

The Great DOE Land Rush?

The department is considering selling off land around its national labs that has been undisturbed for decades; these zones have become protected havens for wildlife and valuable locations for ecological research

Since its creation in 1948, Oak Ridge National Laboratory (ORNL) in Tennessee has buffered itself from civilization with a natural security system: a tract of wilderness covered with oak, hickory, and pine forests. Ecologists have had a field day in Oak Ridge's 14,000-hectare protected zone—home to peregrine falcons, cerulean warblers, and 18 other rare animal species—and in similar swaths of wilderness surrounding six other Department of Energy (DOE) national laboratories. These zones have yielded data on everything from biological invaders to soil carbon levels that inform the climate change debate. "This land is incredibly valuable," says ecologist James Ehleringer of the University of Utah, Salt Lake City.

But these ecological havens are fraying at the edges. As part of an effort to cope with post-Cold War budget cuts, DOE has been quietly divesting itself of wilderness parcels no longer deemed essential to safeguarding the nation's weapons labs. So far, three labs have given up more than 1200 hectares (ha) of buffer zone to local governments and the U.S. Bureau of Land Management, which in turn have sold much of this land to developers for house lots, landfills, and commercial construction. Another 5200 ha may soon be

put on the auction block. Scientists acknowledge that they have been slow to take up the cause. "These are federal reservations, and many researchers consider them inviolate," says James MacMahon, an ecologist at Utah State University in Logan. "I don't think it's on anyone's radar."

But the deals are setting off alarms among environmental groups. The Nature Conservancy (TNC), for instance, plans to complete a biodiversity database this month that documents roughly 1500 species, including rare or endangered animals and plants, in ORNL's buffer zone. This and other grassroots efforts are gelling into a campaign to persuade DOE to set aside as much of the buffer zones as possible for wildlife and research. "DOE should take stock of what it has before making any decisions" on land use, says Curt Soper of TNC in Seattle.

The disputes involve lands originally valued for their emptiness. Early ecological studies done in the buffer zones tracked the fate of radioactive waste dumped or leaked by the secretive labs, says Steve Hildebrand, ORNL's environmental sciences director. Then in the 1950s, outside researchers began discovering the lands as valuable spots to study broad ecosystem questions. "Scien-

tists came to collaborate, and the momentum grew," Hildebrand says. In 1972, DOE's predecessor, the Atomic Energy Commission, moved to protect such areas as wildlife and research refuges by designating the first National Environmental Research Park (NERP), at the Savannah River site in South Carolina. Over the next 20 years, six more parks were established (see map).

The parks quickly became a favorite haunt of ecologists. At the Idaho National Engineering and Environmental Laboratory in Idaho Falls, for example, researchers have compiled a stark picture of a non-native weed called cheatgrass, which has choked out sagebrush and fueled disastrous fires across much of the Great Basin. In the lab's buffer zone, cheatgrass is being held at bay by a hardy stand of native plants, says Jay Anderson of Idaho State University in Pocatello. "Our research shows just how much cheatgrass relies on overgrazed land, where you don't have these viable populations of native species," he says. And at Fermilab National Accelerator Laboratory (Fermilab) outside Chicago, ecologists have spent 25 years restoring 500 ha of tallgrass prairie. The young grassland hosts research on how plants cope with grazing, for instance.

At ORNL, lab lands became a "field of dreams," says atmospheric scientist Dennis Baldochi of the National Oceanic and Atmospheric Administration's office in Oak Ridge, attracting scientists who study climate change and nutrient cycling. One resource is a 30-year record of soil carbon levels at ORNL. One of only a few carbon histories taken in a southern temperate forest, the project offers insights into how carbon cycles between forests, soils, waters, and the air. "A lot of work on the carbon budget depends on long-term soil histories that you only get at sites like Oak Ridge," says Susan Trumbore, a biogeochemist at the University of California, Irvine. The National Science Foundation's Long Term Ecological Research sites provide similar data, she says, but many NERP studies have been running years or decades longer. What's more, Trum-

bore says, ORNL forests are protected from tourists, who sometimes disturb long-term experiments in national parks. Most projects in Oak Ridge's buffer zone are threatened by pending land deals, adds Pat Parr, ORNL's land area manager.

But some DOE officials argue that ecosystem studies fall outside the agency's purview. In a January 1997 audit, the agency's Inspector General (IG) asserted that DOE should stick to its central post-Cold War missions—stockpile stewardship, environmental cleanup, technology development, and research. The report recommended selling roughly a quarter of NERP lands—125,000 ha valued at \$126 million—at ORNL, Idaho, and the Pacific Northwest National Laboratory in Richland, Washington. DOE managers agreed in prin-

McDaniel, Oak Ridge city manager. The IG report deems expendable roughly 70% of the ORNL buffer zone used for research. Other labs have similar stories: At Los Alamos National Laboratory in New Mexico, 1800 ha—about 15% of the lab's land—could be transferred as early as 2001 to the county and to the Pueblo of San Ildefonso for commercial and residential use. In Richland, a 36,500-ha area known as the North Slope hangs in the balance, as congressional representatives squabble over the county's agricultural needs. And at Fermilab, county officials have aired the possibility of running a four-lane highway through wetlands on the 60-ha NERP.

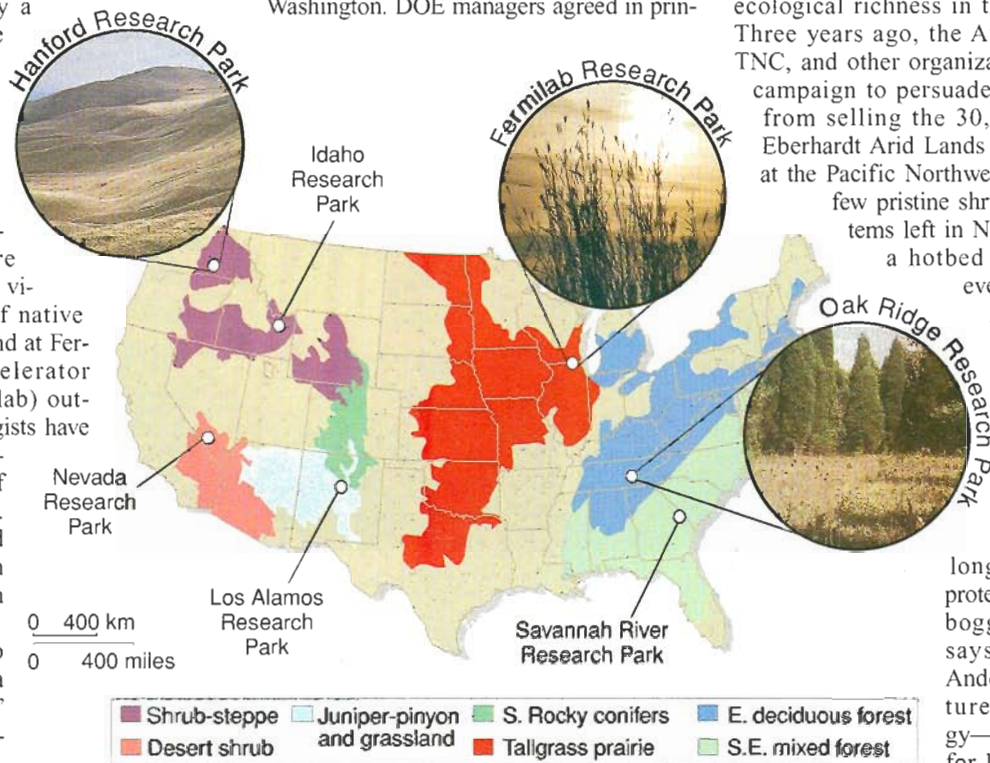
The stakes are higher now that conservation groups have begun documenting the ecological richness in the buffer zones. Three years ago, the Audubon Society, TNC, and other organizations mounted a campaign to persuade DOE to refrain from selling the 30,000-ha Fitzner-Eberhardt Arid Lands Ecology Reserve at the Pacific Northwest lab, one of the few pristine shrub-steppe ecosystems left in North America and a hotbed for research on everything from Canadian geese and salmon spawning to air and groundwater quality. "To think that DOE would suddenly decide it was no longer important to protect those lands just boggled my mind," says Idaho State's Anderson. But the nature groups' strategy—writing editorials for local newspapers and organizing town meetings—paid off.

Last year, DOE signed a contract with the U.S. Fish and Wildlife Service, which will manage the reserve as a wildlife refuge.

At Oak Ridge, TNC hopes its new database—which tracks roughly 400 animal and 1100 plant species, including rare migratory birds, salamanders, fish, and bats, on ORNL's 14,000-ha reservation—will spotlight the most vibrant areas in the buffer zone. Parr says the lab strongly advocates protecting the reserve for research. But others add that the labs face an uphill battle unless ecologists begin to raise their voices in protest. Says Janet Anderson, a DOE adviser, "It falls on [them] to support the integrity of these lands."

—KATHRYN S. BROWN

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Diversity. DOE's research parks are set in a variety of ecosystems.

ciple, although they say that a higher, undetermined percentage of NERP territory should be kept. "We need a lot of that land," says Andrew Duran of DOE's field management office, partly because scattered patches are contaminated with radionuclides or toxic chemicals and are serving as test-beds for cleanup technologies. In response to the IG report, his office has asked each lab to assess how much land it needs.

Observers say the IG report essentially gives a green light to land deals. In Oak Ridge, city administrators have already received about 2400 ha of ORNL land for businesses, homes, schools, and other facilities. They hope to buy 3200 ha more. "We have to have room to grow," says Robert