

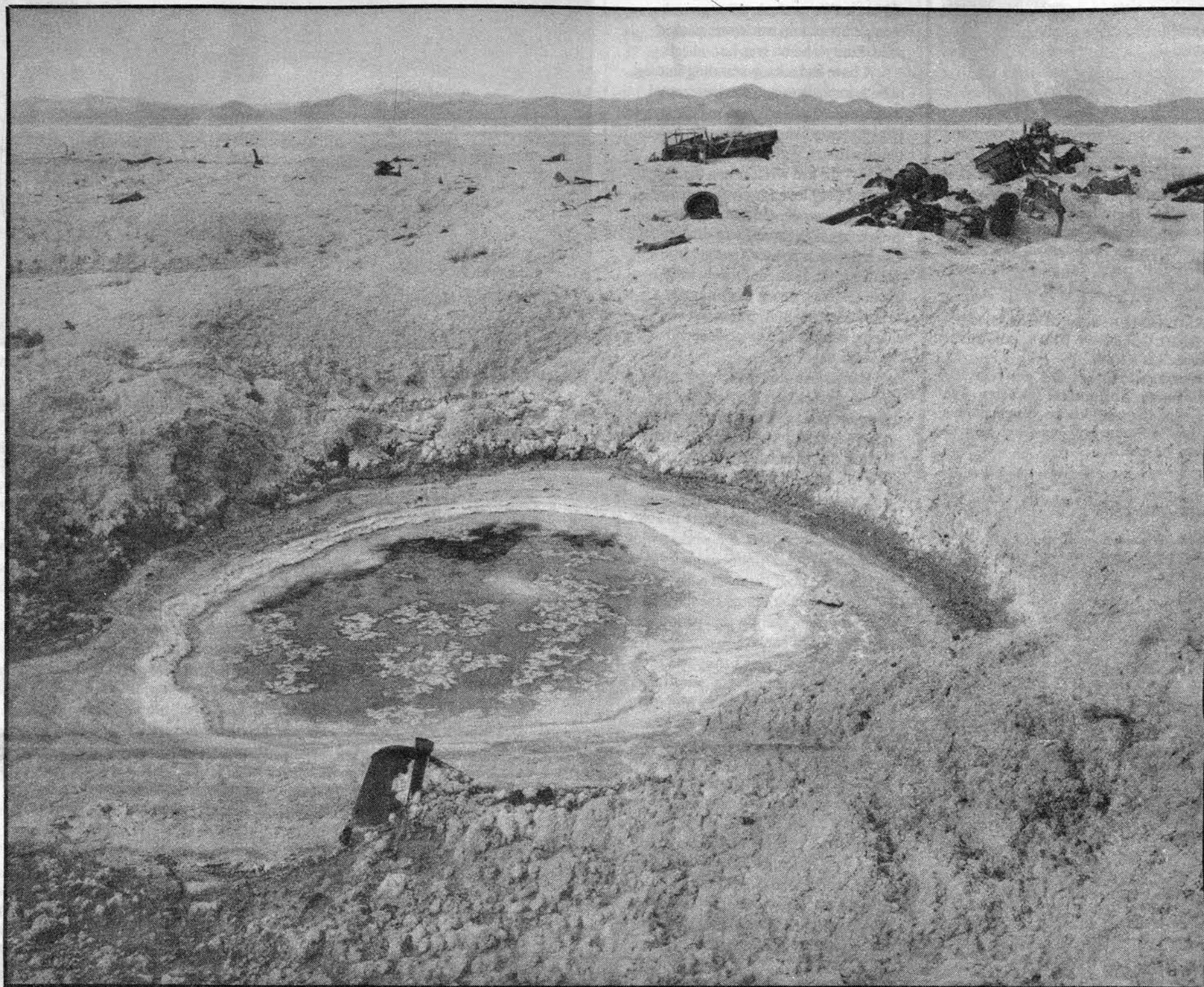
High Country News

May 6, 1991

Vol. 23 No. 8

A Paper for People who Care about the West

One dollar



A bombing test destroyed a convoy and left this crater in the Nevada desert

Richard Misrach from Bravo 20: The Bombing of the American West

'It's like a big playground'

The bombing of the West

by Jon Christensen

FALLON, Nev. — To prepare for their deadly missions in Operation Desert Storm, Navy and Air Force pilots flew sorties against simulated Iraqi targets in the Nevada desert. For many of the pilots who would attack Baghdad, their first experience with live ordnance was bombing Nevada.

Before deploying to the Persian Gulf, each of the Navy's carrier air wings — the full complement of an aircraft carrier's 60-plus jets — was stationed for three weeks at the Fallon Naval Air Station's famed "strike warfare center." Here, future "top guns" gain critical combat-like experience attacking imaginary enemies on the bombing ranges that surround this farming community. While radar-equipped E-2 air command platforms directed the mock battles from high above, A-6 Intruders swooped down on the targets and F-14 Tomcats fought off the "adversaries" —

F-5 Phantoms flown by instructors at the training center, some with Iraqi flags painted over the red stars that once adorned their tails.

Back at the base after a successful mission, the pilots sat before a high-tech computer and radar tracking system, replaying their dogfights and bombing runs in 3-D video.

"You can't do any more realistic training," said Cmdr. Bill Ballard, lead officer of an A-6 squadron from the *USS Forrestal*, bound for the Mediterranean Sea. "With the bombing ranges and air space available here," he said, "it's the best in the country."

"Fallon's great," enthused Lt. Raoul Dellara, an Intruder pilot. "It's like a big playground."

But the high-tech war games leave a heavy-handed imprint on the surrounding community and the desert beyond. Jets scream low over houses, ranches and Indian reservations to make treetop approaches to the bombing ranges.

Travelers on the highways leading out of town often pause by the roadside to watch bombing runs. Littered with unexploded bombs, some burrowed as much as 20 feet into the earth, the bombing ranges are off-limits to people, perhaps forever. Nearby public lands and parts of the Walker River Paiute Indian Reservation have been accidentally bombed.

In this landscape, conflicts abound. Expanded bombing ranges and military airspace, increased operations and flyovers both day and night have made Fallon a hot spot of sometimes bitter confrontation between military brass, local citizens and environmentalists.

Less visible than the jets and bombs, but equally disturbing, are the jet fuel spills and toxic chemicals that have leaked into the water table and ditches that drain into the nearby Stillwater National Wildlife Refuge. The National Toxic Campaign Fund recently listed 27 sites at the Fallon Naval Air

Station among the "14,400 points of blight" it claims the Pentagon has created nationwide through chemical contamination.

While base commander Rex Rackowitz says the training here is "vital to the survival" of Navy pilots, critics charge that bases such as the Fallon Naval Air Station made the environment at home the "first casualty of war," long before any shots were fired in the Persian Gulf.

Fallon is an apt focus for a debate about the costs of military preparedness. In highlighting the issues, Operation Desert Storm also may have changed the terms of the conflict. Before the war, plans for a nearly five-fold expansion of the Fallon base and bombing ranges — from 105,000 acres to 479,000 acres — appeared headed for trouble. Now, although there is still no guarantee of clear sailing for the Navy, even critics have conceded that with the victory

Continued on page 10



HIGH COUNTRY NEWS

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Dear friends,

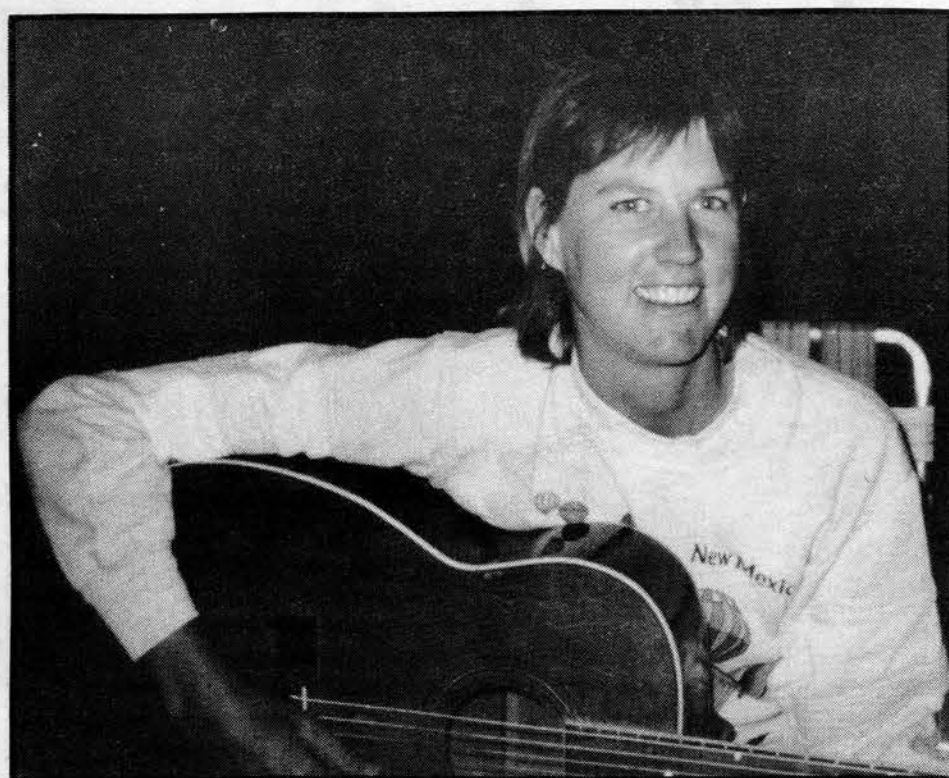
Emily L. Jackson, 1964-1991

She arrived in Paonia March 6 from Telluride, Colorado, where she had worked over the winter as a ski lift operator. She had called to say she would be late, and we told her to come right up to the house. We remember her arrival because her pickup truck was packed solid. Emily's home was her wheels.

"I have had a long-standing interest in both journalism and environmental issues, and so was excited to hear about *High Country News*' internship opportunities from my good friend Mary Moran," she had written in a letter last January. "My love for outdoor recreation has naturally led me to a basic awareness of environmental issues, but my experience as a park ranger in Canyonlands, Utah, definitely heightened it. I feel a strong commitment towards helping to decrease the abuse that the earth has taken at the hands of human beings."

Emily, who would have been 27 next September, was the daughter of Elmer Jackson of Albuquerque and Marilyn Wackerbarth Tucumcari, New Mexico. She attended the University of New Mexico and earned a bachelor of science degree in occupational therapy from Colorado State University in 1986. For the next four years she worked with the children of the Albuquerque schools who suffered from cerebral palsy, visual and hearing impairments, mental retardation and autism. During that period her husband died of cancer.

Over the past year Emily had been charting new directions for herself. During the seven weeks she was with us, her love of life and quiet spirit crept into all our hearts. She was a tall, green-eyed blonde, lanky like a reed, totally unpretentious, with an infectious laugh that warmed the newsroom. She worked hard to learn the craft of journalism, and had just turned in her first Roundup, a story about wild horses, before setting out to visit her boyfriend, Dan McRoberts, in Moab, Utah. Dan works for the National Park Service in Canyonlands' Island in the Sky district as a seasonal interpreter.



They met last August.

On April 27, Emily went hiking with three friends, Mary Moran and Becky Rumsey — both former *HCN* staffers — and Carolyn McLean. Looking for spring wildflowers, they visited an area west of Moab called "Behind the Rocks" that is characterized by massive but narrow sandstone fins. It was

there that Emily fell 200 feet to her death.

Emily was an enthusiastic gardener and a promising musician who had already delighted a Paonia audience with one of her first compositions, which she sang to her own guitar accompaniment. She called it "Mountains and Streams." These are her words:

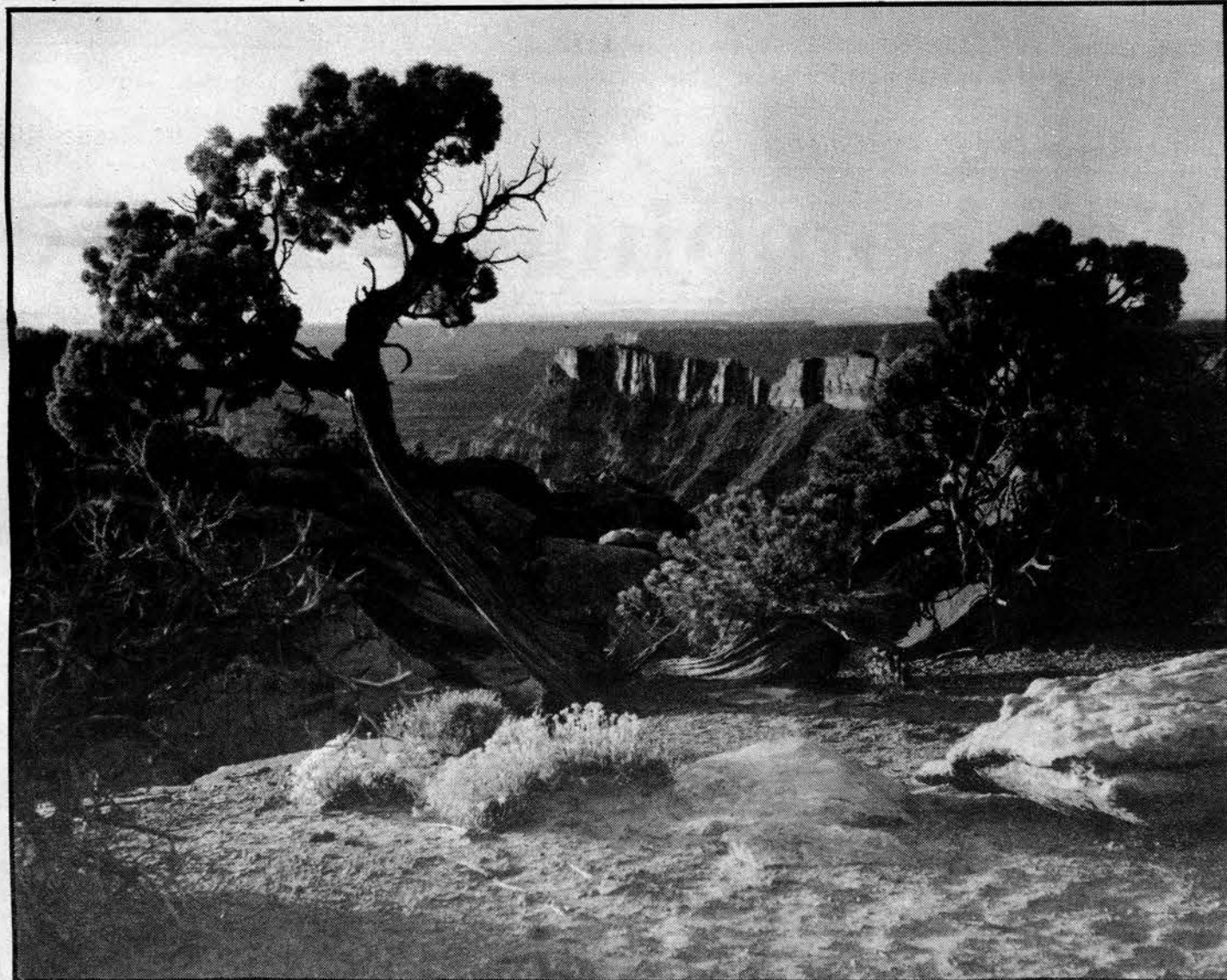
*I've tossed and turned / through life it seems
Searching for answers and dreams.
But now I awake / to a new point of view
Looking towards the mountains and streams.*

*And they speak to my spirit / and they speak to my heart
Lifting me nearer / showing me the start to peace.*

*So now I'm climbing with the mountains
And flowing with the streams,
Living life like walking in your sleep.
And I wait for the answers / like flowers wait for rain,
And watch the seasons echo in my dreams.*

*And they speak to my spirit / and they speak to my heart
Lifting me nearer / showing me the start to peace.*

—Larry Mosher and Mary Jarrett
for the staff



The Needles district of Canyonlands, where Emily liked to watch the sun set

WESTERN ROUNDUP

Wolf reintroduction to Yellowstone — an endless debate?

HELENA, Mont. — Only days before the federal Wolf Management Committee held its last "informal open-house" meeting in Helena April 1, four orphaned yearling wolves allegedly killed a steer and a calf near Missoula.

These wolves are not part of an experimental reintroduction plan. They represent a natural recovery pattern, having come back to the territory on their own. Their return just happens to coincide with the plan to put wolves back into the Yellowstone area.

The livestock kills provided ammunition for the wolf opponents who showed up in force at the Helena meeting, which drew over 600 people. Interest in the issue has been gaining momentum since the committee began holding regional meetings to gather public comments. Under the 1991 Interior appropriations bill, the 10-member committee is charged with making a majority recommendation and management plan to Interior Secretary Manuel Lujan by May 1, and a report to Congress by May 15.

Wolf advocates were in the minority, but kept busy with street-theater tactics. Earlier in the day, wolf proponents presented a golden cow to the U.S. Fish and Wildlife Service office in Helena. John Lilburn of the Wolf Action Group said cattle had become a false idol for the agency.

At the meeting, Earth First! and Wolf Action Group members displayed pro-wolf banners, beat tom-toms and howled outside in the parking lot. Extra police had been called in because of concern over a possible violent confrontation between wolf opponents and wolf advocates. But it was mostly rhetoric, jeers and applause.

Galen Buterbaugh, head of the Fish and Wildlife Service's Denver office, chaired the meeting. He told the crowd, "We are not here to argue with you, to lecture you, to influence you or to try to educate you. We are here to listen.... This is only the beginning of a series of events that will give you ample opportunity to comment formally or to testify on any decision to reintroduce wolves." The meeting was then split into 10 groups, each headed by a Wolf Management Committee member. People's comments on the proposal were boiled down to simple statements, written on large pads and read off quickly when the crowd reassembled.

Comments ranged from rabid anti-wolf sentiments such as "The wolf is the Saddam Hussein of the animal kingdom" to retellings of old local legends about ravenous wolves. Some expressed support for limited wolf range, with compensation for livestock predation. Environmental groups say Yellowstone needs the wolf to restore a natural balance to

its growing herds of elk and deer.

Some stockmen who had driven long distances to the meeting expressed frustration with the format. No names were taken, and comments were not recorded verbatim. The committee could not seriously evaluate their concerns, they complained.

Seven Republican representatives and senators from Wyoming, Idaho and Montana wrote a letter to Lujan, also criticizing the process of gathering public comment. These congressmen, who have successfully kept the wolf issue at bay for four years, may delay the May 15 report deadline. At their urging, Lujan promised one more round of hearings before the committee submits its report. The hearings will be held on May 13 in Cody, Wyo.; Idaho Falls, Idaho; and Great Falls, Mont.

Buterbaugh said that if Congress orders wolf reintroduction in Yellowstone, it would be at least two more years before wolves were in the park. He added that plans now call for 10 breeding pairs in Yellowstone, which would

eventually translate into a population of 50 to 100 wolves.

A projection worked up for the committee by a National Park Service biologist estimates that a population of 150 wolves in the Yellowstone region would kill an average of one to four cattle and 32 sheep each year. These estimates were based on statistics from wolf habitat areas on Minnesota, Alberta and British Columbia. Committee member Jim Magagna, a Wyoming sheep rancher, attacked the estimates as too low for the Yellowstone area.

Livestock, timber, oil, hunting and motorized recreation interests all oppose wolf reintroduction, arguing that the predator will not be content with its prescribed diet of deer and elk. They predict that wolves reintroduced to Yellowstone will restrict land use and expand their prey base to domestic livestock.

Meanwhile, as the highly charged debates rage on, wolves are drifting into Montana from Canada. Biologists say a natural wolf comeback in the Northern Rockies appears inevitable. If wolves are

brought back to the Yellowstone area by the government, they will be considered an experimental population and the government will have latitude in controlling them on both federal and private land. But if they return naturally — as they seem to be doing in northwest Montana and possibly central Idaho — the wolves will be protected by the Endangered Species Act.

To many ranchers, the wolf is a dangerous pest that threatens their economic base and reminds them of why the West was tamed in the first place. But rural opposition, vocal as it is locally, could very well be drowned out by the chorus of national support for the wolf. Polls have shown that the general public is mostly enthusiastic about seeing and hearing the wolf in Yellowstone, a place that represents to them the last of the Wild West.

— Patrick Dawson

Patrick Dawson is a free-lance writer in Billings, Montana.



Eugene Fischer

An open house hosted by the federal Wolf Management Committee in Helena

Illegal wolf kills hurt recovery in Northern Rockies

Four wolves were illegally killed in early March in British Columbia, just a few miles north of the Montana border and Glacier National Park. These animals were part of a pack being studied by American researchers with the University of Montana Wolf Ecology Project. The incident is another indication of just how tenuous wolf recovery is in the Northern Rockies, more than 10 years after wolf activity was first observed in the area north of the border and five years after the first litter of pups was born on the American side.

The wolves inhabiting the North Fork of the Flathead region — an area that

includes the western portion of Glacier — have fared better than the different packs that chose to colonize the east side of the park in 1987, the Marion area west of Kalispell in 1989, and the Ninemile Valley west of Missoula in 1990. These nascent populations quickly succumbed to a combination of politics and bad luck. They settled in areas with large numbers of livestock, killed a few, and were promptly removed by officials of the U.S. Fish and Wildlife Service and Animal Damage Control.

The total North Fork population, on the other hand, increased significantly between 1979 and 1987. For the last three years it has fluctuated between two to three

dozen wolves, and it is likely there would be more if it were not for illegal killing. A legal hunt in British Columbia has been suspended for the last few years.

The Wigwam pack, one of those studied by the Wolf Ecology Project, disappeared for unexplained reasons in the spring of 1989. These animals lived in the remote Wigwam River drainage in British Columbia, just to the west of the North Fork, and were last known to be in the same general area as the four wolves killed recently. Officials in British Columbia will not say how the wolves found this March died, but an investigation is under way. Two of the wolves

were radio-collared; one of them was the alpha, or lead male, of the pack.

Wolves are not considered endangered in British Columbia, where an estimated 8,000 live. The North Fork Flathead population, however, is considered very important for natural wolf recovery in northwest Montana, including the large wilderness complex to the south of Glacier, centered around the Bob Marshall Wilderness.

— Mollie Matteson

The writer is completing a master's degree in wildlife biology. She lives in Livingston, Montana.

HOTLINE

Idaho base survives

Idaho Gov. Cecil Andrus's strategy to keep Mountain Home Air Force Base open apparently worked, since the base was not among those axed by the Pentagon on April 15. In February, Andrus offered the Air Force 150,000 acres of high desert land in southwestern Owyhee County for an electronically simulated bombing range that would bolster the national significance of the base. Although the Pentagon has not publicly mentioned the new bombing range, Scott Peyron, press secretary for Andrus, says that negotiations for the Owyhee land are under way. Betsy Buffington of the Idaho Wilderness Society says the organization opposes the plan because the Owyhee range would fall within the nation's largest continuous roadless area, which has been proposed as a wilderness area. Andrus has said that the use of live munitions will be prohibited, aircraft will not be allowed to fly below 10,000 feet, and "the truly sensitive canyonlands of the desert expanse have been carefully excluded from the training range."

Mine operators manipulate air-quality samples

A 20-month Labor Department investigation has indicted 850 mines for tampering with dust samples used to monitor the risk of black lung disease. Of 120,000 samples taken from 2,000 mines, 4,700 were judged to misrepresent the actual airborne particle count. In some cases the air in the mine was vacuumed before the sample was taken, or the sample was simply collected outdoors. A \$1,000 fine will be levied for each of these 4,700 violations. In 11 cases, air samples were manipulated in low-dust areas set aside for workers already showing signs of lung disease. Ten-thousand-dollar fines were requested for these cases. Richard Lawson, president of the National Coal Association, blames outdated equipment or the shipping or handling of the samples. But Richard Trumpka, president of the United Mine Workers, told The Associated Press, "Coal miners will continue to slowly strangle to death so long as coal companies are trusted to monitor their own compliance with a law they bitterly oppose at every turn."

Selenium to be studied at Wyoming project

Waterfowl that migrate through the Kendrick Irrigation Project near Casper, Wyo., are being harmed by high selenium levels, according to the U.S. Fish and Wildlife Service. Agency biologist Pete Ramirez told the *Casper Star Tribune* that irrigation runoff appears to be partly responsible for the high concentration of the naturally occurring metal. A Remedial Action Study by the Bureau of Reclamation will attempt to find out what is causing the high level of selenium and outline a mitigation plan. Grebes and avocets, migratory birds found in the project's 2,400 acres, are suffering from a drop in hatching rates to 74 percent and 47 percent respectively, compared to a normal success rate of 90 percent. Birth defects are more common in the eggs that do hatch. Selenium levels found in fish may cause impaired reproduction. The Alcova Reservoir, which supplies water to Casper, also is in the project, but its selenium concentrations remain within Environmental Protection Agency's drinking water standards.

Army plans to incinerate poison gas

UMATILLA, Ore. — The Army plans to incinerate 80 percent of its chemical weapons stored a few miles southwest of here. The Umatilla Army Depot holds an estimated 5,200 tons of deadly substances, or about 12 percent of the nation's stockpile.

The prospect of burning mustard gas and the nerve gases GB and VX over the next decade bothers Pat Moser, the editor of the *Hermiston Herald*. Hermiston is about five miles due east of the depot.

"I'm concerned about the incinerator and if the technology really works," he said. "One false move could be catastrophic, and we all know it."

A prototype of the Umatilla incinerator is currently being tested on Johnston Atoll about 700 miles southwest of Hawaii. Congress must certify that the high-temperature incineration process is safe before it can be used here and at seven other sites in the United States where chemical weapons are stored.

Mechanical problems at the Johnston site kept the prototype incinerator shut down for 65 of its first scheduled 85 days of operation. Nevertheless, construction of an incinerator began last year at the Tooele Army Depot in Utah, where 42 percent of the Army's chemical weapons are stored. Incinerators also are planned for the Pine Bluff Arsenal in Arkansas and at Umatilla.

If all goes well, more incinerators will be built at the Pueblo Depot Activity in Colorado, the Newport Army Ammunition Plant in Indiana, the Aberdeen Proving Ground in Maryland, the Lexington-Blue Grass Army Depot in Kentucky and the Anniston Army Depot in Mississippi.

The Army first told Congress it could destroy its chemical arsenal by April 30, 1997, at a cost of \$1.7 billion. For over a decade the Army has realized that its 30,000-ton arsenal created an expensive storage problem and an environmental hazard. In 1985 it bargained with Congress to dispose of most of its chemical weapons in exchange for approval to produce a new generation of binary weapons. These are chemical weapons that are stored in separate components and are mixed to create a lethal weapon only after firing.

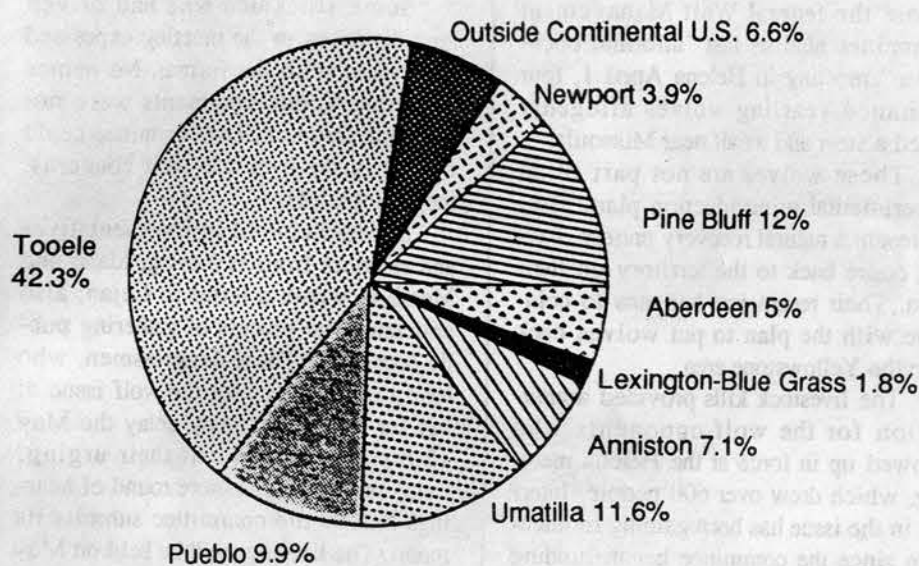
Last year the United States and the Soviet Union agreed to halt all chemical weapon production and to reduce their stockpiles to 5,000 tons each by 2002. This will amount to an 80 percent cut for the United States and a 90 percent reduction for the Soviets.

Containment failures

In 1987 a small experimental incinerator at the Tooele depot released some nerve gas that exceeded health standards. For two days the Army did not report the incident, and then claimed that the release created no public health risk. An internal investigation later cited the "simultaneous failure of three containment systems" and human error. The plant was then shut down for a year.

The prototype now being tested at Johnston Atoll is a full-scale, automated, computerized version. The \$240 million incinerator took seven years to build; test operations began only last June. Because of personnel and technical problems that initially dogged the tests, the Army now predicts that its program to incinerate all its chemical weapons stockpile will not be completed until 1999.

The delays have driven the anticipated costs up to \$5 billion and probably more. This is causing the Army to re-evaluate its intention to tear down all the

Stockpile Distribution by Agent Tonnage

Source: U.S. Army Office of the Chief of Public Affairs

incinerators after the chemical stockpiles are destroyed. They could end up being used to burn other hazardous wastes for years to come.

The environmental organization Greenpeace, in a review of the Army's incineration program, notes that each year the Pentagon generates 500,000 to 750,000 tons of hazardous waste. The Pentagon also has identified 14,400 potential contaminated sites on its 1,579 military installations around the country. The cleanup of these over the next 30 years will generate huge amounts of contaminated soil and other hazardous waste.

Greenpeace faults the Army's incineration method. It claims that toxic dioxins and furans still escape in the stack emissions, that the incinerators' high operating temperature of 2700 degrees Fahrenheit is too hard on the equipment and monitoring system to maintain the required safe level of operation of 99.9999 percent efficiency over a period of years, and that a residue of toxic liquid waste still has to be dried and shipped to a hazardous waste landfill.

'National sacrifice zones'

John Spomer, a Hermiston dentist and local activist, is troubled by both the safety issue and the incinerators' continued use to burn other military hazardous wastes after the chemical weapons are destroyed.

"I'd rather be involved in schools, kids and building jogging trails, but this might really be dangerous," he said, pointing to the thick Environmental Impact Statement. "It's like Hanford, where they find out years after the fact that they've been poisoned. Here, we can't say we didn't know."

"The problem for citizens," Spomer continued, "is that this stuff is technically difficult. These Ph.D.s come in with their slide shows and talk about windflows and chemical formulas.... To stand up and comment on that is intimidating." Spomer, who has spent much of his spare time studying the problems with the incineration method, describes his community's response to the Army plan as "apathetic and unknowledgeable."

Editor Moser points out that many local citizens have worked at the Umatilla depot since it began operating in the 1940s, and are reluctant to voice any opposition. "People are not really worried," he says. "They've lived here a long time and know the Army wants to do it right."

Spomer warns, however, that the Hermiston area is in danger of becoming the "toxic and hazardous waste disposal site of western America." He clicks off

other "national sacrifice zones" where contamination is so severe that cleanup is not even being attempted yet: the Hanford Reservation, just 25 miles north across the Columbia River (*HCN*, 3/25/91); the large hazardous waste landfills at Arlington and Boardman just down the river; and the nearby Triangle Lake sewage lagoon, where Portland sludge laced with dioxins is being dumped.

Spomer considers the Umatilla depot the area's worst offender. The 19,727-acre site is the repository for 106,125 obsolete rockets that are now classified as hazardous waste under the Resource Conservation and Recovery Act. The chemical weapons earmarked for destruction are stored in 90 of the depot's 1,000 "igloos." They include artillery projectiles, mortars, land mines, bombs, spray tanks, one-ton bulk containers and nerve gas rockets, some of which are leaking.

The Army identified 25 potential areas of contamination in an Environmental Assessment made in the 1970s. One site contains a pair of settling ponds used for high explosive residues. In 1987 this "explosives washout lagoon" was added to the Environmental Protection Agency's Superfund priority cleanup list. The washout operations had contaminated the water table with TNT particles and other toxins.

Lt. Col. Larry Sparks, the depot's commanding officer, admits "this is the most contaminated area." He says the depot's west end is another problem area. This 1,100-acre site is used to store rocket fuels, dispose of battery acids, burn off propellants and detonate explosives.

But he says that all the base's electrical transformers have been removed because they contained PCBs, and that the Maryland firm of Dames and Moore is assessing the depot's environmental problems under a \$10 million contract. Its investigation includes asbestos removal from 100 buildings, radon detection and scanning the area's soils and groundwater for nitrite, nitrate, cyanide, heavy metals and nitro aromatics.

An Army Toxic and Hazardous Materials Agency spokesman admitted over Oregon television that the depot will probably have to be fenced off for as long as three decades. And according to Sparks, the decision on what to do with the 55 sites now being investigated will not be made until September 1992.

"Some of them may not need work," he said. "For others we'll have to decide if it's realistically feasible to clean them up."

—Michael O'Reilly

Michael O'Reilly is a free-lance writer based in Bend, Oregon.

Wyoming tribes to administer Wind River water

FORT WASHAKIE, Wyo. — When the 1990 irrigation season ended in the Wind River valley, state and federal officials breathed a sigh of relief that a water rights dispute between Indians and non-Indians here had not erupted into anything worse than bitter words. But a decision this March by a state judge has left officials on all sides gasping.

Fifth District Court Judge Gary Hartman, who presides over a massive, ongoing water adjudication proceeding in western Wyoming, ruled that the Arapaho and Shoshone tribes would take over administration of Wind River water from the state of Wyoming, overseeing both Indians and non-Indians.

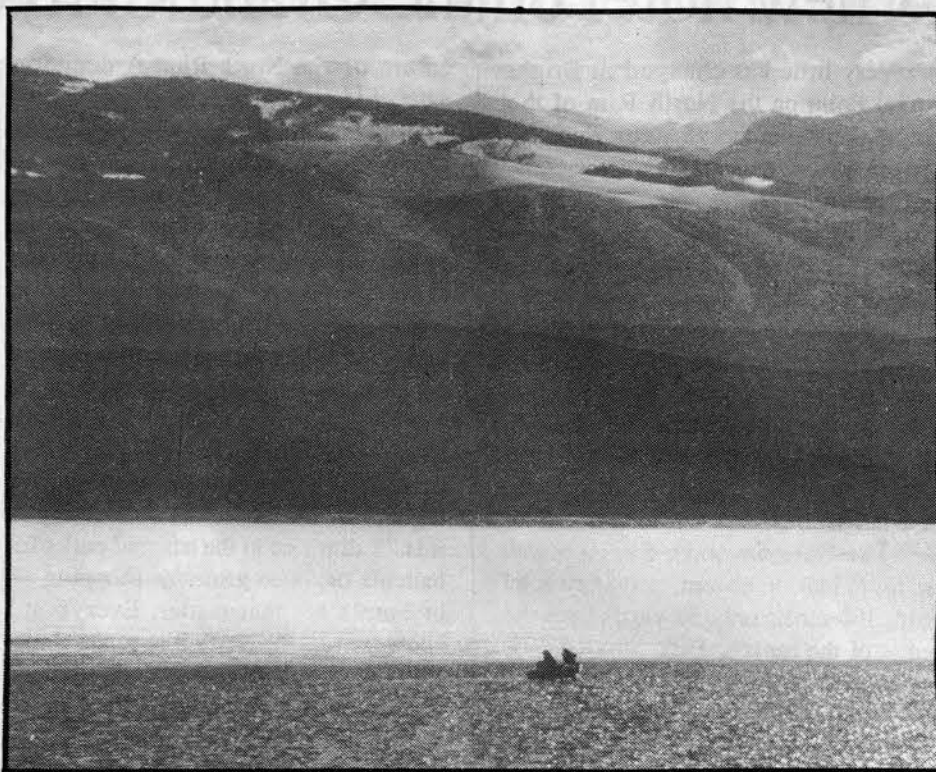
"I've just been kicked off two-and-a-half million acres of land in our state," said Wyoming State Engineer Jeff Fassett, whose alleged inability to be "neutral" in administering water on the reservation prompted Hartman's decision.

While federal attorneys tried to downplay the significance of the decision, water lawyers and Indian lawyers around the country saw far-reaching implications for both Indian sovereignty and Western water law.

"Who's watching this? Everybody," said Charles Wilkinson, an expert on water and Indian law at the University of Colorado Law School. "It gives independent verification from an objective observer — in this case, a judge — of the fact that Indian tribes have come a very long way in terms of expert management of resources."

Wilkinson said the ruling has created another "deep crack" in traditional Western water management by state governments, and also points to "new times, new attitudes, and new appreciation" of tribal sovereignty.

The state of Wyoming is appealing Hartman's decision, but the Worland judge has informed the parties he cannot



Ray Lake on the Wind River Reservation, Wyoming

hold a hearing on the appeal until July, well into the irrigation season. That means, barring intervention by the state Supreme Court, that the tribes are likely to have at least a full year to take their best shot at administering water.

They already are continuing last year's pattern of moving aggressively to protect instream flow in the Wind River from historic dewatering by irrigators, mostly non-Indian.

To do this, the tribes have again dedicated a portion of their 1885 treaty-based water rights to instream flow. Those water rights — amounting to about 500,000 acre-feet of the 1.2 million acre-feet of water that flows annually through the basin — were granted first by state courts in 1988 and then affirmed by the U.S. Supreme Court in 1989.

Those tribal water rights are superior to the rights of non-Indian water users,

who for most of this century have appropriated the bulk of the water in this verdant valley for their crops. During some years, stretches of the Wind River have been completely dewatered by irrigation districts within the reservation boundaries owned primarily by non-Indians.

Last year, when the tribes tried to use their senior water rights to protect instream flow and rebuild a sport fishery in the Wind River, the state engineer refused to enforce their rights. He declared the river in "surplus," despite below-normal snowpack, so that non-Indian water users could take additional water.

Interim Tribal Water Engineer Wold Mesghinna is now scrambling to assemble the staff to administer water within the huge reservation, where many landowners are non-Indian. Though much depends on future temperature and weather, Mesghinna, a hydrologist and

engineer originally from Ethiopia, said that with recent snows "we should have a good fair year for water. People will be satisfied, even the junior users."

At first glance, tribal administration looks to be considerably more sophisticated than the approach taken by state engineers, whose presence on the reservation has been minimal over the years. Mesghinna, whose staff is putting together computer models of the basin's hydrology, says he intends to observe allocations strictly.

Mesghinna's job, however, will not be easy. Two irrigation districts already have refused to allow federal officials to install satellite-monitored measuring devices on their headgates. State officials, despite pledges of cooperation, have refused to turn over access keys to tribal technicians. There have been hints of possible violence.

In an affidavit filed with the state's appeal, District III Water Superintendent Craig Cooper warned of "chaos and confusion," and "irreparable harm" to non-Indian water users who now have difficulty getting operating loans because of their unreliable water supply. Mesghinna, however, downplays the tension, saying, "My whole approach is to resolve this program amenably."

Wilkinson thinks it is unlikely the Wyoming Supreme Court will overturn Hartman's decision. This means the tribes will get their chance to show what they can do with water administration. How they handle this chance is expected to make an enormous impression on state governments, federal agencies, judges, and the tribes themselves who are revising how water is managed in today's West.

—Geoffrey O'Gara

Geoffrey O'Gara, a former HCN editor, is a free-lance writer in Lander, Wyoming.

Standing Rock Sioux moving to enforce U.S. water regs

Rural people across the nation increasingly are getting sick from the water coming out of their taps. Far as they are from urban areas and industries, their drinking water can be tainted by agricultural wastes, bacteria and petroleum plumes. Sometimes the water users blame the Environmental Protection Agency, whose offices, they say, are too distant from the problem areas to adequately monitor water supplies and enforce regulations.

Indian tribes have begun studying an option chosen by most states: taking over the monitoring and enforcement themselves. The Standing Rock Sioux Tribe, whose reservation is located on the North Dakota-South Dakota border, may be the first to test the concept.

EPA has awarded the tribe a grant to develop its capacity for "primacy." If the tribe attains primacy at the end of the three-year grant period, it will have the primary responsibility for supervising public water systems on the reservation. To get the \$40,000-per-year grant, the tribe had to convince EPA that it could develop the ability to carry out the program. But getting the grant does not obligate the tribe to apply for primacy.

Several other tribes are closely studying the work going on at Standing Rock, since it will demonstrate the advantages and disadvantages of acquiring such authority.

Water has always been a high priority for the Standing Rock Sioux Tribe, according to its Water Resource Department director, Everett Iron Eyes. Although the reservation is located on

the Missouri River, the largest water source in the northern Great Plains, nearly one-third of its residents must haul their drinking water in buckets and jerry cans, some as far as 50 miles. After treatment, the river water is drinkable, but many farms and communities have to rely upon well water, much of which is not drinkable.

When the Army Corps of Engineers built Oahe Dam in the 1950s, the tribe lost 56,000 acres, including rangelands, farmland, timber, gardens and many homes, according to historian Michael Lawson. Yet the Pick-Sloan water projects along the river, including Oahe, did not provide the promised irrigation or municipal water supplies for either Indians or non-Indians.

In 1986, the Standing Rock Tribe discovered high nitrate levels in wells on the reservation. Emmett White Temple Jr., environmental specialist for the tribe, said nearly half of the districts on the reservation rely upon groundwater that is "high in everything" — nitrates, fluoride, heavy metals, sodium and, in some cases, bacteria. The problem will be diminished this spring by a new, 30-mile pipeline that will carry treated river water to several small communities.

But the water-quality crisis has already had an impact on the tribal government, and water quality now ranks beside water rights on the tribe's priority list. "We realized that if we get X number of acre-feet of water, it won't do anybody any good if it is polluted," Iron Eyes said.

When Congress added amendments to water and waste laws in 1986 providing

for tribal authority similar to states' authority, many tribes felt elated. Without the amendments, tribal governments had lacked the statutory authority to protect their environment and had to leave that responsibility to federal agencies. Since most environmental laws delegated authority to states and since states in most cases lack authority on Indian lands, Indian lands had fallen through the cracks.

Implementing the amendments has not been easy for either the tribes or the EPA. Tribes, in many ways, are not like states. They often lack a tax base, because few businesses exist on the reservations and because much of the land is held in trust and cannot be taxed. Because of the low incomes of residents on most reservations, it can be difficult to assess user fees. In many cases, tribes have started to develop environmental departments only within the last five to 10 years, if at all. In addition, states and tribes have not resolved some sticky jurisdiction questions involving mixed Indian and non-Indian lands.

Tribes are proceeding cautiously in seeking environmental authority, according to Mervyn Tano of the Council of Energy Resource Tribes Environmental Institute [CERT]. The institute provides training workshops for tribal staffs, but in the Rocky Mountain-Great Plains region, only five tribes have applied for development grants.

Speaking at a CERT workshop recently, tribal representatives and their consultants addressed several of the questions tribes have, like the cost of primacy, obtaining trustworthy expertise,

and reassuring non-Indian water users.

White Temple said the Standing Rock Reservation includes four non-Indian municipal water systems. Consequently, the tribe may consider including non-Indian county commissioners or city council members on the tribal environmental protection board. To help determine sources of pollution, inventory the reservation's water systems and train the staff, the tribe hired consultants from a lab in Green Bay, Wis., that is owned by the Oneida Tribe.

For a reservation the size of Standing Rock, primacy probably would cost more than \$100,000 a year, according to Pat Denham of the EPA's Denver office. But whether or not a tribe ultimately decides to obtain primacy, Tano of CERT believes it should consider applying for a primacy development grant. A tribe could increase its oversight and involvement in federal drinking-water efforts without going so far as obtaining primacy.

With the shortage of both tribal and federal resources and with the great need in rural areas, innovation will be the key to the future. Tribes in some cases are combining resources to accomplish together what they cannot do alone.

—Marjane Ambler

Marjane Ambler, a former editor of *High Country News*, is now a free-lance writer living in Yellowstone National Park. Her book *Breaking the Iron Bonds: Indian Control of Energy Development* was published in 1990.

HOTLINE



Council rejects M-44 use

Both the public and a Bureau of Land Management advisory board are strongly opposed to a federal plan to use cyanide-loaded coyote baits in Wyoming's Bighorn Basin. The BLM is completing an Environmental Assessment on a proposal by the U.S. Department of Agriculture's Animal Damage Control (ADC) branch to expand predator control in the area. The plan includes the use of scent-baited, spring-loaded M-44's that, when activated, propel a cartridge filled with sodium cyanide into a coyote's mouth. The BLM's Worland District received over 700 letters from citizens in response to their public notice. The majority were against ADC activities in general, but the use of M-44's was specifically targeted because of the danger they pose to hikers, pet dogs and other wildlife. Following the public outcry, the district's BLM Multiple-Use Advisory Council voted 5-2 against the use of M-44's for predator control. This advisory vote will weigh heavily in the BLM district manager's decision whether to use M-44's, according to Jim Roseberry of the Worland BLM. However, because of a 1975 EPA policy that reauthorized the use of M-44's in predator control, the BLM will not be able to ban their use entirely. Roseberry says the most it can do is authorize M-44's only as a tool of last resort.

American Rivers' 1991 Most Endangered list

The Colorado, the Gunnison, the Columbia and the Snake rivers are among the nation's 10 most endangered rivers, according to American Rivers' annual list. American Rivers also named 15 highly threatened rivers, including the Animas, the Arkansas, the Fremont, the Klamath (last year's most endangered river), the Little Bighorn and the Verde River. The Arizona section of the Colorado is threatened by the operations of the Glen Canyon Dam (*HCN*, 5/7/90). At a congressional hearing on April 24, Rep. Jay Rhodes, D-Ariz., amended the Grand Canyon Protection Bill sponsored by Rep. George Miller, D-Calif., so that taxpayers rather than municipal power companies will pay for environmental studies below the dam. Miller's bill, part of a Bureau of Reclamation reform measure, is designed to protect the canyon's fragile beaches, archaeological sites, fish habitat and vegetation. The Gunnison is threatened by a hydroelectric project and the AB Lateral project (*HCN*, 2/11/91). Rep. Ben Nighthorse Campbell, D-Colo., has reintroduced his Black Canyon of the Gunnison Conservation Act to redesignate the Black Canyon National Monument a national park and include the river in the national Wild and Scenic River System. The Columbia and Snake rivers also are threatened by hydroelectric activity (*HCN*, 4/22/91). These four rivers were not listed last year.

A new hotel on the Grand Canyon's North Rim?

Very little has changed at Bright Angel Point on the North Rim of the Grand Canyon in the 75 years since the canyon became a national park. The rustic wooden lodge and cabins have been around for decades. Squirrels and deer live in the nearby ponderosa pine forest, and often venture to the canyon's edge.

Only a tenth of the people who visit the heavily commercialized South Rim come to this peninsula in the sky. What they find is a view accentuated by 1,000 more feet of altitude than the South Rim has — the ultimate panorama of the massive gorge.

The National Park Service now wants to build a modern, two-story hotel with 100 rooms only 50 yards from the edge of the canyon. Park Service officials say the hotel is necessary to service the North Rim's increasing number of visitors — now almost 400,000 a year. They say the lodge and cabins are 98 percent full during most of the summer.

Opponents argue that the Park Service should not provide overnight accommodations, and that the agency is not following its own management policies, which limit the development of concessions to what is "necessary and appropriate." They say the agency should encourage commercial facilities outside park boundaries.

The Park Service held three public hearings in March in Salt Lake City, Phoenix and Flagstaff, Ariz., on its draft Environmental Impact Statement for the hotel. The agency was repeatedly criticized for seeking to change the relatively pristine

nature of the North Rim. A decision whether to proceed with the proposed concessionaire, TW Recreational Services of New York, is expected in May.

The Park Service is considering five alternatives. These range from keeping the existing 201 lodging units and 83 campsites to constructing the hotel and 50 additional camping units. The intermediate choices include building 20 additional four-room cabins, expanding the campground by 80 units, and improving the North Rim's roads without adding new lodging.

Flagstaff resident Michael Wolcott argues that the North Rim should stay as it is. "I don't go to the national parks for haircuts or video games or shopping — or hotels for that matter. Everyone I know prefers the North Rim to the South Rim because of its rustic lodge and primitive qualities," he said.

Sharon Galbreath, a Flagstaff resident and member of the Sierra Club, said: "This project goes against the current Park Service policy of locating concessions outside parks whenever it is feasible. Plus, it is going to promote heavy traffic, noise and light pollution in what is now a serene area."

Hyatt Simpson, a Flagstaff city councilwoman, said the best alternative would be to leave the park as-is and work on a "public-private partnership" to build more hotels in Fredonia, Ariz., and Kanab, Utah, as a way of alleviating the lodging shortage for North Rim visitors. The neighboring towns are 80 miles from the North Rim on the most heavily traveled route to the canyon, U.S. Highway 89A.

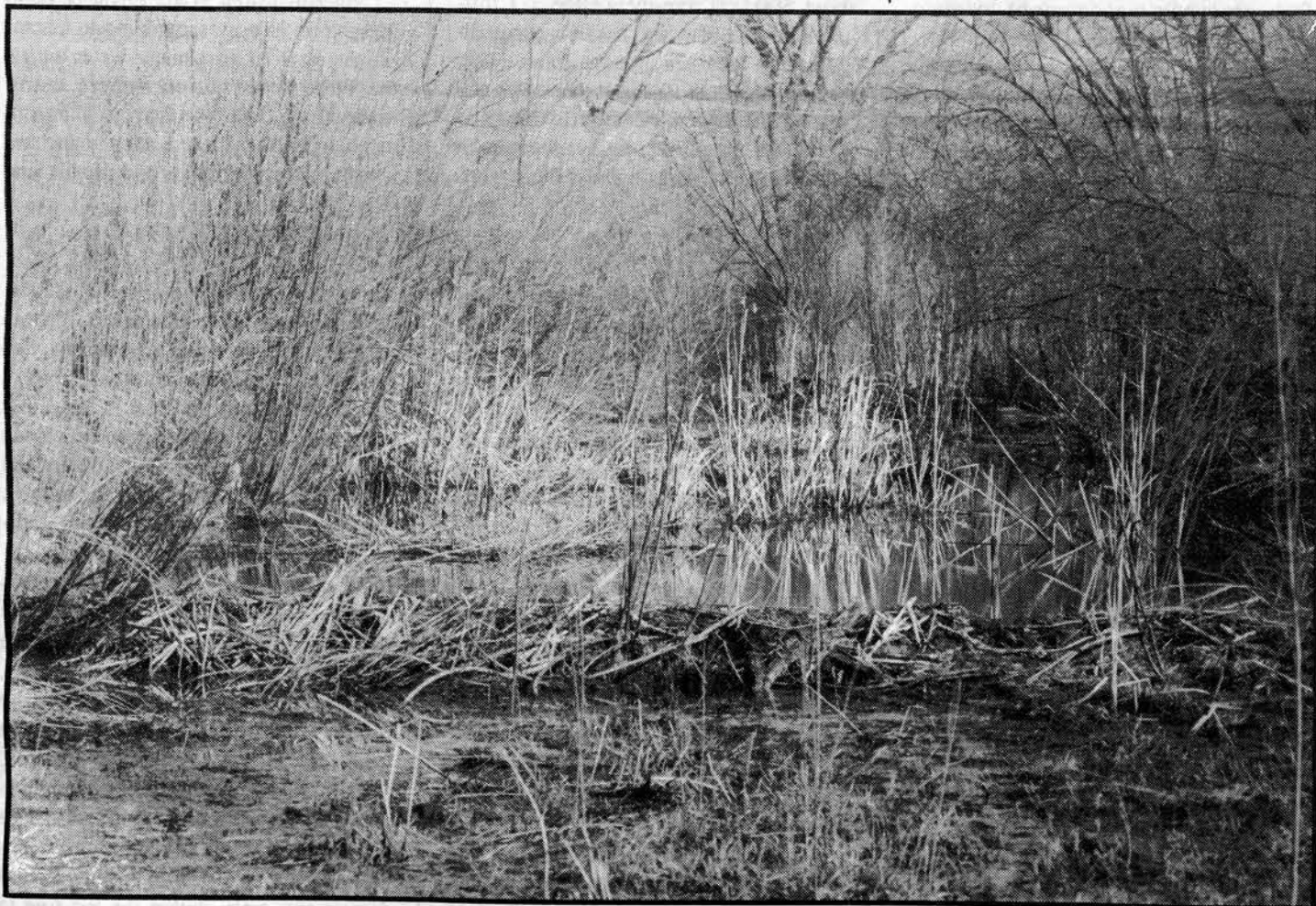
In 1984, the Park Service signed a contract with TW Recreational Services to build the hotel complex. Park Service officials said they needed to conduct only a simple Environmental Assessment, not a detailed Environmental Impact Statement. But just before construction was to begin in early 1989, a lawsuit filed by the Sierra Club Legal Defense Fund of Denver caused Federal District Judge Paul G. Rosenblatt of Phoenix to issue a preliminary injunction against construction. Rosenblatt ruled that the hotel "would cause irreparable harm to the North Rim environment" and "constitutes a substantial change in the rustic, traditional setting."

A letter sent to the Park Service last month by the Sierra Club, The Wilderness Society, the National Parks and Conservation Association and the National Audubon Society complained that the visitor experience at the North Rim would be "permanently and substantially altered" by a 50-percent increase in overnight lodging and a 60-percent increase in camping facilities on Bright Angel Point. The letter also expressed fears about increased vehicle congestion.

The environmental groups also criticized the Park Service for not examining a shuttle alternative to bring visitors to the North Rim. They noted the successful use of shuttle buses on the canyon's South Rim and at Yosemite National Park in California.

— Mark Shaffer

The writer is a reporter for *The Arizona Republic*.



Damian Fagan

The new Scott M. Matheson Wetlands, formerly "the sloughs," near Moab

Nature Conservancy buys Utah wetlands

The Nature Conservancy recently purchased 690 acres of permanent wetlands along the Colorado River near Moab, Utah. Bordered by the Colorado River and private land, "the sloughs," now known as the Scott M. Matheson Wetlands, is an important piece in the preservation puzzle for southeastern Utah.

"The sloughs is a unique area in that it is the only permanent wetlands along the Colorado River in Utah," said Bill Bates, non-game manager for the Utah State Division of Wildlife Resources. Over 150 species of birds have been observed in this wetlands. Peregrine falcons and bald eagles, two endangered species, use it for hunting.

In 1984 and 1985 local resident and division of Wildlife Resources biologist Nelson Boshen conducted bird surveys within the sloughs and came to the conclusion that it was "a very important area for birds." Boshen forwarded his report to the director of Wildlife Resources, the Audubon Society and the U.S. Fish and Wildlife Service. The Fish and Wildlife Service contacted The Nature Conservancy about the area's potential for a preserve.

"The Nature Conservancy considered it interesting enough, but not something they could make a high priority," said Boshen.

That was 1986. Meanwhile, other local birders were venturing into the sloughs to discover the area's importance for themselves. Raptors, waterfowl, a great blue heron rookery — the largest rookery along Utah's stretch of the Colorado River — and a large diversity of bird species renewed interest in protecting the area.

In 1990 concerned residents took up a letter-writing and telephoning campaign that eventually resulted in the purchase of the sloughs.

— Damian Fagan

Damian Fagan is a free-lance writer in Moab, Utah.

Environmentalists differ over old-growth protection

As momentum builds for passing legislation to protect what remains of the Northwest's ancient forests, national environmental groups are urging the region's grassroots activists to set aside past differences and unite behind the Ancient Forest Protection Bill, sponsored by Rep. Jim Jontz, D-Ind., and 70 co-sponsors.

Unity is seen as critical to passing strong ancient forest legislation this session. "We will win commensurate with the way we can hang together," says Brock Evans, the National Audubon Society's vice president and lobbyist on ancient forest issues. "If we have civil war, strife or bickering over details, we'll lose that much more."

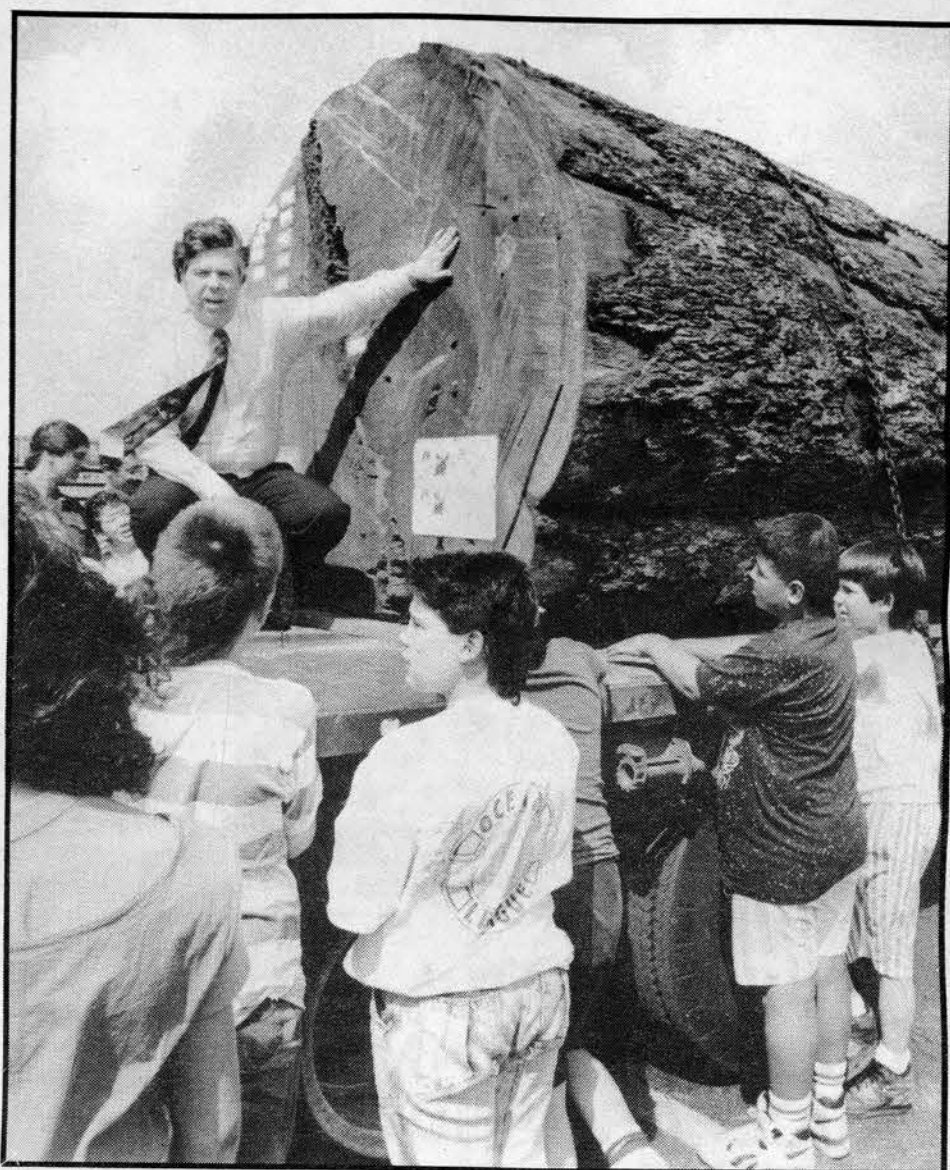
Since the Jontz bill is expected to be weakened in the Interior or Agriculture committees, Washington lobbyists for the national groups hope to strengthen the bill by amending it on the floor. That strategy will depend on broad public pressure mobilized by grassroots activists at key moments. Thus, unity becomes politically necessary — and "politically correct."

But longstanding tensions remain between the large national environmental groups and local ancient-forest organizations. These tensions result partly from the regional activists' success in nationalizing the issue through the media, an effort that has achieved at least two objectives. First, legislators outside the Northwest have taken an interest in ancient forests on federal lands, ending the traditional policy-making role of the pro-timber Northwest congressional delegation. Second, large national environmental groups such as the Sierra Club, the National Wildlife Federation and The Wilderness Society have committed more resources to saving the region's badly fragmented forests.

Yet, when the locus of agenda-setting shifted from the Northwest to Washington, D.C., local groups found themselves advocating far more comprehensive protection for the remaining forests than the national groups. "The nationals say that we don't understand the real world of Washington, and that we hurt our own cause when we come to D.C. and say what we want," said a board member of a key Northwest organization.

"The biggest hindrance to the success of the grassroots agenda is being shackled by national organizations," says Doug Norlen, director of the Waldo Wilderness Council in Oregon. "The rank and file are way ahead of the organizations in Washington. The national groups often descend to ecologically indefensible compromise, and then blame us [local activists] for not being in solidarity with them."

The Sierra Club, in particular, has been sharply criticized. "The actions of Sierra Club lobbyists have seriously weakened the conservationists' position," wrote activist Ric Bailey of Joseph, Ore., in a letter last Nov. 5 to Michael Fischer, Sierra Club's executive director. Bailey and others decry the Sierra Club's participation in drafting the environmentally disastrous "Hatfield-Adams" rider to the 1990 Interior Appropriations Act. That amendment nullified a court injunction that had blocked logging on millions of acres of spotted owl habitat in ancient forests west of the Cascades. It also mandated near-record harvest levels and limited legal challenges of timber sales. Only weeks before the limitations on legal challenges were due to expire, a San Francisco appeals court ruled the judicial restraints in the Hatfield-Adams rider



Rep. Jim Jontz takes his message to Indiana schoolchildren

unconstitutional.

The Sierra Club's New York chapter caused a stir last October when it sent a scathing essay to the club's 56 other chapters. In it, the chapter castigated its own lobbyists for endorsing the Hatfield-Adams rider, which "opened up the old-growth forests which had been protected by years of lawsuits to the timber industry."

In a rebuttal, Charlie Rains, the Sierra Club's Northwest regional chairman and chairman of its Ancient Forest Protection Campaign steering committee, wrote: "In the case of Hatfield-Adams, we helped put all the good provisions that we could into it. It was better than just loudly protesting while watching something far worse pass that would have destroyed much more forest."

The Sierra Club's New York chapter also found the Jontz bill inadequate because it would protect only "significant stands" of "selected areas" of forests in Oregon, Washington and California. The New York chapter urged its sister chapters to endorse the Native Forest Protection Bill, a visionary legislative proposal advanced by the Native Forest Council, a Eugene-based "national grassroots" group. The bill would halt logging and roading of virgin native forests on federal lands throughout the United States, halt exports of minimally processed wood products from private and public lands, and assist timber-dependent communities and workers in making economic transitions.

Many local groups that support these goals acknowledge that Congress is unlikely to pass the Native Forest Protection Bill now. But they believe its introduction would make the more modest aims of the Jontz bill appear more reasonable. On the other hand, many national lobbyists and Jontz himself fear that the native forest bill, once introduced, would confuse sympathetic legislators whose votes are needed to pass the Jontz bill.

In a March conference in Eugene, grassroots activists, national lobbyists and Jontz attempted to overcome their

past discord. While local activists showed deep appreciation for Jontz's leadership on ancient forest protection, they could not unite behind his legislation or the overall legislative strategy the nationals are pursuing.

"I support [both bills] and I ask the same from the national groups," says Tim Hermach, executive director of the Native Forest Council, which is promoting the more comprehensive native forest bill. Hermach said he had been "distressed and discouraged" by the lack of "a vision of forest protection among the national groups that is national in scope and comprehensive in nature." Their support for the "native" bill, which has not yet been introduced, could help demonstrate that kind of vision, argues Hermach. The Native Forest Protection Act received a boost on April 19 when Greenpeace USA endorsed the proposal.

In a move intended to give Northwest groups a stronger voice in the evolving debate, the grassroots Western Ancient Forest Campaign is setting up an office in Washington, D.C., to con-

duct public education. Local activists applauded Jim Owens, the office director, who said about compromise, "We've compromised enough."

One activist likens the coming legislative battle to a fast-moving chute of whitewater, where rapid decisions will be made as legislation is amended in committee and on the floor. On March 21 the current quickened when Rep. Bruce F. Vento, D-Minn., chairman of the Interior and Insular Affairs Subcommittee on Public Lands and National Parks, introduced his ancient forest bill. It would establish a 6.3-million-acre ancient forest reserve that includes old growth in existing wilderness.

Conservationists oppose Vento's bill because it would save only a third of the unprotected remnants of westside ancient forests. Unlike the Jontz bill, it saves none of the forests east of the Cascades. The rest of the forests would be available for logging, constrained only by the usual guidelines in the Forest Service's planning process.

Vento's bill, however, guarantees the timber industry an annual take of 2.6 billion board feet from westside forests for the next three years. That amount is at least twice sustainable levels, say environmental groups, and the released forests would be heavily impacted by logging. The bill's best provision, they say, is its economic assistance package for displaced timber workers and affected communities.

Because of Vento's position as chairman, his bill is the likely vehicle for any ancient forest legislation that may pass this year. Recent court rulings to enforce protection of the threatened spotted owl are expected to block one-third to one-half of planned federal sales in the Northwest. These rulings strengthen the environmentalists' hand because they will require large set-asides of ancient forests west of the Cascades for owl habitat. These rulings apply further pressure on Vento and on traditionally intransigent Northwest legislators.

In the coming struggle for passage of the Jontz bill, local groups will depend on the legislative expertise of their counterparts in Washington, D.C., who likewise must count on public pressure generated by the grassroots groups to sway Congress to adopt the strongest forest legislation possible. It remains to be seen how well this interdependent relationship will survive the coming rapids.

— Christopher Orsinger

Christopher Orsinger is a free-lance writer in Eugene, Oregon.

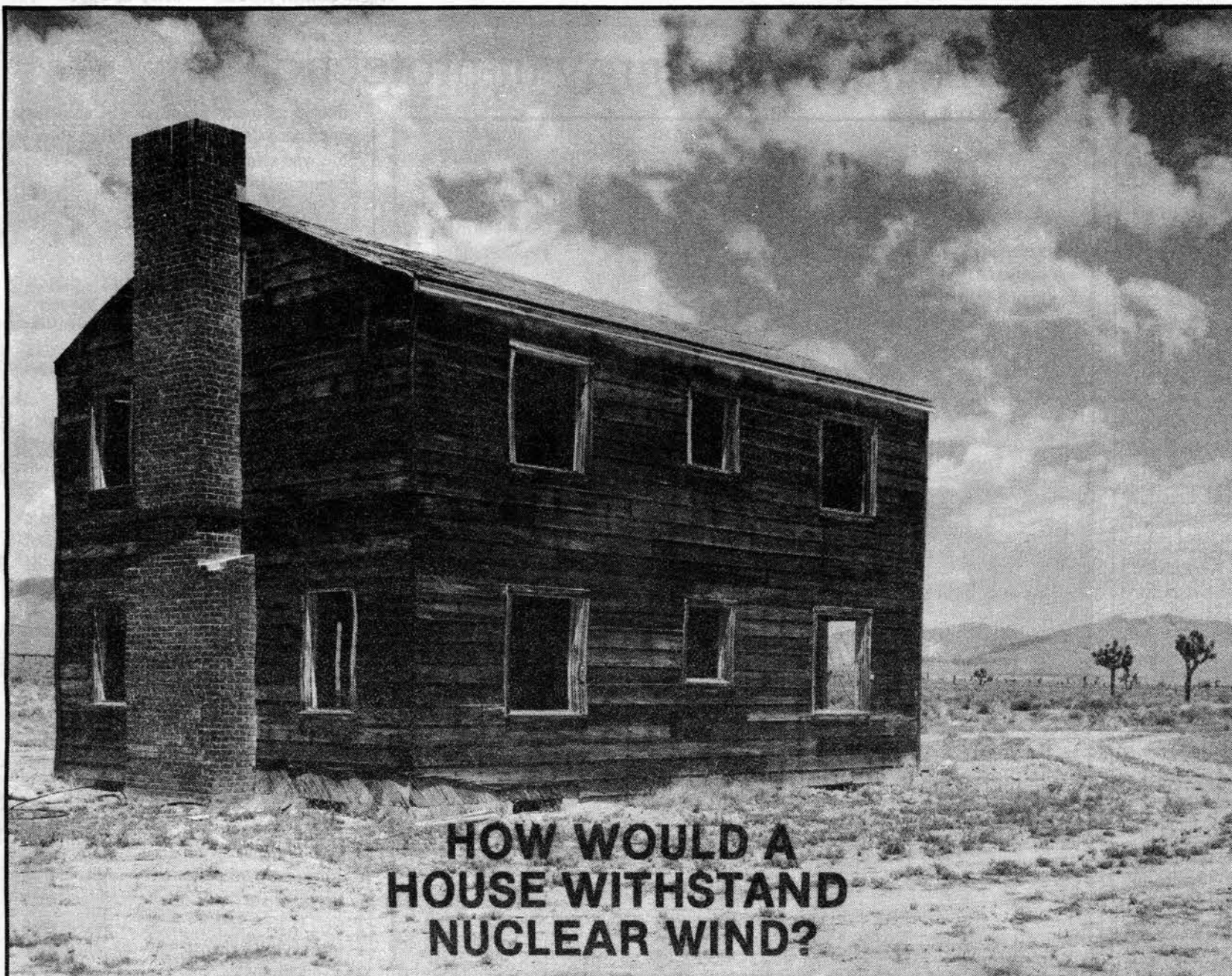
HOTLINE

Indians want Yellowstone's bison

Bison used to roam North America by the millions, and hunting them was central to Native American cultures. Today bison number in the thousands, with the largest wild herd located in Yellowstone National Park. But the brucellosis controversy has the Park Service looking for ways to manage its wandering herd. The Medicine Wheel Alliance, an organization that seeks to preserve Native American lands and culture, issued a proposal early this year to Yellowstone's Superintendent Robert Barbee to donate the park's excess bison to Indian tribes including the Crow, Blackfeet, Shoshone, Northern Cheyenne and several bands of Sioux. Barbee has responded favorably to the plan and says

it will be incorporated into the Environmental Impact Statement currently being drafted by the National Park Service and U.S. Forest Service. The project is spearheaded by the Institute for the Study of Natural Systems, whose report says buffalo restoration "would give [Native Americans] a vital natural resource to manage, which not only could make them more self-supporting, but also could revitalize their religion and culture." For more information write the Institute for the Study of Natural Systems, P.O. Box 637, Mill Valley, CA 94942, or call 415/383-5064.

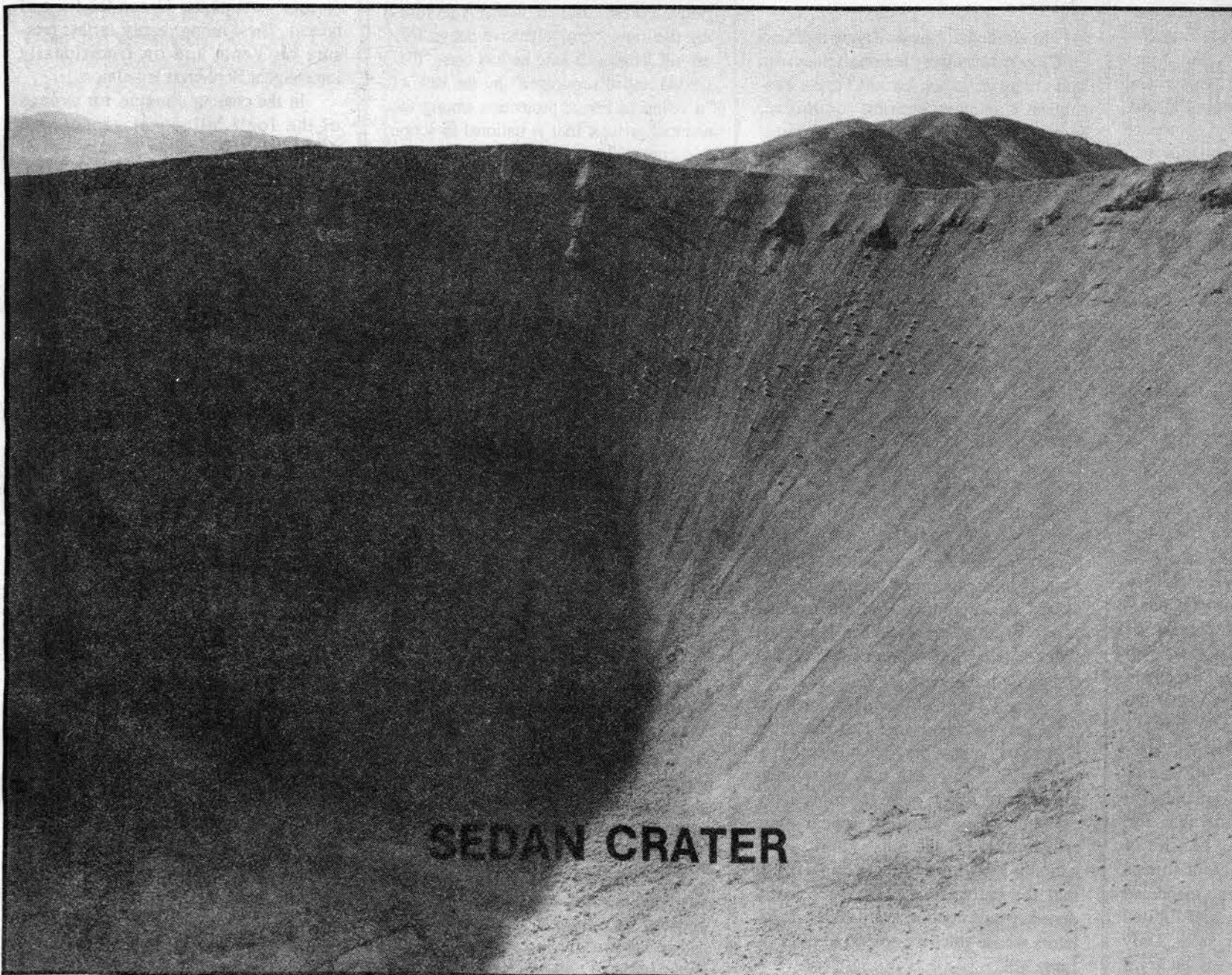




HOW WOULD A HOUSE WITHSTAND NUCLEAR WIND?

"Doom Town" House: This building was part of a "doom town." The house was 7,500 feet from ground zero. In a test called "Apple II," fired on May 5, 1955, the entire foundation shifted from the force of the 29-kiloton blast. The house has been partially restored to document the historical importance of the above-ground testing period.

Peter Goin: **NUCLEAR**



SEDAN CRATER

Sedan Crater, Nevada Test Site: This crater remains from the Plowshares program, the purpose of which was to test the peaceful use of nuclear explosions. The operating hypothesis was that a nuclear explosion could easily excavate a large area. "We had long ago written off that terrain as wasteland, and today it's blooming with atoms!" Nevada Gov. Charles Russell said in 1952.

In Nuclear Landscapes, to be published this month, photographer Peter Goin documents the remains of nuclear testing and production on government sites in Nevada, New Mexico, Washington and the Marshall Islands.

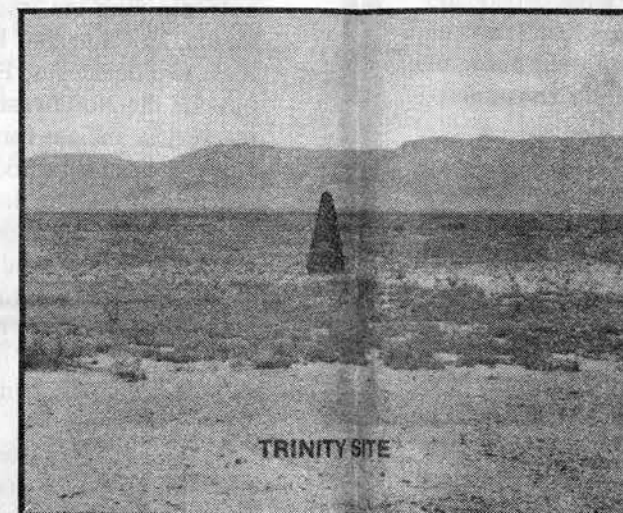
"These nuclear temples, pyramids, and ruined structures, and the craters, ponds, and other landscape alterations provide a unique visual metaphor for the legacy of the nuclear age."

— Peter Goin

When J. Robert Oppenheimer watched the Trinity explosion in 1945, these lines from the Hindu *Bhagavad-Gita* came to his mind:

*If the radiance of a thousand suns
Were to burst at once into the sky,
That would be like the splendor of the
Mighty One...*

*I am become Death,
The shatterer of Worlds.*

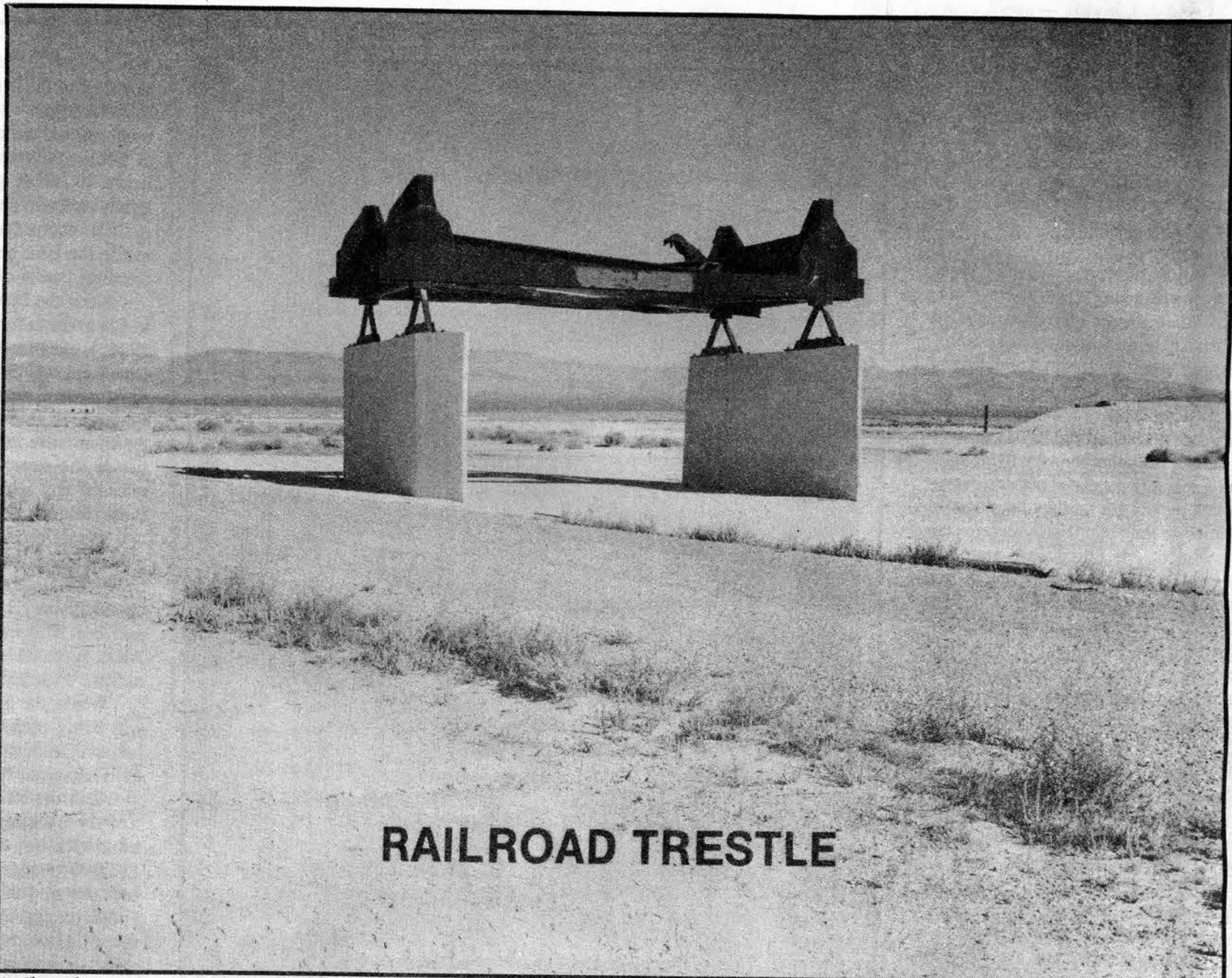


The Trinity Site in New Mexico, where the first nuclear device was exploded, is now a National Historic Landmark.

"Frenchman Flat at the Nevada Test Site is littered with debris and remains of above-ground tests. These ruined structures maintain a silent witness to an almost unimaginable force detonated years ago. They are within a thousand feet of my tripod. The guide decides not to leave the vehicle, and nervously watches the clock. I am told that I can have no more than two minutes of exposure to the area, and I attempt a world record in 4 X 5 photography. The winds are calm but my heart is racing. The dust that collects on my shoes makes me nervous."

— Peter Goin

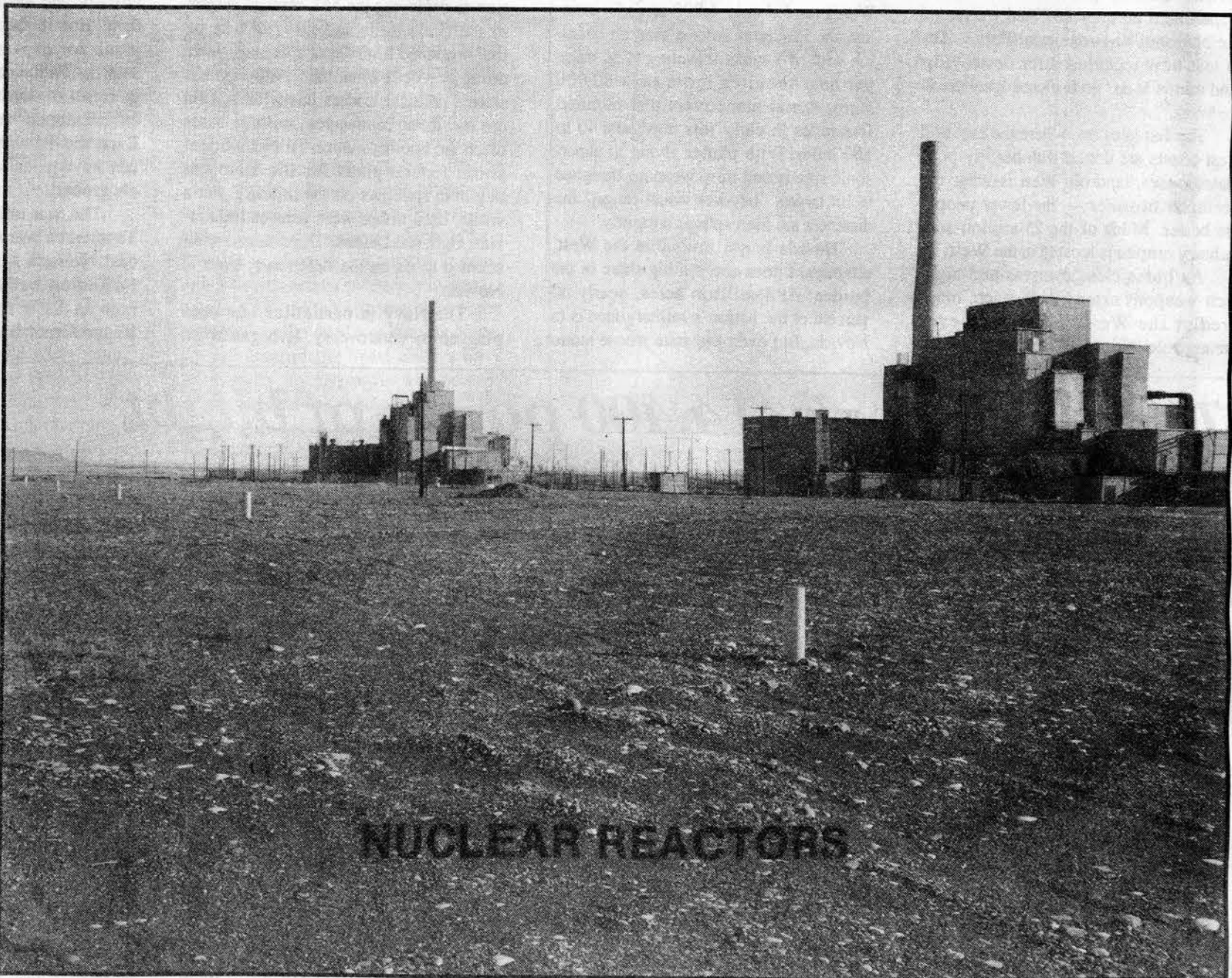
The Johns Hopkins University Press, 701 West 40th Street, Suite 275, Baltimore, MD 21211; 800/537-5387. Hardcover: \$59.95. Paperback: \$29.95. 154 pages, with 65 color and 28 black-and-white photos, 3 maps.



RAILROAD TRESTLE

Railroad Trestle, Frenchman Lake, Yucca Flat, Nevada: This bridge, the only remaining section of an elevated railroad, was located 1,800 feet from ground zero and received overpressures exceeding 450 pounds per square inch. The blast blew sections of the structure off the foundation and bent large I-beam girders.

LANDSCAPES



NUCLEAR REACTORS

Nuclear Reactors D and DR: Decommissioned nuclear reactors at Hanford Nuclear Reservation, Washington. The posts in the foreground identify buried radioactive waste and potential surface contamination.

Bombing ...

(Continued from page 1)

abroad, the military is more likely to get what it wants at home.

Fallon is representative of bases around the West, where wide-open spaces offer an unequaled staging ground for war preparations. Before Operation Desert Storm, all of the major elements of the U.S. armed forces were tested and trained in a landscape not unlike the Middle East desert.

With 300-plus blue-sky flying days and a sparsely populated outback, Nevada is a mecca for military hot dogs. In addition to the Fallon strike warfare center, Nellis Air Force Base near Las Vegas is home to the Air Force's "top gun" fighter weapons school and "Red Flag" war games, recently redubbed "Desert Flag." Six times a year, full-scale air war exercises take over the Nellis ranges, the largest in the nation and roughly the same size as Kuwait.

The F-117A stealth fighter-bombers that led the attack on Iraq were tested in secret for nearly a decade at the Tonopah Test Range in central Nevada. Even the Tomahawk cruise missiles that rained down on Baghdad were test-launched from Point Mugu in California to the Fallon bombing ranges.

Just outside Nevada, the Army practices battalion-size tank and infantry maneuvers in the Mojave Desert, with close air support from Nellis and Edwards Air Force bases. Biological weapons and antidotes are tested at the Dugway Proving Ground in Utah. Munitions of all kinds — conventional, biological, chemical and nuclear — are tested, assembled, stored, transported and destroyed around the region. And during the Gulf war, the Council on Environmental Quality granted the Defense Department an unprecedented waiver of the National Environmental Policy Act to test new techniques for destroying land mines at an "undisclosed location in the West."

The list goes on. Where the east and west coasts are dotted with heavily populated bases, land out West is what the Pentagon treasures — the fewer people the better. Much of the 25-million-acre military empire is located in the West.

As bases close overseas and high-tech weapons extend their reach, many predict the West will play an even greater role. Nearly all of the Pentagon's



Navy F-5 fighter jets line up on a snowy tarmac at Fallon Naval Air Station

projected 5-million-acre expansion is slated for the West.

While an Army battalion in World War II needed only 4,000 acres for training, the Pentagon says a modern battalion with M-1 tanks traveling at 50 miles per hour requires more than 80,000 acres. Aerial maneuvers that required five miles in early jets now take 40 to 100 miles. With planes flying at supersonic speeds and new weapons designed to hit targets "beyond visual range," the distances are increasing constantly.

Nevada is not unique in the West, although it does carry a big share of the burden: At 4 million acres, nearly 20 percent of the nation's military land is in Nevada. But even the state whose motto

is "All for our country" has begun to show some reluctance to give any more.

The resistance started with opposition to deploying the MX missile system in the Great Basin and grew to take on the proposed high-level nuclear waste dump at Yucca Mountain. Although the state's political leaders have jumped on the anti-dump bandwagon, military bases often are another matter. But skepticism about federal plans for the state has begun to spill over on the military. For a while, until troops were sent to the Persian Gulf, the Defense Department itself seemed to be on the defensive, even in Nevada.

The Navy in particular has been plagued by controversy. It began when

two private pilots in Fallon — Dick Holmes and the flying physician Richard "Doc" Bargaen — discovered that the congressional authorization for Navy use of public-land sections of the base's Bravo 20 bombing range had not been legally renewed after it expired in 1952. Activists camped out on Bravo 20 to dramatize the issue and force a ceasefire on the range [see box on page 12].

When the Defense Department went to Congress to renew the withdrawal in 1986, legislation sponsored by retiring Ohio Rep. John Seiberling compelled the department to prepare a "Special Nevada Report" — an unprecedented study of the cumulative impact of military activities in the state. A draft of the report released late last year was expected to cause statewide soul-searching.

"Never before in any state have people had the opportunity to pick up one document and see so much information about military activities in the state," said Bob Fulkerson, director of Citizen Alert, a statewide environmental and military "watchdog" group.

While the Special Nevada Report was being prepared, Fallon was struck by more scandals sparking public scrutiny. First came "Operation Ugly Baby," in which the Navy was caught surreptitiously picking up some 1,389 live bombs, along with 2,230 duds and 123,000 pounds of shrapnel, that had been dropped on public lands outside the Fallon ranges. Next came revelations of fuel-spill coverups and the Pentagon reports on suspected toxic contamination.

Then came Operation Desert Storm. The war brought the dilemmas of military preparedness into sharper focus. It also sent critics into hiding while drawing towns and the military closer together.

A year ago, a broad-based coalition of Western environmentalists, ranchers, farmers and local politicians drew their own "line in the sand" to stop Pentagon plans for expansion of training areas such as Fallon. Yet nearly every recent criticism of the military has come with a caveat about "supporting the troops." Even the staunchest critics of the military have given way to a search for middle ground.

The war rallied military supporters. To attend a hearing in Fallon on the Special Nevada Report, Citizen Alert's Fulkerson walked a silent gauntlet of men in VFW caps. In Reno, his colleague Grace Bukowski faced a barrage

The Pentagon's '14,400 points of blight'

The National Toxic Campaign Fund of Boston recently released a report on the military's "14,400 points of blight" — sites at 1,579 facilities nationwide suspected of non-nuclear chemical contamination.

Although the report summarizes Pentagon data that have been available for more than a year, the group delayed its release because of concerns about appearing unpatriotic during the Persian Gulf war. Planned for October 1990 release under the title "Our Own Worst Enemy," the report was shelved until mid-March of this year.

The report is based on 1989 admissions by the Defense Department and recommendations made by environmentalists at a fall 1990 conference with the Pentagon, but it contains little "news." In documenting the difficulties of cleaning up the military's toxic legacy, it raises more questions than it answers.

• The cleanup of the Rocky Moun-

tain Arsenal near Denver forces the question: Is the cure worse than the disease? Built during World War II to manufacture chemical weapons, the site has been called "the most contaminated square mile on earth" (HCN, 4/22/91). But the Army's cleanup effort only made a bad situation worse, exposing workers and nearby residents to a "witches' brew of the most hazardous materials known to humanity." The former arsenal is one site that many fear may best be left as a "national sacrifice area."

• The closing of the Jefferson Proving Ground, an artillery testing range in Illinois, seems to have proved one thing: Once a bombing range, always a bombing range. Since 1941 the Army has fired 23 million artillery, mortar and tank rounds at 90 square miles of forest and meadows. Estimated costs of cleanup range from \$5 billion to a \$13 billion operation that would strip and

sift the topsoil to a depth of 30 feet. Even if money were no object, the chances are slim of ever cleaning up old bombing and firing ranges for other uses.

• The Hughes-run Air Force Plant #44 in Tucson, Ariz., exemplifies the dead-end street faced by many contaminated communities. Families affected by medical problems stemming from toxic leaks could win part of a reported \$84.5 million cash settlement, but their lives have been destroyed along with the nearby Mission Manor community, called "the corridor of death." Some say a community faces a no-win dilemma when toxic contamination comes to public view; plummeting property values and stigmatization touch even those who may have escaped the health effects of contamination. Hughes also has shown how defense contractors are rewarded with gold-plated contracts to clean up their own messes.

• The situation at Kirtland Air Force Base, outside of Albuquerque, N.M., raises the question of whether more citizen participation really helps. A heroic organizing effort in the semi-rural Hispanic community of Mountainview — where the base is suspected of contaminating groundwater — has forced the military to accept the formal participation of citizen activists to address environmental concerns. The group, called the Southwest Organizing Project, will examine evidence from a U.S. Geological Survey study of wells in the area to determine responsibility. What's unclear is how many of the communities surrounding the Defense Department's 1,579 facilities the campaign says are contaminated would be able to replicate that sort of effort. [See story on page 4.] Must citizens constantly involve themselves in overseeing the military to keep it honest?

— J.C.

of verbal jabs from a flag-waving military crowd.

"It's like night and day between now and a year ago," said Fulkerson. "It's going to be tough to oppose military land and air grabs now. But if they did so well over there," he added, "maybe they don't need more space here."

Because of the "bad timing" of the popular Gulf war, environmental groups canceled long-planned press conferences and shelved studies critical of the military. At the urging of its grassroots network, the National Toxic Campaign Fund held back its report on the "military's toxic legacy" until the ground war against Iraqi forces was successful [see box on page 10].

"The fear was that if anything negative was said about the military, it would be seen as being against our troops," said Dyan Oldenburg, coordinator of the Military Toxics Network. Now that the troops are returning, she said, the national board decided to press the argument that they should be protected from "chemical war at home."

In a sign of the changing climate at the grassroots, the Walker River Paiute Indian Tribe declined to be involved in press conferences with Citizen Alert on either the Special Nevada Report or the toxic contamination. The Walker River reservation lies hard between Fallon's Bravo 19 bombing range to the north and the Hawthorne Army Ammunition Plant, the nation's largest weapons depot, to the south. Before the Gulf War, the tribe was often at odds with the military.

A year ago, stray bombs were found by Indian cowboys on 5,000 acres of reservation land bordering Bravo 19. Then the tribe learned of Navy plans in the Special Nevada Report to withdraw an additional 17,000 acres of reservation lands for military use. After contamination from the ammunition depot was found to be leaking into nearby Walker Lake, the tribe joined Citizen Alert and others in criticizing military operations in the area.

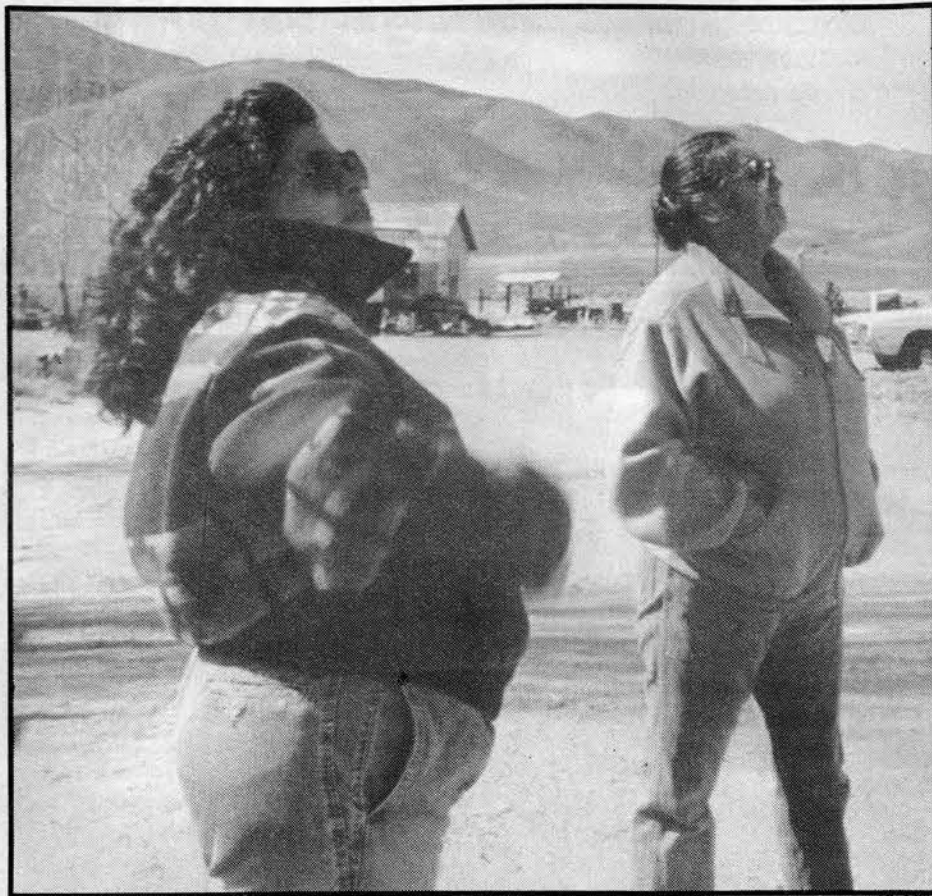
But tribal officials said the Gulf war had brought the armed forces and the Walker River tribe closer together. The town of Schurz, population 840, sent 10 young men to Operation Desert Storm, including Chief Anita Collin's son, Jason McKay, a Marine.

To keep up with the increased demand for ordnance in the Gulf, the Hawthorne Army Ammunition Plant hired 20 temporary stevedores to help the 30 tribal members permanently employed there. "It's hard, dirty work," said tribal administrator Elveda Martinez, "but nobody's complained." Martinez added that the tribe is planning to build a truck stop to attract the drivers ferrying explosives and hazardous materials on the highway through the reservation.

Fifty feet from Martinez's office are the railroad tracks that daily, during the Gulf buildup, carried trains loaded with explosives through town. As she spoke, a sleek, dark jet skimmed overhead, flying north toward Fallon Naval Air Station.

Martinez said that if the Hawthorne Ammunition Depot is contaminating Walker Lake, as environmental groups charge, the tribe wants it cleaned up. The tribe also wants low-level flyovers rerouted. But the new ties the war has fostered have created a stronger sense of interdependence — and a greater effort by both the military and the tribe to seek accommodation to each other's needs.

In recent months, Navy officers have met frequently with tribal officials in negotiations over compensation for the reservation lands contaminated by



Elveda Martinez and Mary McCloud watch as a Navy jet passes overhead at the Walker River Paiute Reservation in Nevada

stray bombs. The Navy has pledged not to seek reservation lands for military use.

Environmental activists are aware that the new spirit of accommodation in Schurz is out of sync with the politics of confrontation being revved up again at the national level. Marla Painter, director of the Rural Alliance for Military Accountability, a national group based in Carson City, said that grassroots activists around the country may be "pulling back" from the broad agenda they embraced just a year ago. It included thwarting expansion of military training areas, redirecting the defense budget to environmental cleanup and questioning the need for a powerful military by highlighting the "unseen costs" of preparedness.

"Quite frankly," Painter said, "I think the people would support twice what it costs now to maintain our military capability."

The politics of confrontation may not play at the local level, but the debate about the costs of a strong military has only begun. While the armed forces are more popular than in a long while, there is still conflict in communities strained by military activities.

In fact, the groups that have come together to take on the military in Nevada and around the West always have been made up of people with widely divergent interests. Many have had particular grievances they want solved, but few have shared the broad agenda of the peace and environmental movements. Moreover, many strongly support the military.

"I won't belong to any of those groups. They're against everything," said Art Sommer, a local critic of the Fallon base whose house lies under the restricted airspace on the approach to Bravo 16. "There's no question in my mind that the military needs this kind of space to train in," Sommer said. "What bothers me is they don't have to do it over people."

An ex-vice president of TRW, makers of ballistic missiles, Sommer began to question the military after Navy brass treated the county planning commission he served on like "a bunch of turnip farmers." Angry about this "arrogancy" and by what he calls the "snow job" of Navy reports on impacts to the community, Sommer became a one-man think tank on Fallon Naval Air Station's costs to the community.

"What the government is not doing is planning ahead," said Sommer, who holds a master's degree in long-range planning. "I'm not interested in causing the military problems. I'm interested in getting the military to solve the problems they're causing people. I'm sympathetic with the military. But they're blowing it."

Sommer said the conflicts in Fallon stemmed from an obvious problem: The air base is smack in the middle of the only large chunk of private lands in the

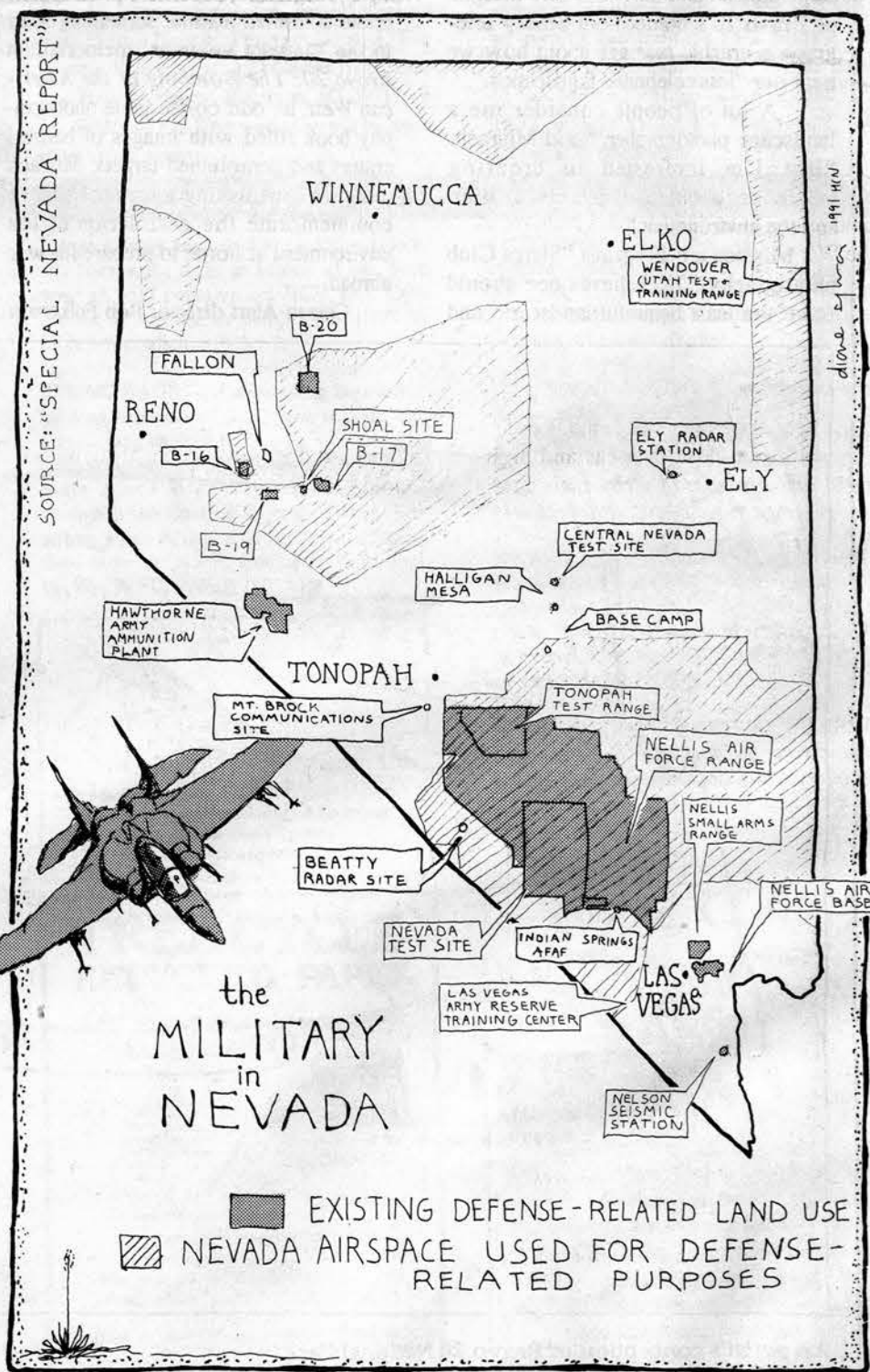
county — the town and its surrounding farms. He asserted it would be cheaper in the long run for the Navy to move its operations or to consolidate operations with other forces, such as the Air Force at Nellis. He suggested converting Fallon to a commercial freight airport serving the Pacific Rim, and integrating military training on 100-percent federally owned land far from any communities.

The town of Fallon, Sommer said, would benefit from a base closure. He compiled data showing that federal contributions to local schools for educating military children declined 9 percent during the 1980s, while the cost per student increased nearly 100 percent. Sommer showed that the Navy's estimates of income and tax revenue were inflated and that the Navy presence costs the county around \$2 million a year. He also calculated that the county's tax base has declined over \$1 million because of commercial airline taxes lost to the county now that flights have to be routed around Navy airspace.

In an era of base closures, mounting cleanup costs and budget cuts, arguments like those put forward by Art Sommer are gaining ground. The state of Nevada has listened closely to Sommer because it has a clear interest in defining the costs of the military — and perhaps recovering more of those costs — while expanding its regulatory authority over military activities.

State clearinghouse director John Walker, who coordinated agency responses, does not agree with the Special Nevada Report's conclusion that there are no "unreasonable risks to the health, safety or property to the citizens

Continued on next page



Bombing ...

(Continued from page 11)

of Nevada." He calls this "inaccurate and misleading."

State agencies submitted detailed criticisms and a laundry list of "mitigation" measures for the continuing military presence. These include increased federal funding for base communities, better reporting to the state environmental protection division, and the return to the public of little-used military lands such as Mount Grant near Hawthorne.

The state also wants to close the Bravo 16 bombing range and study how to consolidate military activities. The clearinghouse noted that if the Navy gets its request to add over 10,000 square miles of airspace to its holdings, more than 75 percent of the state's recreation areas will be under flight routes, with some jets flying in valleys below wilderness areas.

But what both sides seem to want most is an open channel for communication and compromise. One of the key demands consistently repeated by the state and activists is the need for a permanent military liaison with civilians. Base commanders are rotated frequently, a practice that makes maintaining ties difficult.

The new relationship between the military and the communities that sup-



Kit Miller

Members of the Western Shoshone National Council lead protesters in a march on the Nevada Test Site

port it will not be trouble-free. But even activists stress that it promises to be a closer relationship.

"We need to get beyond the sense that the military is separate from com-

munities," said Marla Painter. "People put their time into school boards, PTA and other things," she said. "The military, too, is our day-to-day responsibility. If it is a strong part of our communi-

ties, we have to be involved."

Jon Christensen is a free-lance writer in Carson City, Nevada.

Creating metaphors to portray our environment

Photographer Richard Misrach wanders the American desert looking for meaning. As part of a series of "Desert Cantos" [one of which appears on our cover], he has photographed military sites around the West. His images of Bravo 20's bombed-out beauty telegraph a graphic message about how we treat our "less celebrated landscapes."

"A lot of people consider me a landscape photographer," said Misrach. "But I'm interested in creating metaphors about so-called civilization and the environment."

Misrach rebels against "Sierra Club photography." He believes one should "take the least beautiful landscape and

think about what it means and what you're doing to it."

The ravaging of the high desert by the American military, he believes, is a "complex and disturbing" part of our national heritage, deserving of an appropriate commemoration, something akin to the Vietnam veterans' memorial. In *Bravo 20: The Bombing of the American West*, an odd coffee-table photography book filled with images of bombs, craters and demolished targets, Misrach proposes establishing a national park to commemorate the destruction of the environment at home to prepare for war abroad.

Citizen Alert director Bob Fulkerson

first introduced the photographer to "Doc" Bergen, the flying doctor from Gabbs, and Dick Holmes of Fallon, who discovered the Navy was illegally bombing the range. They took Misrach to Bravo 20 during a period when the bombardment was halted by congressional order because the Navy had neglected for 34 years to renew its right to use the land, called a "withdrawal." As they approached the center of the bombing range in the Carson Sink, Misrach saw "the playa transformed from pure desert wilderness to the post-apocalyptic landscape of a Mad Max scenario.

"Soon there was not an acre of land that was not riddled with crater upon

crater, shrapnel and bombs (practice and live). As far as the eye could see in any direction was man-wrecked devastation.

"It was ... the most graphically ravaged environment I had ever seen. I found myself at the epicenter, the heart of the apocalypse. Alone, no sounds, no movement. No building, no roads. No indication of life, no promise of civilization. Only the smell of rusted metal. Bombs and lifeless holes. Side by side were great beauty and great horror."

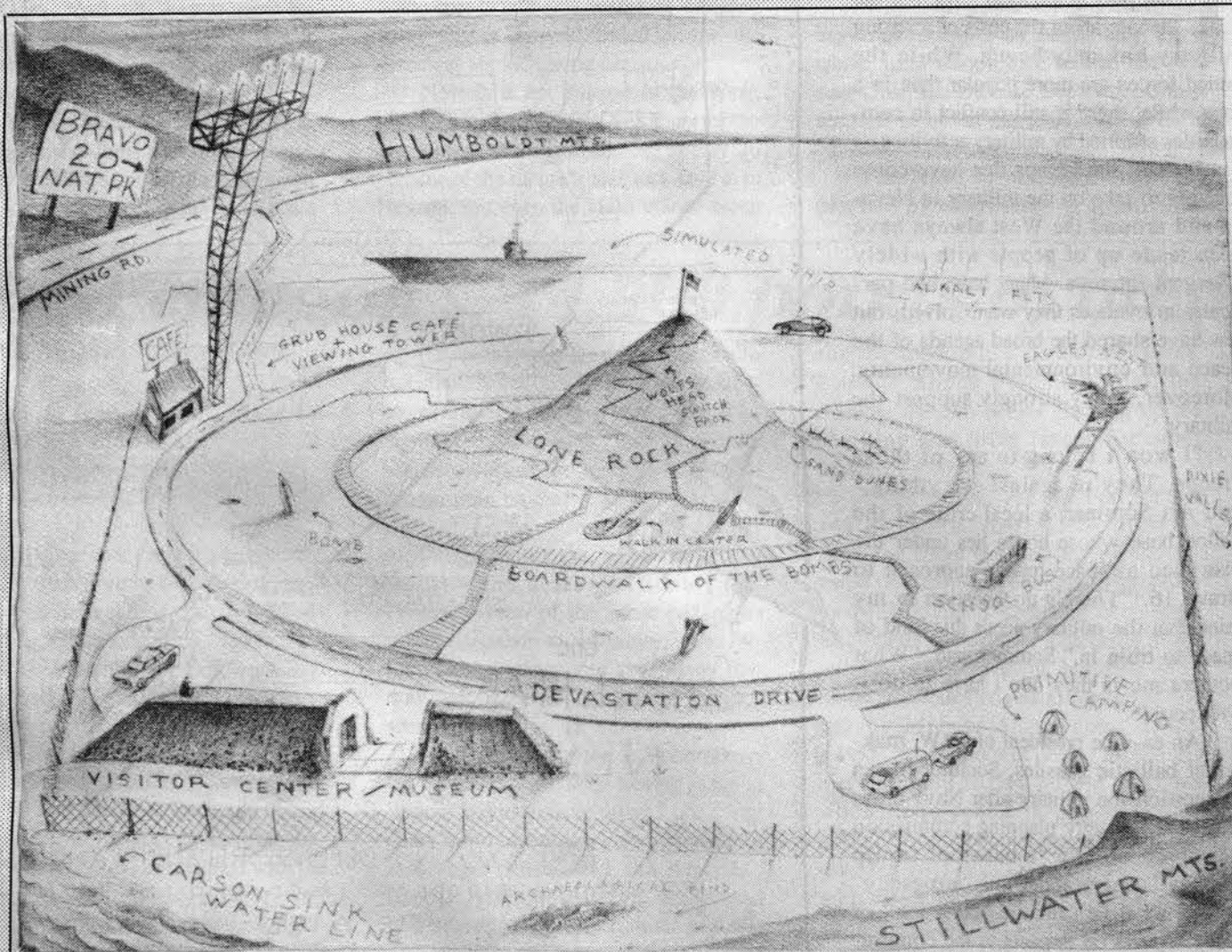
In some bizarre way, Misrach fell in love with Bravo 20. He even bought into the mining claims filed by Doc Bergen on the public-land sections of the bombing range.

The heroic tragicomedy of the citizen takeover of the bombing range is immortalized in *Bravo 20*. The story, written by Misrach's wife, Myriam, elevates the book beyond the flat, cryptic pictures, so freighted with meaning. But the proposal for a national park is what gives the whole package enough of an outrageous angle to capture the imagination.

"Originally it was a parody, like a cartoon in *The New Yorker*," said Misrach. "But it sort of grew on me and I realized it made a lot of sense."

A traveling exhibit, which eventually will go to Los Angeles, San Francisco and points beyond, brought the idea to Las Vegas and Reno. The Navy, predictably, thought the idea was ridiculous. But the media ate it up, in Nevada and elsewhere. While activists initially thought the park concept was a bit weird, they were glad for the attention. The book, however, has not sold well in Nevada. "It's a tough sell," admits Myriam Wiesang Misrach.

Bravo 20 in many ways confirms the image of Nevada as "a place many Americans still consider a wasteland," as the Misrachs note. It is not a pretty picture. But it does give a resounding answer to the question: Is there someone who will care about even the most god-forsaken lands?



An artist's conception of Bravo 20 National Park

© Richard Misrach and Rico Solinas

—J.C.

BULLETIN BOARD



HELP NEEDED FOR OLD-GROWTH MAPPING

The National Audubon Society is looking for hiking enthusiasts to collect field data on possible old-growth stands this spring and summer in Montana. This endeavor is part of the Society's Adopt-a-Forest Program and will be carried out in cooperation with the Forest Service. The Gallatin National Forest, which flanks Yellowstone National Park, and the Flathead National Forest, which borders Glacier National Park, are the two areas targeted for data collection. Because these areas are so vast, the Audubon Society needs many volunteers. Training is scheduled for mid-May. For information on the Gallatin National Forest project write to Bonnie Siebel, Greater Yellowstone Coalition, P.O. Box 1874, Bozeman, MT 59715, or call 406/586-1593. For information on the Flathead National Forest project write to Dawn Gaitis, Star Route, Polebridge, MT 59928, or call 406/756-4446.

PLATTE RIVER PLANNING

Prompted by insufficient data and Endangered Species Act requirements, the Bureau of Reclamation is evaluating dam operations on the North and South Platte rivers to see if they adversely affect threatened and endangered species. John Lawson, project manager for the Platte River, says the informal review calls for input and involvement from individuals and groups. Hydrological studies already are being done in conjunction with the Audubon Society and the National Wildlife Federation. Although it is not an Environmental Impact Statement, the five-year study could lead to an official EIS that would force the BuRec to better protect the habitat of listed species. Endangered and threatened species on the Platte rivers include the piping plover, least tern, bald eagle and whooping crane.

For more information contact the North Platte River Projects Office, P.O. Box 1630, Mills, WY 82644; 307/261-5671.

PEOPLE, POWER AND POLITICS

The Greater Yellowstone Coalition has assembled speakers from the worlds of science, media, politics and conservation to share their expertise at its annual meeting May 31-June 2 in West Yellowstone, Mont. "People, Power and Politics" will focus on how people can bring about public policy changes in the Greater Yellowstone area. Old-Growth Forest Mapping, the Ins and Outs of Environmental Litigation, Agency Advocacy, Appropriate Tourism and Sweat-lodge Building are some of the subjects to be presented at the conference. Rep. Nick Rahall, D-W. Va., who has recently introduced legislation to reform the 1872 Mining Law, will be the keynote speaker June 1. The three-day conference costs \$35, or \$25 a day. Students pay \$25 and \$15 respectively. Dinner prices are not included. Field trips and outdoor workshops will be available at no extra cost. For registration information write to: Greater Yellowstone Coalition, P.O. Box 1874, Bozeman, MT 59771, or call 406/586-1593. Participants should pre-register by May 15.

SCRUTINIZING ADC

A group called the Wildlife Damage Review was formed this year to help bring widespread public scrutiny to the controversial Animal Damage Control program. The group solicits information on ADC's predator-killing activities from hunters, animal-rights groups, ranchers, wildlife biologists and other interested parties. The group, which hopes to come up with a plan of action this spring, also will produce an informal newsletter and operate as a temporary data center. For information write Wildlife Damage Review, P.O. Box 2541, Tucson, AZ 85702-2541 or call 602/882-4218.



WESTERN COLORADO CONGRESS MEETING

Western Colorado's largest environmental organization will hold its 11th annual meeting on May 18 in Ouray, Colo. Allan Savory, a leading figure in land management, and Fermina Banyacya, a Hopi Indian elder and spiritual leader, will speak. There will be workshops on applying Holistic Resource Management principles to subjects such as water, biological diversity, energy policy and activists' skills. Non-members are welcome. Preregistration is due by May 10. For more information, contact Mike at the Western Colorado Congress, P.O. Box 472, Montrose, CO 81402; 303/249-1978.

ENVIRONMENTAL EDUCATION

Teachers can learn how to integrate environmental issues into their K-12 curricula at a conference June 17-28 at Colorado Mountain College's Spring Valley Campus in Glenwood Springs, Colo. The program is co-sponsored by the Colorado Alliance for Environmental Education (CAEE), a nonprofit organization established in 1990 to promote environmental literacy. For summer workshop information write Burke Miller Thayer, Environmental Leadership in Education, Colorado Mountain College at Spring Valley, 3000 County Road 114, Glenwood Springs, CO 81601, or call 800/621-9602. For more information about CAEE membership write 15200 W. 6th Ave., Golden, CO 80401, or call 303/277-8861.

MISSOURI RIVER WORKSHOP

A workshop on Missouri River basin management concepts will be held at the Canyon Ferry Limnology Institute. River, reservoir, lake and wetlands management, water rights and laws, wild and scenic rivers, endangered species and future management will be among the topics discussed. The workshop will be held June 10-14 at the Canyon Ferry Dam near Helena, Mont. Confirmation letters are due by May 15. More information can be obtained from Dennis Nelson, Program Director, The Western Watercourse, 122 Gaines Hall, Montana State University, Bozeman, MT 59717, or call 406/994-5392. The workshop will be limited to 30 participants.

1991 ROCKY MOUNTAIN SEMINARS

Colorado's Rocky Mountain National Park is offering summer field seminars on subjects ranging from storytelling to tundra ecology. The seminar program offers day-long, weekend and full-week courses. Students can receive college credit through two major universities and teachers can receive recertification units through the Colorado Department of Education for some of the seminars. For more information and a free Rocky Mountain Seminar catalog, write to Nancy Wilson, Seminar Coordinator, Rocky Mountain Nature Association, Rocky Mountain National Park, Estes Park, CO 80517, or call 303/586-2371, ext. 258.



NORTHERN ROCKIES MINING ACTION CONFERENCE

As mining booms across the Northern Rockies and gold production reaches 10 times the 1980 level, citizens are becoming more concerned about the environmental impacts of the industry and the future landscape of the West. A Northern Rockies Mining Action Conference in Bozeman, Mont., will be held May 11 to discuss environmental impacts of hardrock mining, mining laws and regulations, and means of controlling the future of the industry. Jim Baca, New Mexico's state land commissioner, will be the keynote speaker, and many grassroots activists will discuss their work. Workshops will be held on mining's hazardous waste problems, grassroots organizing and the effective use of the media. There also will be an evening debate on the 1872 Mining Law. For more information contact Susan Harrod of the Mineral Policy Center at 202/737-1872, or Bob Salter, the Northern Circuit Rider, at 406/585-9009.

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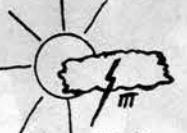


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A meadow in the Rockies where the grass grows tall

by Howard E. Evans

Not far from our home in the Colorado Rockies there is a bit of landscape that is all too rare: a meadow valley that is well-watered, ungrazed, unmowed and, for the moment, unthreatened by developers or dam builders.

Grass grows knee-high, and some of the bunchgrass, when in flower, head-high. In the summer there are patches of blue penstemon, pink bergamot and diverse yellow composites, all served by bumblebees and butterflies. Along the stream there are willows as well as dense stands of chokecherries that are visited in late summer by black bears and by local residents eager to begin their yearly round of jelly-making and wine-making.

Visitors in the spring are greeted with the songs of MacGillivray's warblers, song sparrows, black-headed grosbeaks and, from the hillsides, vesper sparrows and towhees. A pair of red-tailed hawks nest in the pines on the north-facing slope and with harsh calls claim ownership of the valley. Good enough; they will respect its integrity and keep the ground squirrels under control.

We have roamed these meadows so often that they have become a series of places very special to us. A grove of dying aspens is each year visited by a pair of Lewis' woodpeckers, birds of bizarre color and behavior — they often catch insects in the air, as if they were flycatchers. A thicket of hawthorns is the source, each June, of the curious hoots and chuckles of a yellow-breasted chat, another eccentric of the bird world (it is a warbler that doesn't warble).

In one soggy place along the stream we can often flush a snipe, which we suppose could be called a sandpiper gone berserk. Just beyond, in a shady glen, shooting stars spring from the grass each year. These, too, are eccentrics, primroses that flex their petals upward so that the blossoms seem to be "shooting downward."

In the view of our neighbors, we might be called the most eccentric of the lot, spending so much time watching life in the meadow when we might be fishing or roaring cross-country in an off-road vehicle.

"I had no idea that there was so much going on in Heywood's meadow," wrote Henry Thoreau. A meadow is a constant, yet it changes not only seasonally but day by day: flowers coming into bloom or setting seed, birds coming and going, young marmots venturing from the den, a mule deer fawn hidden in the bushes. The valley is in private ownership (not ours); were it federal land it would doubtless be grazed.

Since we are septuagenarians, we are hopeful that we will not see the arrival of "progress" and the departure of the warblers, the marmots, the red-tails and the rest of that radiant society. May we all find meadows as green elsewhere.



Howard Evans is a retired Colorado State University professor who has written books about natural history, including *Life on a Little Known Planet*. He lives in Livermore, Colorado.



LETTERS

PATRIOTISM — AND DEATH

Dear HCN,

My father's birthday was April 4. He would have been 63 this year. He died of cancer in February. Last October he retired after 30 years of working at Rocky Flats (HCN, 3/25/91).

Am I angry at his dying? No. We will all lose our parents at some time. Am I angry about his death? Yes. I'm angry at the government and at the contractors — Dow Chemical, Rockwell, EG&G — that have been running Rocky Flats. I am convinced the job that, admittedly, put food on the table and a roof over my head and financed my college education, cost my father his life.

It was his choice to work there. In the '50s and '60s it was a noble, patriotic choice. He was undoubtedly aware of the risks — or was he? Did he know the true risks of exposure to plutonium? Was he routinely checked for exposure, or abnormalities in his blood count? Did the government and its caretakers have "the utmost regard for ensuring safety" for their own workers? Do they now?

Many of my father's fellow employees have also died of cancer, leaving families with comfortable pensions and retirement plans ... and only photographs and cherished memories of their loved ones.

The point? More families will lose loved ones to the ravages of cancer because of what is *not* told to the employees of nuclear weapons plants. Yes, we are working to hold the contractors and government accountable for the

external threats posed to our soil, air and water — and are apparently making some progress, albeit slow. But what about the human right to know of the threats posed to those working *inside* these plants? Perhaps it is time to start investigating the very real threat to life on the inside.

Sandy McIntyre
Bozeman, Montana



MANAGING NATURE

Dear HCN,

I am in fundamental agreement with George Wuerthner ("Managing our way back to nature," HCN, 2/11/91) — firmly on the side of the ecological paradigm, fully appreciating the limits of human knowledge, especially about natural systems and processes — but left with a gnawing fear that things are not as clear-cut as he would have them.

Two things recently have raised this fear in my consciousness. One was reading *The End of Nature*, the thesis of which is that nature is now so disrupted that it won't function properly without management, and realizing at some point that the author was at least partly right. It was like being stabbed in the heart. The

other thing was a more pleasant experience, a week-long course on Holistic Resource Management with Allan Savory.

Wuerthner used Holistic Resource Management as an example of the intrusive management paradigm. I think Wuerthner is not fully aware of what Savory and his associates are really saying these days. Time and again, Savory emphasized that we really don't understand the processes in a cubic inch of soil, much less those in the far more extensive ecosystems we are part of. He was emphatic that Holistic Resource Management is an evolving concept.

Savory is best known for his work with rangelands. Probably his most important contribution is his discovery that what has conventionally been considered "natural" in rangelands by most environmentalists and range ecologists is, in fact, already an artifact produced by human intervention. Inherent in this is the concept that rangelands like most of those in the West have evolved under the impact of large herds of large, hoofed animals preyed upon by pack-hunting predators. Those herds, "managed" by those predators, produced essential soil crust-breaking, litter incorporation and reseeding effects upon those rangelands. The removal of those herds has disrupted natural processes and has produced deterioration. And Savory can document and demonstrate this very convincingly.

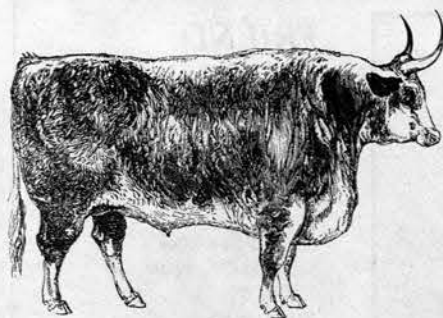
In the case of rangelands specifically, if Wuerthner and I want to promote more natural functioning, what can we do if rangelands without large animal herds are not natural? Reintroducing hundreds of millions of bison and packs

of wolves to go with them is not a real option. A more possible if imperfect first step might be an attempt to get the domestic livestock already present on Western ranges to approach the function of the wolf-hunted bison herds. This explains Savory's recommendations in some cases to increase herd size and stocking density, with very careful management. Simulating the herding effect of wolf packs probably accounts for the failure of some attempts at Holistic Resource Management. But there are impressive successes as well, where rangelands have improved dramatically.

Many of the conflicts over natural resource policy are about specific actions; fundamental purposes or goals are often left essentially unexamined. Wuerthner's article is welcome because it takes at least a first step toward examining what we might really want to do. Some first halting steps have also been taken by some Holistic Resource Management working groups, who have discovered that some ranchers and environmentalists are in agreement about fundamental goals. That agreement includes the desirability of processes as close to natural as possible on rangelands.

As further steps, I think we should embrace Savory's insistence that we not only view things as holistically as possible, but also use biological diversity as an index of health. Finally we should reaffirm one of the themes in Wuerthner's essay — of humility toward the incomplete state of human knowledge — because in that I think we are kindred spirits.

Stuart Krebs
Montrose, Colorado



THE UPPER RUBY

Dear HCN,

George Wuerthner's article on the Upper Ruby Cattle Allotment (HCN, 4/8/91) was interesting as an example of our willingness to accept, without careful analysis, any Forest Service recommendation that agrees with our preconceived notions. The Draft EIS which has caused this controversy is full of erroneous statements and significant omissions. I'm surprised that Mr. Wuerthner accepted the forest's economic analysis of the no-grazing alternative. The supposed positive economic impact is based mostly on a \$2 million road resurfacing project, not on increased hunting. The area already receives so much use during hunting season that the Montana Department of Fish, Wildlife and Parks is considering restricting the season in various ways to limit the impact of hunters on the land.

Probably the most significant lapse in the Draft EIS is the Forest Service's complete omission of any figures or discussion of wildlife populations in the area involved. Over the past 30 years the elk population has tripled. Over the past 15 years the moose population has doubled or tripled. I don't think the permittees are asking too much when they ask that the Forest Service investigate the

possibility of negative impacts from these increases during a period in which cattle numbers have varied less than 10 percent. It could be that each time the Forest Service and the permittees implement new grazing practices that allow increased forage, the state Department of Fish, Wildlife and Parks allows the wildlife to increase, thereby negating the gains from the change in grazing.

The Draft EIS states that upland range condition is improving and that riparian conditions improved from around 1940 to 1970. Since 1970 the riparian conditions have remained stable or deteriorated slightly. 1970 is when the forest initiated the rest-rotation grazing system in the Upper Ruby. The 70 to 80 years of overgrazing to which Wuerthner refers occurred between 1870 and around 1940.

The permittees have hardly had everything their way these last 20 years as Mr. Wuerthner's source states. The ranchers in the Upper Ruby have a history of complying with Forest Service recommendations, though often with a certain amount of bellyaching. As Mr. Wuerthner mentions, the permittees have often been willing to bring their cows off the forest early or take them up later in the spring based on the condition of the forage. Needless to say, this involves significant impacts on their home places either in the form of extended grazing or greater hay expense.

I think that the time we spend trying to understand the challenge ranchers face trying to manage livestock and natural resources is well spent. Certainly there are examples of overgrazing throughout the country. Just as certainly there are ranchers who have spent their lives trying to learn from nature. Holistic

Resource Management is the new buzzword, but some ranchers have been practicing conscientious resource management for generations. But the effects of management practices take time to appear, so the learning process is slow.

We need to be careful not to jump to conclusions. Just because a cow leaves her sign in our campsite one night or a bull knocks down our tent doesn't mean that the resource is being damaged. Similarly, eliminating livestock from public lands isn't necessarily the best resource decision. The Montana Department of Fish, Wildlife and Parks has reintroduced livestock grazing on two of its game ranges here in southwestern Montana in order to improve the forage for wildlife.

Personally, I prefer living in a county in which livestock is the number one industry. I enjoy the sparse population, open spaces and sense of community here. Recreation-based economies like Telluride or Ketchum don't appeal to me at all. Nor am I convinced that recreational use of our public lands has less impact on the natural ecology than commodity uses like grazing. In my opinion, the Upper Ruby is a more natural environment than Yellowstone Park.

Alan Carroll
Twin Bridges, Montana

DARK AND WILD

Dear HCN,

I was quite taken with Diane Sylvain's essay "Night Visions of a Wild and Strange Place" (HCN, 2/25/91). I teach writing, quite often incorporate environmental essays of all types, and used her essay as an illustration of a couple of things in a class. One of those

things is the "found" (or, if you will, stolen) poem:

THE GRAND CANYON
(a poem found in an essay
written by Diane Sylvain)

Bright colors shift,
black shapes shimmer on warming air.
Last night was flat black
across the plateau, miles
of piñon and juniper no proof
about a canyon at the end of it all.
At the rim stars
were holes in the violet sky,
shadows shaped pine trees,
my breath caught —
the canyon was live and looming,
a great humped and folded darkness.
Blue air filled the void, thundered
a silence like God's
pure and perfect indifference.

That dark place, the wild place
I didn't have to see
in order to see,
put me in my place.
It exists, dark or light,
not to be admired
or visited or photographed,
but for the pure knowledge
that when my back is turned,
eyes closed, I'm out of film,
the river gnaws at black stone,
ravens hang in empty air,
the canyon still shifts and sighs.
Daylight offers no pity in sun and
stone,
nor in the memory of a dark face.

Larry Holland
Norfolk, Nebraska

BOOK NOTES

FAT TIRE FUN

The Four Corners region, which has been called "the mountain biker's mecca," now has its own guidebook for both novice and expert bikers. Michael McCoy's *Mountain Bike Adventures in the Four Corners Region* presents a diverse selection of rides, from steep and narrow footpaths through pine forests to flat jeep trails through redrock canyons. The book includes 48 guided tours in New Mexico, Utah, Arizona and Colorado, discussing each region's wildlife, geology and cultural and historical sites. The tours, many of which are two to three hours long, cover some of the most diverse and scenic areas in the country. Notes on each ride's length, difficulty and elevation gain, along with other useful information, precede the actual description of each tour. A pre-trip section also includes tips on the basics, from riding techniques to what to bring and wear.

The Mountaineers Books, 306 2nd Ave. W., Seattle, WA 98119. Paper: \$12.95. 240 pages. Illustrated with black-and-white photographs and maps.

PRIMER ON MONTANA MINING

The Northern Plains Resource Council has published *Reclaiming the Wealth: A Citizen's Guide to Hard Rock Mining in Montana*. The guide is a strong call to action, discussing effective ways to organize and then influence the environmental analysis and permitting process. The recent boom in hardrock mining makes a guide like this vital to citizen activists debating whether mining is compatible with other local resources. For groups who have deemed mining acceptable, there is an invaluable discussion of ways of insuring that environmental regulations are upheld. Although its focus is Montana, the guide should be useful to people throughout the West.

Copies are available for \$15 plus \$2.50 shipping from NPRC, 419 Stapleton Building, Billings, MT 59101; 406/248-1154.

MANAGED LANDSCAPES

Wildlife and Habitats in Managed Landscapes is a compilation of research papers on integrated resource management methods that balance the needs of humans with the needs of wildlife. Papers document the effects on wildlife habitats of human activities such as damming, creating powerline corridors, logging, mining and recreation. The writers also offer recommendations for remediation of these problems. This book would be of interest to land managers, conservationists and well-meaning developers, mining industrialists and loggers. Readers beware: Technical jargon may bog you down!

Island Press, Jon E. Rodiek and Eric G. Bolen, eds. Cloth: \$45. Paper: \$24.95. For more information call Jenny Epstein at 202/232-7933.

55 STEPPE HIKES

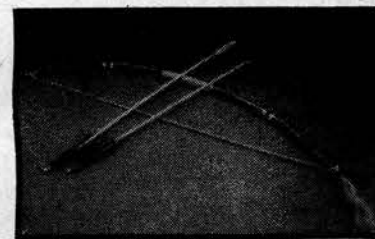
"Few backpackers have gotten onto what great things await on the steppe," write Ira Spring and Harvey Manning in their new guidebook, *55 Hikes in Central Washington*. The book describes hiking routes through the often ignored grass and brush lands east of the Cascades — lands often erroneously called "desert." Spring and Manning prove that "there is no desert in Washington" with alluring photos, clear maps and inviting trail descriptions. "Stay out of your tent unless absolutely forced to retreat from frost or wind," they advise, "— there are no stars to be seen in a tent and the songs of the coyotes are muted."

The Mountaineers, 306 Second Avenue West, Seattle, WA 98119, 206/285-2665. Paper: \$10.95. 160 pages. Illustrated with maps and black-and-white photographs.

COLORADO WILDLIFE

In his new book *Colorado Wildlife*, Jeff Rennie describes 70 of the more than 900 different species that inhabit Colorado's mountains, canyons and prairies. The book, the sixth in the Colorado Geographic series, includes tips for first-time wildlife viewers. Comprehensive information on each species, including its identifying traits, habitat and range, is accompanied by color photographs. Also included is a poignant discussion of endangered species and species now extinct in Colorado.

Falcon Press, P.O. Box 1718, Helena, MT 59624; 800/582-2665. Paper: \$19.95. 144 pages. Illustrated with 130 color photos.



MAKING BOWS AND ARROWS

Bows and Arrows of the Native Americans is a step-by-step guide to making bows and arrows following Native American designs. While the author, Jim Hamm, makes some sweeping generalizations about Native Americans and pads his instruction with rather pedestrian anecdotes, the guide is extremely clear and comprehensive in terms of the actual construction of bows and arrows. Practical illustrations and photographs make the book easy to follow. "It is only when attempting to recreate these pieces that we finally begin to appreciate how patient, skilled, innovative, and artistic the old-time masters of this craft really were," writes Hamm.

Lyons and Burford, Publishers, 31 West 21st St., New York, NY 10010; 212/620-9580. Cloth: \$19.95. 160 pages. Black-and-white illustrations and photographs.



ECOLOGICAL AWARENESS FOR CHILDREN

How do we teach children the consequences of careless actions toward the Earth, and at the same time instill in them a sense of hope for the future? *IMPACT! How Everything We Do Affects Everything and Everyone*, by Janet E. Sheldon, offers one answer. A curriculum guide for primary students, it is designed to teach critical-thinking skills along with action that contributes to a healthy environment. Subjects like energy use, recycling and animals are approached through math, science, story-telling, crafts and adventure in some 30 problem-solving activities. Each unit comes with background information for the teacher, and can be used at home or with youth organizations as well as in school.

Environmental Literacy Group, 33770 Woodland Dr., Evergreen, CO 80439; 800/669-3870. Paper: \$19.95. 133 pages with drawings.



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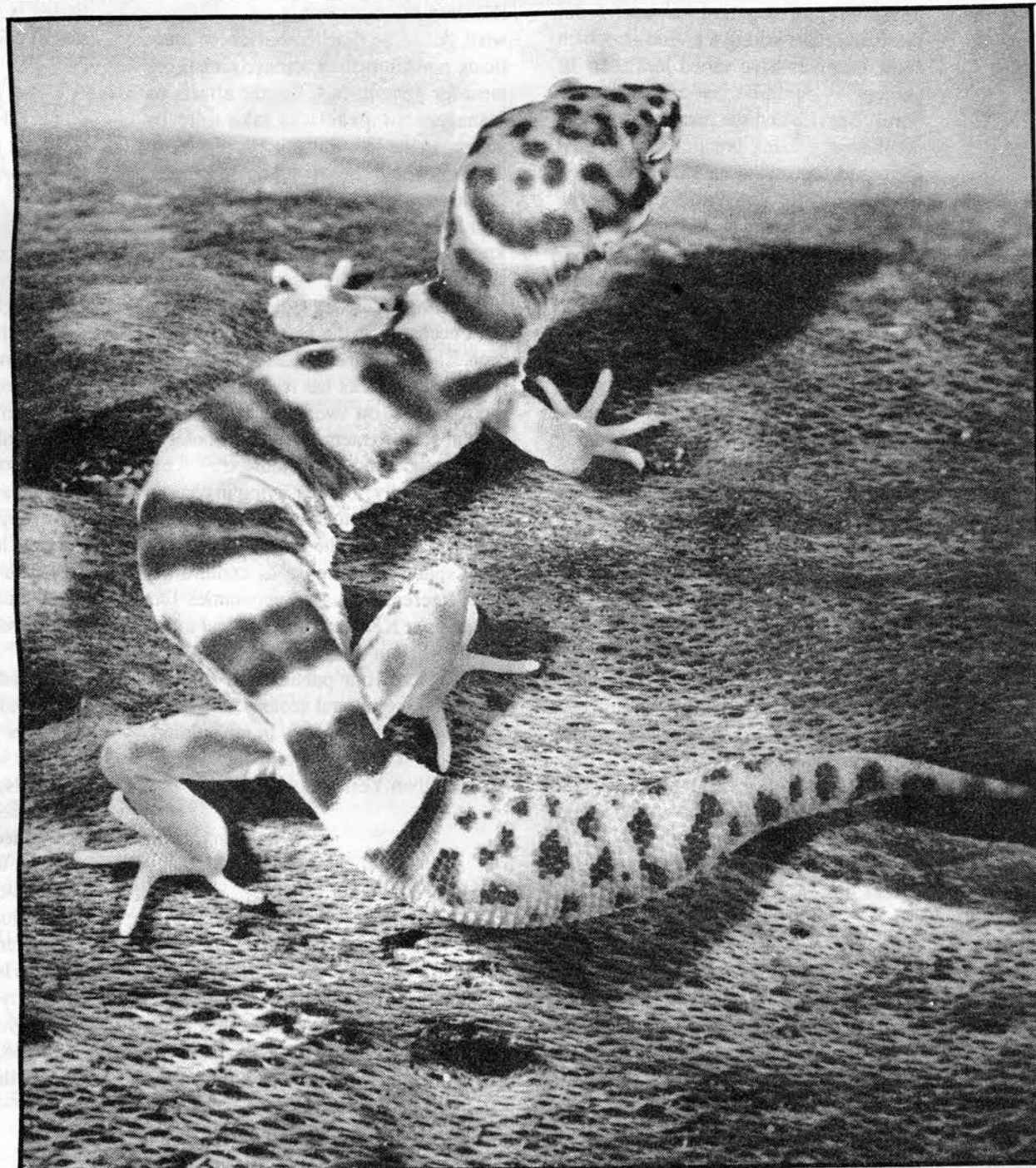
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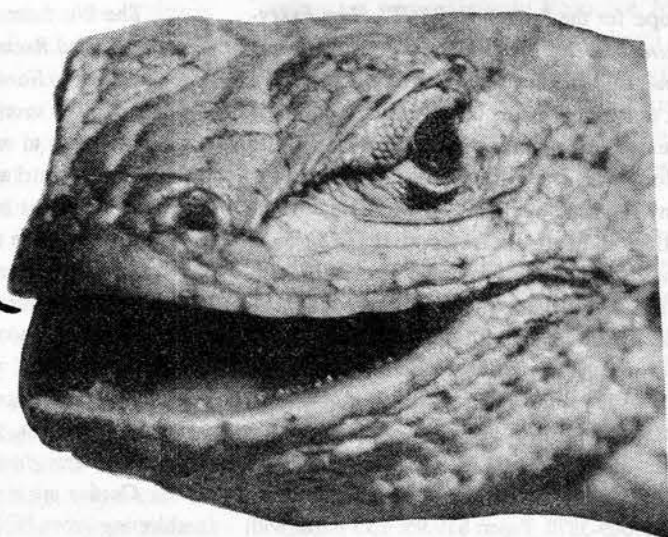
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Dick Randall

Northern Plateau lizard