ENDANGERED SPECIES

Wayward Grizzlies Spark Debate

JACKSON, WYOMING—With winter hibernation just around the corner, grizzly bears here are foraging obsessively for their favorite foods: whitebark pine seeds, abandoned elk carcasses, and, sometimes, sheep. This fall, ranchers in the Greater Yellowstone area are on alert for stray grizzlies, for in the past few months a surprising number of bears have wandered onto grazing land outside their normal haunts. In August and September, for example, four bears were suspected of killing 120 sheep southeast of the town square in Jackson, in country without a confirmed grizzly sighting for 40 years. "I was flabbergasted that we took four bears from that location," says Dave Moody, large predator coordinator for the Wyoming Game and Fish Department. "Grizzly bears keep showing up, more and more, in places we haven't seen them," agrees Richard Knight, director of the Interagency Grizzly Bear Study Team, who cites other recent unexpected grizzly appearances up to 50 kilometers outside the Yellowstone-centered recovery area.

Conflict between grizzlies and livestock is not new, but the high incidence of stray bears is fueling a stormy debate over whether the number of grizzlies in the contiguous 48 states has increased to the point that they should no longer be listed as a threatened species under the Endangered Species Act (ESA). The U.S. Fish and Wildlife Service (USFWS), which for 21 years has been trying to coax grizzlies back from the edge of extinction, sees the tracks of the wayward bears as signs of impending victory. "The fact that we're seeing these increased conflicts means that there's an increase in the number of bears," says Chris Serveehn, grizzly bear recovery coordinator for the USFWS. Agrees Knight, "The number of grizzly bears keeps going up. We're close to meeting recovery criteria."

But conservationists counter that the conflicts are not due to a booming bear population, but to deteriorating habitat that is forcing the animals ever farther afield. "An expanding range does not necessarily mean a growing population. The crux of the argument is how many bears we have," says Franz Camenzind, director of the Jackson Hole Alliance for Responsible Planning.

And that's just the problem: Grizzlies are almost impossible to count, because they travel under tree cover and roam home ranges of up to 1600 square kilometers. In the Yellowstone region, managers estimate population each year by counting the number of females with cubs sighted during dozens of observation flights. This year, they have already spotted 33 such groups—more than twice as many as last year, and significantly higher than the 24 seen 5 years ago. "We're seeing an increasing number of bears, more cubs, and more females with cubs than ever," says Serveehn. In a recent paper in the *Journal of Wildlife Management*, Knight and a coworker estimate that a minimum of 280 bears and a maximum of 610 now live in the Greater Yellowstone area; in 1986, the official minimum estimate was only 133 bears.

Those numbers depend on counting methods, however—and the methods are flawed, charges biologist David Mattson with the Biological Resources Division of the U.S. Geological Survey. "It's an artifact of increased search effort—it reflects nothing about the population," he says. After analyzing population data and habitat between 1976 and 1992, Mattson concludes in a paper in press in *Biological Conservation* that the 2% to 5% increase can be ascribed entirely to more flying time and a shift in the bears' behavior, leading them to forage on open slopes where they are easily spotted from the air. "The most defensible analysis of the data suggests that there are no more bears now than there were in 1975"—most likely about 300, he says.

RALPH REINHOLD/ANIMALS ANIMALS

Following his nose. Yellowstone's grizzlies following tempting scents—including that of sheep—are gradually expanding into new ranges, and more are being counted.

Such wrangles over bear numbers focus on Yellowstone, even though most biologists agree that northern Montana actually has more grizzlies, perhaps 600 to 900. But managers there have had fewer resources with which to monitor bears, and so biologists have focused on Yellowstone for signs of a recovered grizzly population. Indeed, the USFWS is already preparing a joint-agency plan outlining what's needed to manage the bears without the protection of the ESA—a key legal step toward delisting, which would return management responsibility to the states.

Not everyone is convinced that the bears are ready for such a step, however. Even the existing grizzly recovery plan has drawn a legal challenge from about 40 conservation groups, who charge that the plan lacks "objective criteria" for monitoring bear populations and pays too little attention to habitat loss. In fact, shifts in habitat resources may be the real reason behind the increased grizzly-livestock conflicts, says Mattson. For example, recent years have seen sharp decreases in whitebark pine seeds, a critical high-fat food in the fall. This shortage sent more bears foraging in lower elevations, closer to people and sheep, says Mattson. And once bears become accustomed to human food sources, they may continue to prefer them even if the seeds come back, as has happened this year, says Mattson. "Do we have an increasing population, or a slight redistribution of bears as the result of changes in the quality of food available?" he wonders.

But Moody dismisses the idea that scarce resources are driving the grizzlies to wander. "There's no evidence that we have deteriorating conditions in the majority of the occupied habitat," he insists. The bears themselves will soon be slumbering beneath the snow, but this debate isn't likely to be buried with them.

–Bernice Wuethrich

Bernice Wuethrich is a science writer in Washington, D.C.

ENERGY LABS

Livermore Settles Audit for $2.7 Million

The University of California has paid the U.S. government $2.7 million after an investigation of Lawrence Livermore National Laboratory found a pattern of shifting money among projects to mask cost overruns. "Mischief is a kind word for what they were doing," says one investigator. The accounting discrepancies were uncovered during an investigation by the Justice Department, after a 1993 report by the Department of Energy's (DOE's) inspector-general and a 1994 audit by the University of California flagged potential problems. The university runs the 44-year-old nuclear weapons lab, which is owned by the federal government.

The investigation involved the budget of the lab's applied technology program within the national security directorate. The government alleges that between 1990 and 1993, Livermore managers drew on funds from some projects to cover overruns on others. "Unused money should have been returned to DOE," one investigator says. Program officials also borrowed money from one project to finance other projects awaiting more government funds, a move that is

forbidden under government rules, according to investigators, and there was no supporting documentation for some of the transactions. The lab's motivation, says one investigator, was to make it appear that all was running smoothly at the billion-dollar-a-year lab.

"Public institutions such as [Livermore] must maintain strict care and accountability of public funds since they have a public trust and responsibility to do so," says U.S. Attorney Michael Yamaguchi. Under the terms of the settlement, which was announced last week by the Justice Department, the lab denies allegations that the government was damaged by the actions but agrees to pay $2.7 million, which includes a $1.2 million fine. In return, the government agreed to waive any further action.

Livermore officials released a statement saying that "no laboratory employee realized personal gain from the transactions." University of California spokesperson David Schwoegler said that "we've admitted impropriety," but he denied that the federal government suffered as a result. He said the actions of Livermore officials were "well-intentioned but inappropriate. They shouldn't have done it."

–Andrew Lawler

INTELLECTUAL PROPERTY

Treaty Draft Raises Scientific Hackles

Electronic databases are essential working tools these days for astronomers, meteorologists, medical researchers, and most other scientists. That is why a move to strengthen the rights of companies to restrict access to databases they compile has touched a raw nerve among science officials in Washington. Indeed, feelings are running so high that the presidents of the National Academy of Sciences (NAS), the National Academy of Engineering (NAE), and the Institute of Medicine (IOM) are warning that a proposal to be discussed at upcoming international trade talks in Geneva could make it harder and more expensive for scientists to gain access to data. And they are asking the U.S. government to make sure that doesn't happen.

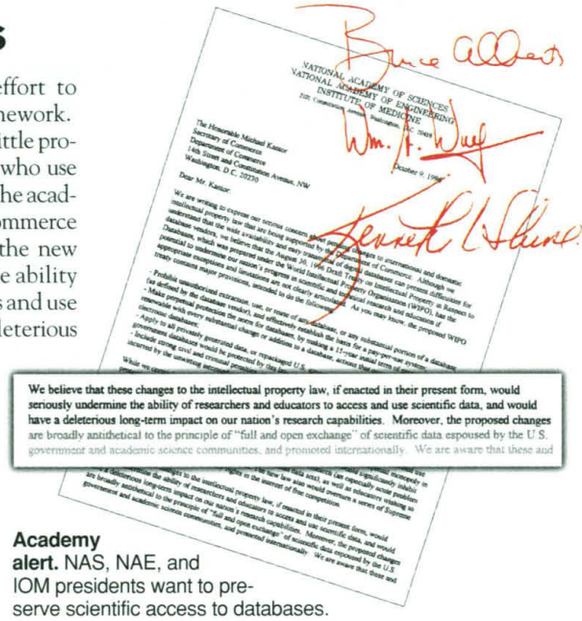
The issue pits the rights of scientists in the age of cyberspace against companies that want to protect their wares from piracy. But it is far from clear what effect the proposal might have on working scientists, what databases would be affected, and how courts would interpret new laws. "Nobody understands the full dimensions of this yet," says Richard Halgren, executive director of the American Meteorological Society.

This week, White House and senior agency officials began meeting to work out a U.S. position acceptable to both groups that will be argued at the December meeting of the World Intellectual Property Organization (WIPO), which sets standards on intellectual property rights. Negotiators hope to draw up a treaty outlining the new regime before Christmas.

What has raised the ire of scientists is a draft of the WIPO treaty developed by the organization and representatives of member states, including U.S. Commerce Department officials. Software companies are pushing for the new regime in the wake of a 1991 Supreme Court decision that limited their ability to copyright databases such as the white pages in a telephone book. This spring, the European Community moved to strengthen their hand with a directive that would provide better database protection among member countries starting in 1998. But the policy would not protect private databases in countries outside Europe lacking a similar set of rules. The WIPO meeting is an effort to come up with a common global framework.

At present, the WIPO draft offers little protection for researchers and educators who use data for noncommercial purposes, say the academy leaders. In a 9 October letter to Commerce Secretary Michael Kantor, they say the new regime "would seriously undermine the ability of researchers and educators to access and use scientific data and would have a deleterious long-term impact on our nation's research capabilities."

U.S. researchers and educators traditionally enjoy greater access to data than commercial users through a legal principle known as "fair use." The proposed treaty, however, fails to provide such a clear exemption and is antithetical to the concept of full and open exchange of data, according to the academy presidents. They warn darkly of a "pay-per-use system" that gives vendors essentially perpetual protection of their databases and could allow a company to claim ownership of repackaged government data. The draft also includes harsh civil and criminal penalties—including provisions for third-party liability—for using data without obtaining the approval of the database vendor.



Academy alert. NAS, NAE, and IOM presidents want to preserve scientific access to databases.

Industry officials discount these worries. Dan Duncan, vice president of government relations at the Washington-based Information Industry Association, says research institutions already pay license fees to enable their scientists to access private databases such as those developed by oil or chemical companies or those that add significant value to government data. And vendors could maintain control over their databases for an extended time only if they made a substantial investment in their products, he adds. "There is a little bit of hysteria tingeing this letter," says Chris Meyer of the Washington law firm Meyer & Klipper, which specializes in copyright law.

Government data are exempt from the proposed treaty, note Duncan and Meyer, meaning that data from NASA's Mission to Planet Earth program, for example, will continue to be available free of charge. However, companies would retain the right to sell government data that they have repackaged and given added value to. This is a central fear of the academy leaders, although not everyone is as concerned. "For earth scientists, I don't see this as a problem," says Ali Montasser, who oversees information systems for NASA's Mission to Planet Earth. The agency, he says, actually encourages companies to seek ways to profit from the data.

Industry officials note that any treaty would require Senate approval and implementing legislation, a process that they say gives scientists plenty of opportunity to express their views. A bill proposed last May by Representative Carlos Moorhead (R–CA) contains language similar to the WIPO draft and does not exempt researchers and educators, but congressional staffers admit that further work needs to be done before it is reintroduced into the next Congress. "It was drafted in substantial haste," one industry official says.

Meyer says researchers should understand that the goal of a new regime is to prevent piracy on a large commercial scale rather than to deny data to legitimate researchers. For their part, science officials say they respect industry's need for better protection, but insist that they will do what it takes to make their voice heard.

–Andrew Lawler