropical Rainforest Conference, February 5-8, in Boulder, CO. Keynote speakers will be David Brower and Catherine Caufield. Other speakers will represent the New York Botanical Garden, the World Bank, World Wildlife Fund, and Environmental Defense Fund. Registration is \$30 to \$60; deadline is January 30. For more information call the Environmental Center at (303) 492-8308.

Resource information was provided by Faith Campbell, Natural Resources Defense Council.

More Resources. . .

CALIFORNIA ENDANGERED PLANT CONFERENCE

In early November, over 700 people attended a conference in Sacramento, California entitled "Rare and Endangered Plants: A California Conference on Their Conservation and Management." The four day conference was "the largest conference in the United States, if not the world, which tried to go beyond just identifying the problems and look at what is being done to solve them," said Susan Cochrane of the California Department of Fish and Game.

The conference, organized by the California Native Plant Society, opened with Dr. Paul Ehrlich's overview of the extinction problem, "Extinction: what's happening and what you can do." Faith Campbell of the Natural Resources Defense Council gave a keynote address on international plant protection entitled "The Potential for Permanent Protection."

In addition, there were 140 presentations covering the gamut from the strictly scientific to the fully applied. Subjects included population dynamics, ecology, species management, agency responses to endangered plants, preserve design, minimum viable population size, mitigation, and field survey techniques.

Conference organizers were pleased with the attendance and the response to the conference. "We were more than adequately pleased with turn out, and the conference was extremely well received," said Cochrane.

The support for the conference came from both the public and private sectors, both state and national. In addition to the California Native Plant Society, sponsors included: California Department of Fish and Game, Califor-

nia Energy Commission, California Department of Parks and Recreation, Bureau of Land Management, U.S. Fish and Wildlife Service, Pacific Gas and Electric, Southern California Gas and Electric, Chevron, Rancho Santa Ana Botanic Garden, The Nature Conservancy, California Botanical Society, and Jones and Stokes Associates.

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to actively monitor propagation and trade, as an enforcement mechanism. The North Carolina law, for example, requires nursery owners who wish to sell state-listed species to sell only propagated plants. The state issues propagation permits and tags propagation plants to educate buyers about the source of their purchase. Fourteen state inspectors roam throughout the state keeping careful track of nursery stocks of golden seal, gray's lily, shortia, and other rare species in trade. Rob Sutter, coordinator of the North Carolina Plant Conservation Program, noted that one nursery owner recently turned down an offer to buy wild-collected shortia plants from a poacher, "probably because he knew that as people learn more about endangered plants they become more concerned about buying them through legal channels."

Tennessee just adopted a rare plant law with nursery regulations similar to North Carolina's. The Tennessee law regulates the number of wild endangered plants that nurseries may collect in a single year, and mandates careful recordkeeping for all endangered plants in trade.

Role for the grassroots

What can citizens do? Citizens interested in helping promote legal protection for plants in their states can participate in several ways. In states like New York, where plant-conservation laws are educational

rather than enforcement-oriented, plant lovers can familiarize themselves with the official list of protected species and encourage the state to keep these lists up to date. They can also express their interest in conserving protected plants to those who manage state lands.

In states with strong plant-protection laws but little or no enforcement capabilities, like New Mexico and Texas, conservationists can encourage their state representatives and budget-writing officials to make a greater financial commitment to the law.

In Washington and other states where plant bills are currently before the legislature, expressions of public interest and support are absolutely critical.

Finally, in states where plants are not protected at all, conservationists can work through their local native-

plant and wildflower societies, garden clubs or botanical gardens, or through national organizations with plant programs, like the Environmental Defense Fund, the Center for Plant Conservation and World Wildlife Fund. In such states, especially, the need is to publicize the plight of native plants and to work for the passage of strong new plant-saving laws.

Sarah Gates Fitzgerald is a public policy consultant for World Wildlife Fund, Washington, D.C. She can be contacted at 73 Adams St., Somerville, MA 02145.

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