While some leading ecologists are urging their colleagues to inject their findings—and themselves—into policy debates, others warn that activism will erode the discipline's credibility

Ecologists on a Mission to Save the World

ADVOCACY

This special Focus section explores the growing debate over how far environmental scientists should go in interpreting their findings for policy-makers. Both stories highlight the rewards—and the dangers—of advocating a bottom line.

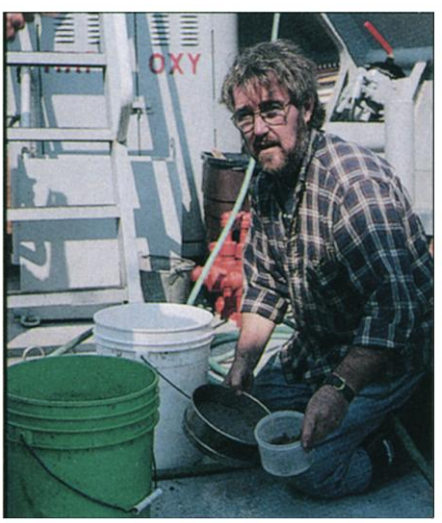
▶TAKING A STAND
TRANSFORMING A DISCIPLINE

Anger wells up whenever Les Watling recalls the cruise that helped transform the reclusive scientist into a vocal champion of biodiversity. It was August 1993, and Watling was revisiting a spot in the Gulf of Maine where, a few years earlier, he had stumbled across one of the richest assemblages of life he'd ever seen in those frigid waters. Carpeting the boulder-strewn sea floor were unusual sponges nearly 30 centimeters tall—veritable cacti—including several species he didn't know. "This place was just amazing," he says.

Hoping to learn more about this underwater Eden, Watling, who studies crustaceans, took a Danish sponge expert to the spot, Jeffrey's Bank. Shining a searchlight on the ocean bottom, researchers spent two increasingly desperate hours in a submersible looking at mostly barren rock and silt. The sponges were gone. Although Watling was no expert on the fishing industry, the University of Maine, Orono, professor had a hunch that trawlers scraping the ocean floor with their heavy nets had mowed down the sponge garden. His suspicions grew when he later learned that a white hake fishery had begun operating in the waters around Jeffrey's Bank, using new "rock hopper" gear—a set of large balls or rollers that ride the ocean floor, dragging nets to scoop up hake and other bottom-dwellers. "I was just appalled," he says.

Soon after that experience, Watling made a fateful decision, one he realized could diminish his standing among his peers and even jeopardize his career: He picked up a slingshot and headed after Goliath. He began publishing papers on trawling's harmful effects and called for a ban on the practice, a message he thumped in media tours sponsored by the American Oceans Campaign and SeaWeb, nonprofits that raise awareness of marine conservation issues. Up to that point in his 20-year career, Watling says, "I was a classic scientist. I'd sit in my office, work on my grant proposals, write my papers, take my professional accolades, try not to stick my head out the door too far." Those halcyon days were over: Watling had become an advocate.

He's also at the vanguard of a movement that's causing some soul-searching among ecologists. Across the country, ecologists are stepping up efforts to speak out about the policy implications of their findings. Spurred by leading figures in their field, they are writing commentaries, signing letters, speaking to Congress, even sharing the bully pulpit with environmental groups. The Ecological Society of America (ESA) has launched a fellowship program to train experienced environmental scientists in the delicate art of conveying a bottom line to the media and to policy-makers. Meanwhile, conservation biologists, whose subdiscipline was conceived explicitly to generate the science for protecting habitats and species, are embarking on a major new push to reach out to managers and make their voices heard (see p. 1192). To many ecologists, locking themselves away in the ivory tower is now unconscionable. Columbia University ecologist Stuart Pimm, who has given his opinion on such matters as the multibillion-dollar plan to restore Florida's Everglades (a flawed effort, in his view), sums up what many of his colleagues feel: "I have a moral responsibility as a citizen to make people aware of what the science means."



A new course. Les Watling saw a devastated sea floor and decided to act.

CREDIT: DAVID MALAKOFF

But the drive to make advocacy an accepted practice in ecology has provoked a backlash. Some ecologists worry that to the public, environmental scientists are becoming indistinguishable from environmental activists. "If we promote our opinions as though they are the truth, people won't listen to the science as carefully because they'll think we have an agenda," says Ingrid Burke of Colorado State University in Fort Collins. She and others fret that ecologists will handicap their ability to do empirical research if they go beyond current science by making value judgments—for example, by saying that nonnative plant species or global warming are categorically bad, or that economic growth should be curtailed to save species from extinction. Such values "can really affect the way you design a study," says John Wiens of Colorado State, who warns against "creeping advocacy syndrome."

Ecologists are discussing these issues among themselves: The ESA devoted a whole session to scientific objectivity, values, and advocacy at its annual meeting last August. With debate heating up, *Science* polled more than two dozen ecologists to see just how far they think they should go in getting a message out to the public. Many ecologists expressed deep reservations about crossing the blurry line that separates scientific meaning from social values. As Stanford University ecologist Pamela Matson explains it, "a lot of ecologists walk a really fine line between advocacy for science and advocacy for a cause." Others argue that ecologists often deal with issues, such as climate change, that require policies to be adopted before the science is certain—and if they don't weigh in heavily in political debates to counteract the arguments of those with a vested interest in delaying action, it could be too late. There are no easy answers, but *Science* offers examples of how advocacy can color a scientific issue, and how three individuals—Stephen Schneider (p.

1189), Gene Likens (p. 1190), and Gretchen Daily (p. 1191)—have become comfortable with the level of advocacy they've pursued.

Birth of a movement

Watling is not the first scientist to parachute down from the ivory tower in the hope of making a difference to society. During World War II, many U.S. physicists donned a political mantle to argue for development of the atomic bomb. And in the decades after the war, many of the same physicists played leading roles in the policy debates over arms control and the Strategic Defense Initiative. But activism has more recently been thrust upon or embraced by ecologists, whose studies of the natural world have revealed worrisome, if sometimes uncertain, trends that point toward a need for political action.

Tensions over advocacy came to a boil in 1951, when ESA members who felt that urgent measures were needed to protect habitats branched off from their more circumspect colleagues to form The Nature Conservancy. Several years later the modern environmental movement was born, when biologist Rachel Carson sounded the alarm on how DDT and other pesticides were harming wildlife. Her 1962 book *Silent Spring* spurred scientists to form the activist group, the Environmental Defense Fund (now called Environmental Defense). The ranks of scientist-activists swelled in the 1980s, when environmental interests often took a back seat to business interests. Back then, says Environmental Defense senior scientist David Wilcove, "I felt a social responsibility to get out there and try to make a difference." As an environmentalist with a doctorate, Wilcove says, he feels he's had "a much greater impact" than he would have without that credential on issues such as protecting old-growth forest in the Northwest and revamping the Endangered Species Act.

"I have a moral responsibility as a citizen to make people aware of what the science means."

—Stuart Pimm

He and many others have paid a price for getting involved. Some scientists question the objectivity of papers published by scientist-advocates like Wilcove. After *Silent Spring* came out, Rachel Carson spent the last months of her life fending off a vicious backlash from pesticide manufacturers, who labeled her a "fanatic." More recently, ecologist Jerry Franklin of the University of Washington, Seattle (UW), received anonymous death threats during the early 1990s for affirming the spotted owl's dependence on old-growth forest habitat.

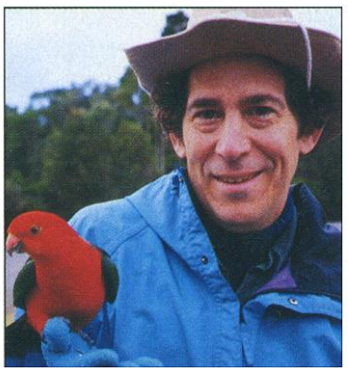
Still, many ecologists say their colleagues aren't aggressive enough in injecting their findings into policy debates. To remedy this perceived shortcoming, in 1983 the ESA, after much soul-searching, established a beachhead in Washington, D.C., opening an office to convey its expertise to policy-makers. Then 9 years later it launched the Sustainable Biosphere Initiative, which aims to educate the public and federal agencies on issues ranging from political hot potatoes like endangered species to unsexy topics like the surfeit of nitrogen from burning fossil fuels. Continuing this trend, the ESA in 1998 helped launch the Aldo Leopold Leadership Program to teach midcareer ecologists how to get their message across in the media.

The new spirit of activism was summed up in a letter to *Science* signed by 20 prominent ecologists, including Paul Ehrlich and Matson of Stanford and Jane Lubchenco of Oregon State University in Corvallis (*Science*,

Citizen-Scientist Guru

Stephen H. Schneider is the quintessential media-savvy scientist-advocate. Since the early 1970s, this climatologist and science popularizer has been a fixture on TV news shows, on Capitol Hill, and on White House panels, where he weighs in on both the politics and science of climate change. In Schneider's opinion, scientists sometimes need to dramatize their data and discard the subtleties to sell a message.

A mechanical engineer by training who is now a biology professor at Stanford University, Schneider, 55, says his advocacy began with the heightened environmental awareness that bloomed around the time of the first Earth Day in 1970. Then a plasma physics and engineering grad student at Columbia University, he remembers a talk by biologist and erstwhile presidential candidate Barry Commoner—himself an ardent advocate—claiming that pollution was poised to send Earth's climate off kilter: Either airborne particles would bring on a mini–ice age, or carbon dioxide would trigger global warming. Intrigued, Schneider took a summer job as a computer programmer for planetary scientist S. I. Rasool, who asked him to model both grim scenarios. Their 1971 paper in *Science* landed global climate change—specifically, a major cooldown—in the pages of leading newspapers, which eagerly quoted the articulate young postdoc.



Warming warrior. Stephen Schneider has no qualms about thrusting himself into policy debates.

CREDIT: T. ROOT

By 1975, Schneider's more refined models pointed toward warming. Not missing a beat, he began warning of the havoc rapid global warming might bring. Unlike many of his colleagues, Schneider feels at ease weighing in on policy issues such as the 1997 Kyoto protocol to reduce carbon dioxide emissions, which he thinks doesn't go far enough over the long term. He says he gained this expertise early in his career by hobnobbing with social scientists at places like the Aspen Institute: "I taught them climate, they taught me economics."

Schneider recommends "three rules" of advocacy: explicitly stating when one's views reflect values rather than science; using colorful, easy-to-grasp metaphors; and producing a "hierarchy of products," ranging from sound bites to op-eds to scholarly papers to lengthy books "where you can put in all the caveats." At the same time, he says scientists shouldn't shy away from painting "scary scenarios"—such as deadly heat waves in New York City and a dried-up Mississippi River as possible results of global warming—to get a message across.

Schneider says he gets "frustrated" by "all the false spin on my motives or advice" from the likes of conservative columnists George Will and Charles Krauthammer, who have trumpeted his 30-year-old paper on global cooling to question his credibility on global warming. But controversy hasn't made him gun shy. Lately, Schneider has been urging his colleagues working on the next Intergovernmental Panel on Climate Change report to overcome their natural reluctance to describe the most extreme possible outcomes, caveats and all. "Policy people are notoriously bad at translating science," he says. And if scientists don't speak up, "who's going to talk about it? Somebody less qualified or with an agenda?" **–J.K.**

30 October 1998, p. 879). It isn't enough for a scientist to merely report findings, they wrote. Ecologists should contribute to "stemming the tide of environmental degradation and the associated losses of biodiversity and its ecological services." "[M]uch of what we study," they continued, "is fast disappearing. ... Ecologists have a responsibility to humanity, one that we are not yet discharging adequately."

If the letter was meant to rouse the community, it worked. Although some ecologists applauded the statement, others cried foul. "I thought that was just a travesty," says one. "The public won't know when to trust us." As for the letter's tone, wrote UW marine biologist Warren Wooster in a letter to *Science*, "When an ecologist makes an apocalyptic statement about the death of one or another ecosystem, he trades his credibility for his passion as an advocate." Wooster and others say they don't disagree with the need to publicize results. The problems come when scientists advocate, be it calmly or shrilly, a course of action.

The danger they perceive is that outspoken advocacy may make it hard to retreat from, or to qualify, positions once new findings come in. For instance, some scientists argue that fires and other human activities may be key to the vitality of certain swaths of land in the Amazon basin (*Science*, 4 February, p. 786)—a conclusion that, if true, would be hard to stomach for those who view humans as ecological transgressors. "It's just assumed biodiversity is good," and such things as grazing and invasive species are bad, says Ed Rykiel of Washington State University, Richland, who organized the symposium on advocacy at the ESA's annual meeting. However, he says, "all ecological systems are dynamic. Is that good or bad?"

"If we promote our opinions as though they are the truth, people won't listen to the science as carefully."

—Ingrid Burke

Albatross or badge of honor?

Forecasting environmental disasters often requires taking a value-laden leap of faith beyond the present state of knowledge. "Sometimes we extrapolate from our data and we don't know if that [scenario] will be true under new conditions," says Jim MacMahon of Utah State University in Logan. And when the data don't track, the predictions can go belly up. Many point to dire warnings in the 1970s by Ehrlich and others of runaway population growth—a scenario that didn't play out as predicted. It happened again in the late 1980s, when drought in the U.S. Midwest was linked to global warming. "Every instance of advocacy [that] espouses something beyond what's known and is presented as science destroys the credibility of real science," says David Tilman of the University of Minnesota, Twin Cities, who argues that environmental and industry groups are more often to blame than academics.

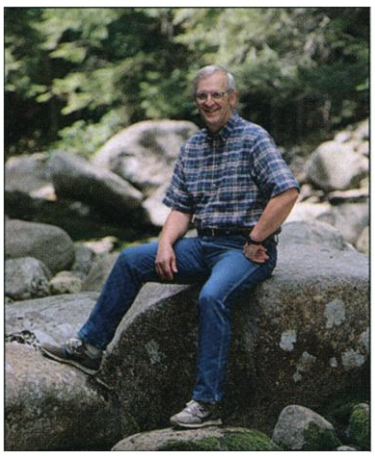
One argument in favor of saving species is a recent flash point. A common theme in ecology, and one picked up by environmentalists, is that a swath of land bursting with a wide array of species is healthier and more productive than an ecosystem with just a few species. Some studies of grasslands have

A Reluctant Warrior

Gene Likens never intended to let himself get drawn into the maelstrom of environmental politics. But that was before his low-key style of activism earned him a sterling reputation both as a researcher and as an advocate for bringing attention to the problem of acid rain.

When the 67-year-old ecologist began his research career in 1962 at the Hubbard Brook Experimental Forest in New Hampshire's White Mountains, he wanted to know how nutrients cycle through a watershed. But his team's meticulous measurements revealed a more insidious threat: Increasingly, acidic rain and snow were steadily lowering the pH of lakes and streams and killing fish. By the time acid rain made it onto the environmental agenda in the early 1970s, Likens was the leading scientific voice on the issue—and a target of industries blamed for releasing too much sulfur dioxide, nitrogen oxides, and other acrid pollutants. While defending his science, Likens briefed President Reagan in 1983, testified before Congress, and advised a massive government study documenting the tie between acidic waters in the Northeast and coal-burning power plants in the Midwest. These efforts culminated in the 1990 Clean Air Act amendments to reduce sulfur dioxide emissions. Recently, Likens has taken up the cause again, arguing that pollution regulations don't clamp down hard enough on nitrogen oxides, and that forests still haven't rebounded from decades of nutrients leached from soil by acid rain (*Science*, 12 April 1996, p. 244).

Colleagues describe Likens as an advocate with his views firmly rooted in basic science. "He's cautious but not to the point of being paralyzed," says Duke University ecologist Norman Christensen. Likens, who now heads the nonprofit Institute of Ecosystem Studies in upstate New York, has blended his commitment to research with a more subtle brand of activism: As president of the Ecological Society of America in 1981, Likens lobbied hard for what became the National Science Foundation's Long Term Ecological Research sites, which he felt were essential for amassing the kind of data necessary to convince policy-makers that certain environmental problems were real and were not going away.



Acid test. Gene Likens weighs in only on issues he studies directly.

A longtime board member of Environmental Defense, Likens says he often mulls the fine line between environmentalism and ecology. "There's tremendous public confusion, because we often work on the very same things," he says. One way he counters this is by "trying very hard not to let my emotions and my personal views color my science." And when he's asked his views on a policy question, "I will say, I'm going to take off my science hat and give my opinion as a person."

Despite Likens's high scientific standing—he's a National Academy of Sciences member and a 1993 co-winner of the Tyler prize, considered the Nobel of ecology—you won't often find his name in letter-writing campaigns or on commentaries. Likens says he avoids getting caught up in what he calls the "the Nobel syndrome": weighing in on issues he hasn't studied directly. He urges younger scientists to concentrate on building a strong research record before becoming too active in environmental issues. Says Likens, "You shouldn't speak out unless you have something to say."

–J.K.

CREDIT: HO PHOTOGRAPHY

shown just that, but others have not. "There needs to be a lot more careful research done ... about what biodiversity does in systems," says Steward Pickett of the Institute of Ecosystem Studies in Millbrook, New York.

Some ecologists also argue that when scientists become wedded to a position, they may—perhaps unconsciously—ignore findings that don't square with their values. For instance, Bill Parton of Colorado State argues that environmentalists and even some of his colleagues pay short shrift to findings suggesting that carbon dioxide pumped into the atmosphere by human activity will boost crop yields in some areas, particularly arid regions, perhaps outweighing the negative effects of hotter temperatures for that region. If scientists put forward what should be a far more mixed message, he says, they might appear more honest—and less like advocates—than they do now. Such a change in tone might make Republicans in Congress less skeptical of ratifying the Kyoto climate treaty. "If you present a balanced approach, people might not confuse you with environmentalists," Parton says.

Wiens of Colorado State argues that some scientists let their values erode their objectivity in assessing the ecological damage wrought when the *Exxon Valdez* spilled 11 million gallons of oil into Alaska's Prince William Sound in 1989. "Everybody's preconception was that this was bad and it was going to be an environmental disaster," says Wiens, who received funding from Exxon to study seabird recovery. That, he says, was exactly what the early research tended to find—until better designed studies found that, while hit hard initially, many birds and other species bounced back fairly quickly (*Science*, 9 April 1999, p. 247).

"When scientists become activists without hard evidence to back [their positions] up, they run the risk of being decloaked. People find out the emperor has no clothes," says Wiens. That undermines "the credibility of scientists as a whole." The result, claims Fred Wagner of Utah State, is that "ecologists have an image problem." The public, he says, has come to view him and his colleagues as "environmental advocates with college degrees."

It can be hard for environmental scientists to hold back until uncertainties are resolved, however, when their results point to a catastrophe in the offing. Ozone depletion is a classic case. After publishing a paper in 1974 hypothesizing that chlorofluorocarbons from aerosol cans and refrigerators were destroying Earth's protective ozone layer, atmospheric chemists F. Sherwood Rowland and Mario Molina argued vehemently that releases should be slashed. This was years before the Antarctic ozone hole appeared. But the fact that ozone depletion was a "global effect" and that any action would take many years to kick in made it more urgent, says Rowland, of the University of California, Irvine: "I thought that the possible consequences were severe enough that one should not sit back and watch this for a while to see what happens."

Many other ecologists agree that advocacy stems directly from their science. "The idea that we can draw a line down the center of ourselves and say, 'This is purely our science and this side is purely our values' is ridiculous," says Alison Power of Cornell University, who's spoken out on the ecological risks of genetically modified plants. She and others point to scientist-activists who have maintained solid reputations as researchers, such as Stanford's Ehrlich, a National Academy of Sciences member. Pimm says there's no harm in speaking out—even being wrong—because science has a safety net, peer review, that corrects exaggerations. "The reality is, there is an enormous number of checks and balances," he says: "the very rigorous, brutal selection of ideas."

How to take a stand

Although many ecologists are willing to wade into this moral and political quagmire, they say they would feel more comfortable if their savvier colleagues laid down some ground rules. For instance, a conservative approach might be to limit oneself to presenting data and discussing uncertainties, without venturing an opinion on policy actions. "It's advocacy for science, in a way," says Stanford's Matson.

ESA leaders insist that they firmly toe this line. For example, an ESA panel last year completed a joint report with the Union of Concerned Scientists, an advocacy group,

Role Model for Ecology's Generation X

She made *Newsweek*'s 1997 "Century Club" of 100 people to watch in the new millennium. She has to her credit five papers that have appeared in *Science* and *Nature*. At 35, Gretchen Daily has already made a name for herself as a leading voice in ecology—and not just because she toils hard in the field studying ecosystems. Daily has carved a niche in ecological economics, an emerging discipline that argues for saving habitats and species not only for their intrinsic ethical value, but for what they're worth in cold hard cash.

Value system. Gretchen Daily estimates the societal value of natural habitats.

Daily is emblematic of a new generation of ecologists who are motivated by strong environmental values and generally feel comfortable surfing the breakers where science washes onto the shores of policy. As an undergraduate at Stanford, she worked as a researcher for the Worldwatch Institute's Sandra Postel on issues such as global water shortages; then as a grad student she broke new ground in the biology department by completing a doctorate that blended science and policy. She studied which plants and animals were likely to survive land development in a Rocky Mountain ecosystem and also explored which species society would want to save. She stayed on at Stanford as a researcher, often collaborating with population biologist Paul Ehrlich.

Daily soon joined a few other pioneering ecologists in blazing a trail in ecosystem services, a new area that attempts to put a price tag on natural habitats. Ecological economists might argue, for example, that preserving a watershed is a cheaper way for a city to clean its water supply than is building a purification plant. Daily sees this as a "promising" new approach to environmental protection, because it appeals to businesspeople. She admits it's a gamble: It might be hard, say, to make a case on economic grounds for preserving a wetland rather than building a new shopping mall. But it's a risk that must be taken, she says: "The ethical arguments for saving biodiversity and the environment are not winning the war."

Daily tries to avoid being viewed—and possibly dismissed—as a one-sided environmental activist. She makes explicit her assumptions, for example when she suggests that preserving native habitat next to farmers' fields can help boost crop yields by contributing pollinating insects. And she lays out options without "making a judgment as to which is better or worse." Daily says scientist-advocates are more apt to be taken seriously if they present a consensus, such as by running with a pack of authors when airing commentaries.

For Daily, there's no question that her work is motivated by caring about the environment. "If I were not in this area of science, I would definitely be an environmentalist. But I try to just think about all these issues as problems to be tackled somewhat dispassionately." **–J.K.**

CREDIT: GIDEON YOFFE

on the potential effects of climate change in California, but let the union take the results to Capitol Hill. Others feel more comfortable singing in a choir—on National Academy of Sciences panels, for instance.

For those willing to go a step further and offer their scientific take on policy, one could offer a range of alternatives—for example, the odds that a salmon population will be wiped out if a dam is or is not built. "Scientists should be providing information rather than advocating any particular solution," says UW's Franklin.

The most aggressive scientist-advocates claim they can lead a successful double life. The key, they say, is to make it clear that when they are taking a stand, they are doing so not as a scientist but as a citizen, and that their views are based on values. "I try to make that distinction clear to people," says Environmental Defense's Wilcove. Many advocates who spoke with *Science* said they wear "two hats," as a scientist and as an activist. Watling, for example, says he has defended his reputation by continuing to publish research, even while writing commentaries—including ones comparing trawling to clear-cutting a forest—"termed rants by my colleagues," he says (*Science*, 18 December 1998, p. 2168). But he and others admit that reporters, particularly those coming in cold to report on an issue, often don't see the difference.

The debate isn't going away anytime soon. Pickett says he is preparing a white paper for the ESA aimed at lawmakers and others that will "clear up some misconceptions" about the differences between an ecologist and an environmentalist. (Rykiel of Washington State thinks the ESA should produce guidelines for its members on where to draw the line on advocacy, although society officials say they have no immediate plans for that.) Meanwhile, the Society for Conservation Biology has commissioned a panel of members to hammer out an issue paper on the topic—though they're still struggling to "define advocacy," says Gary Meffe of the University of Florida, Gainesville, editor of the society's journal.

Whether their colleagues are right or wrong, many ecologists staunchly defend the right to speak out, even when the science is unclear. "If some people didn't feel deeply about some of these issues, scientists never would have pursued them and we would not know the vast majority of what we know in science," says Tilman. "I don't think there's anything wrong with conveying these hunches when they're relevant to society."

—JOCELYN KAISER

CONSERVATION BIOLOGY
▶TRANSFORMING A DISCIPLINE

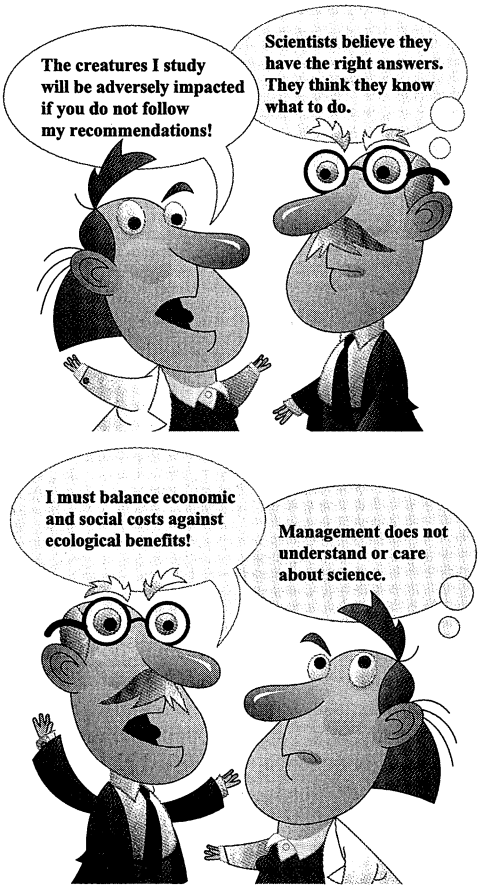
A New Breed of Scientist-Advocate Emerges

Conservation biologists clearly want to influence policy. After 15 years of frustration, practitioners are beginning to learn the fine art of making a difference

For months, David Wilcove peppered the U.S. Fish and Wildlife Service (FWS) with letters protesting the agency's plans to save the threatened Utah prairie dog. Wilcove, a conservation biologist, and his colleagues at Environmental Defense in Washington, D.C., argued that FWS was putting too much emphasis on protecting prairie dogs on federal lands, when most of the animals now live on private land and cannot be relocated easily.

In the midst of this typical conservation battle—scientist-advocates on one side, resource managers on the other—Wilcove made an atypical move. Conceding that his organization and the FWS were both shooting from the hip, making cases based on skimpy data, he flew a team from Princeton University to Utah last November to meet with agency managers and Environmental Defense officials. The Princeton group, led by biologist Andrew Dobson, began working up what the cash-strapped FWS could not afford to do on its own: a model on how various factors, from climate to disease epidemics, would affect Utah prairie dogs. "When the study is done this spring, we'll all have a better blueprint for determining the relative importance of public and private lands," Wilcove says.

That kind of cooperation is a novel way to get more science into resource management decisions. Week in and week out, managers dictate which sections of forest to sell to logging companies, which wetlands to pave over for houses, and which prairies to till into pastures. Such decisions often are justified by price tag or politics, but it's rare that more than lip service is paid to science. Part of the problem is that many scientists are hesitant, or unable, to participate in the process. "Academics don't know how to affect policy, and they don't communicate with managers very well," says Michael Soulé, a professor emeritus at the University of California, Santa Cruz.



Speaking in tongues. What a scientist says and a policy-maker hears *(top)*, and vice versa *(bottom)*.

CREDIT: TERRY SMITH

The disconnect between science and management is disconcerting to researchers who launched the Society for Conservation Biology (SCB) in 1985. "Our mission was to provide the scientific tools and ideas to protect nature," says Soulé, who served as SCB's first president. Fifteen years later, however, he and others say that scientists are still struggling to influence policy decisions. "The nuts and bolts of conservation biology just aren't working," says Barry Noon, a biologist at Colorado State University in Fort Collins.

Alarmed by their own irrelevance, conservation biologists are now taking steps to make their voices heard. While many ecologists agonize over whether to weigh in on policy issues (see previous story), conservation biologists are taking the offensive. SCB plans to unveil a magazine designed for resource managers that's packed with case studies and the latest biology. Meanwhile, a new program sponsored by The Nature Conservancy in Arlington, Virginia, plans to put some 50 biology postdocs into the field for 2 years at a time to learn from resource managers. And many seasoned conservation biologists are teaming up with resource managers to rethink endangered species re-