ENVIRONMENT

The Pentagon Steps Up the Battle to Save Biodiversity

The fight to defend biological diversity has an eager recruit: the U.S. Department of Defense (DOD). Late last month, Secretary of the Air Force Sheila Widnall announced the completion of a new guidebook to help military base managers develop comprehensive land-management plans to protect plant and animal species on military installations. Written with biologists at the Ar-

lington, Virginia–based The Nature Conservancy (TNC), the nearly 400page manual includes lessons on the importance of healthy ecosystems for military training, strategies for "gaining management approval" for conservation plans, and even "qualitative threat-ranking methods."

The manual is only the latest signal from DOD that, in a time of downsizing and base closings, it wants to be viewed as a good steward of its thousands of square kilometers of real estate. It has already opened some of its lands to surveys by conservation biologists, and lent equipment and personnel to a vari-

ety of conservation programs. But given DOD's tarnished environmental record, the effort faces considerable skepticism from veterans of biodiversity battles, and relations with its new conservation partners have at times been strained. "The potential is there, but I'm not convinced yet," says John Walker, an analyst in charge of regional environmental issues at Nevada's Agency for Nuclear Projects in Carson City.

Still, some conservationists say DOD's green campaign could be a boon for species. Ironically, many of the 10 million hectares under military control are the last, best places for finding fast-disappearing plants and animals. "They've kept people out, and that has resulted in sizable pieces of habitat being conserved that otherwise would not have been conserved," says Steve Torbit, a senior scientist for the National Wildlife Federation in Boulder, Colorado. Among the now-rare ecosystems that the military has inadvertently protected are longleaf pine forests on Florida's Eglin Air Force Base and coastal wetlands and bluffs at the Marine Corps' Camp Pendleton in California.

The DOD was spurred into joining the fight in 1991, when Congress directed the Pentagon to "address urgent issues of biological diversity" as part of the Legacy Resource Management Program, an effort to protect cultural and natural resources on DOD lands. And DOD brass have been particularly anxious to look green at bases that have been under public scrutiny. A case in point is Nellis Air Force Range in southern Nevada, where DOD's claim to the land will soon be up for review. The Bureau of Land Management actually owns the land, which has been "withdrawn" for military use since the 1950s. Congress is slated to reauthorize the arrange-



Green recruits. Surveying species at Goldwater (*above*) and Nellis (*right*).

ment in 2001, and the Air Force would like it to extend the deal "for an indefinite period of time," allowing the military to forgo the costly and sometimes contentious reauthorization process.

A rare plant, called Merriam's bearpaw poppy, may help the Air Force make its case. Until TNC staff began surveying the range for the Air Force, says TNC botanist Teri Knight, scientists knew of only five sites where the showy white-and-yellow poppy grew, each with fewer than two dozen plants. But in 1993—an unusually wet year—she says at Nellis the poppy was "almost like a weed." The survey team found more than 25 new populations of the plant, comprising more than 80,000 individuals-enough to prompt the U.S. Fish and Wildlife Service (FWS) to remove the poppy from the list of species under consideration for threatened or endangered status.

Military control of Nellis should help keep the poppy off the list, Knight says: "What Nellis does is mostly in the air, [which] leaves the plants pretty unthreatened." As she points out, Nellis isn't open to off-road vehicles, mining operations, or other public land uses that can damage sensitive habitats.

Still, the situation at Nellis is "not all

SCIENCE • VOL. 275 • 3 JANUARY 1997

peaches and cream," says Grace Burkowski of the Rural Alliance for Military Accountability in Reno, Nevada. In a 1994 General Accounting Office (GAO) report, FWS officials called the military "generally uncooperative" in efforts to manage the 36,000-hectare Desert Wildlife Refuge, which is adjacent to Nellis. FWS officials said the Air Force constructed roads on the refuge without consulting FWS, damaged a rainwater catchment for bighorn sheep by bombing outside approved areas, and stored uranium-contaminated tanks on the refuge—again without consulting FWS. Air Force officials say "the report provided information to [help us] improve our programs."

Similar conflicts mark collaborative efforts at Goldwater Air Force Range in southern Arizona. Personnel at Goldwater—which also is up for reevaluation in 2001—have worked for several years with the Washington, D.C.-based conservation group Defenders of Wildlife to study the long-term viability of populations of endangered Sonoran pronghorn antelope. But the group currently is suing the Air Force, claiming it is not doing enough to protect the animals. They say that craters left by bombs at one of the Air Force's main target areas catch water, attracting the antelope in the arid climate. Although the Air Force maintains that bombing runs are

canceled when antelope are sighted at the craters, the Defenders say Air Force monitoring is inadequate, and they want all bombing at the site stopped until the FWS has finished evaluating the situation. The suit has not yet gone to court,

and the lawyers for both sides are negotiating to develop a plan to protect the animals.

But Tad McCall, deputy assistant secretary of the Air Force for environment, safety, and health, insists that such disputes can be resolved. In a conflict over the proposed expansion of a training range near Saylor Creek Air Force Range in Idaho, the Air Force has decided that it can change its flight times and flight paths to leave hiking areas and mountain sheep habitat undisturbed most of the time without weakening training programs. "We will still meet our objectives, but we will have listened to everybody and done the best we can to accommodate them," he says.

The National Wildlife Federation's Torbit, who has fought against the expansion in Idaho, agrees that there is room for compromise. "Like most entities that use the land," he says, "with some forethought and planning, [military leaders] can accomplish their mission and not have it be to the exclusion of protecting natural resources."

-Gretchen Vogel

20