Obligation to Preserve Land Shapes Army Training

by Christopher Prawdzik

In the late 1970s, several waterfowl were found dead in a wetland area near Anchorage, Alaska. Army scientists assumed their proximity to a military firing range was the cause.

Eventually, scientists extracted sediment from the area for further analysis. As the sediment dried, and just before it was placed under a microscope, a scientist saw a puff of white smoke.

It was phosphorous—most likely deposited as a result of firing-range testing during World War II, Korea and Vietnam. Ducks would eat these little pellets, which unfortunately didn't agree with them. The Army had a big cleanup problem on its hands.

To address similar concerns, several projects over the years were completed under the auspices of the U.S. Army Toxic and Hazardous Materials Agency. In 1993, to emphasize the military services' commitment to environmental restoration and to preserve natural resources, the agency was retooled at the Army Environmental Center (AEC).

Now a custodian of 12 million acres of training areas, 29 ammunition activities and arsenals and 3,000 fuel storage sites, the AEC also preserves 36,000 cultural sites, more than 12,000 restoration sites, 55,000 archaeological areas and even 12,000 historic buildings and other structures.

A much different animal than its name may suggest, the agency is not staffed by a crop of environmentalists sitting on one side of the fence, while the U.S. Army is on the opposite side, battling over training limits and nationwide live-firing restrictions. Instead, the AEC covers everything from pollution control to development of environmentally friendly equipment—but it is concerned with one main objective.

"The whole point of the [AEC] is to help preserve training areas," says Col. Stan Lillie, the AEC's commander.

Assuming command in August 2000, Lillie quickly began moving the AEC into the 21st century. During an interview at AEC headquarters, he explains that the center is being restructured to better support the Army, capitalize on new growth areas and realize its strengths.

The realignment is designed to accommodate the center's three main divisions—Environmental Technology, Environmental Quality and Environmental Restoration.

Equipment development issues lie with the Environmental Technology Division. It provides support to the Army to ensure major weapons systems are incorporating environmental requirements. Not to be mistaken as a hindrance to new technology, this division works with its eyes on budgets.

"What we're trying to do is affect the beginning of the process versus fixing the problem at the end," says Dean Hutchins, an AEC environmental engineer.

By reviewing costs that major weapons systems generate and interviewing people at all levels, even down to those working in motor pools, the division can better determine where upgrades can take place and predict environmental costs early in development stages.

Thanks to new procedures and attitudes, the ET Division is much more organized than before, says Erik Hangeland, an officer of the technology transfer branch of the ET division.

"In the past couple of years, the Army as a whole, has been putting together a more corporate orientation on their technology program to make it more responsive to user requirements and user needs out in the field," he says.

In addition to this expanded scope, some older, more-established tasks remain priorities for the ET Division. Hangeland says the top cleanup requirement is the "identification and discrimination of unexploded ordnance." This includes cleanup of installation landfills.

In the late 1970s, contaminated soil was a problem, especially near ammunition plants that operated as far back as World War II. When the Army began looking at the cleanup procedures around those installations, the prescribed cure was to incinerate the soil.

Using portable incinerators, the process would take a year or more in some areas, and the end result was sterile soil. The answer to this was "composting," according to Robert York, chief of the AEC's Environmental Restoration Division. Composting created exceedingly rich soil, and it satisfied incineration opponents—particularly those in agricultural areas.

Hangeland agrees. Composting is an example of how some techniques —even if they're hundreds of years old—are used to improve cleanup.

The ET division also is focusing on future innovation and technology-transfer opportunities, officials say.

The biggest success in this area is the implementation of "green ammunition."

In 1995, the Army instituted a program to reduce lead on firing ranges. In 1999, lead-based, 5.56 mm, standard M-16 bullets began to be replaced with copper-jacketed versions, produced with a tungsten-tin

or tungsten-nylon core. Similar bullets eventually will replace 9 mm pistol rounds, as well as the 7.62 machine gun and .50 caliber rounds.

The bullets also provided an unexpected benefit. According to Jim Arnold, chief of the AEC's pollution prevention and Environmental Technology Division, "green bullets" are more accurate and cause less erosion on the M-16 rifle than do lead rounds.

The AEC's Environmental Restoration Division helps execute this program. "Right now our big thing is to ensure program efficiencies," says York. "We want to make sure remedies are followed and that they're getting the best bang for the buck."

Available Training

York notes that the only time the AEC's work impacts military training is when property is cleaned and can be used for additional training—another positive aspect of its environmental stewardship, he stresses.

Except for continuing preservation of active areas, and with the success of site preservation methods (such as composing), installation cleanup exceeds 80 percent, according to York. "Our hope is to get out of business, at least for traditional restoration, before 2014," he says.

AEC officials, however, expect that the agency will continue to play a valuable role for a much longer time. "Since those early days, we've moved away from just compliance, into a number of other areas," says William J. Herb, acting chief of the Environmental Quality (EQ) Division.

The third leg of AEC's organization, the EQ Division provides compliance support for various laws, such as the Safe Drinking Act, Clean Water Act and Clean Air Act for installations around the country.

"One of the problems we see facing installations is that there are more and more regulations coming out." Herb says.

In response, the special projects branch of the EQ Division performs quality assurance functions. On a three-year rotating cycle, the branch visits sites and installations, and then ensures that funding is allocated to complete compliance projects.

Building on the AEC's corporate organizational approach, the branch seeks collaboration from several other government agencies.

"We wanted a one-stop shop where installations could come," says Paul Thies, chief of the division. As a result, the 40 people who comprise the branch belong to several different agencies, including the U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service and the National Resource Conservation Service.

The most visible example of this cooperation, and perhaps a door to the future evolution of the entire

AEC, is the ongoing habitat restoration and preservation of land near Ft. Bragg, N.C., for the recovery of the red-cockaded woodpecker.

Just as the Aberdeen Proving Ground, Md., home of the AEC, consists of the bulk of Northern Chesapeake Bay wetlands, Ft. Bragg inherited the responsibility of recovering the woodpecker.

“Many times the critter is there because of the training,” Thies says. “For the most part, they can dodge bullets; what they can’t do is dodge strip malls.”

According to Thies, the restoration of the woodpecker population at Ft. Bragg, when coupled with efforts in another area of nearby Pope Air Force Base, will achieve complete recovery of the species.

“If we can bio-connect those two sub populations, we have recovery,” Thies says. “What we’re trying to do is bridge that gap before it’s all strip malls and golf courses.” That connection also will result in increased training areas for Ft. Bragg.

Through cooperation with the Nature Conservancy, North Carolina Fish and Wildlife Service and about 15 other small, local partners, Thies says they’re on their way to preserving the land in perpetuity. The master plan for this effort is expected to be released in the fall. Most importantly, he says, it will not be a matter of the government taking over land.

In addition, the Army will only contribute about 20 percent of the resources for the project. The future of the AEC, officials agree, will involve cooperation with private agencies and individuals to help preserve the land. Working with local landowners, the Nature Conservancy can maintain the land and enter agreements with property owners, who in turn can agree to conditions that prohibit environmental damage through commercial expansion on their property. Each side benefits, and cooperation is up to the landowner.

Although some training restrictions were put in place at Ft. Bragg because of the need to protect the woodpecker population, the limitations gradually will be lifted as recovery of the species is achieved. In the end, the net result will be an increase in training land for the Army.

“The key is to look at the future,” AEC commander Lillie says. “The real challenge for us is being able to influence projects going on right now.” According to Lillie, “We have to pick and choose where the highest priority payoff is.”