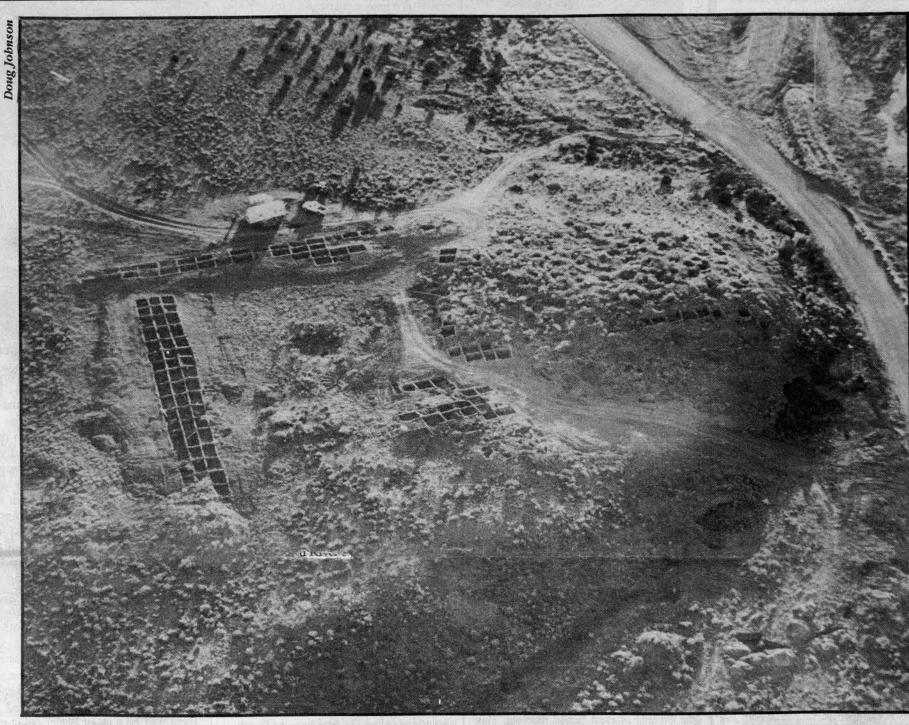
High Country News

August 29, 1988

Vol. 20 No. 16

A Paper for People who Care about the West

One Dollar



Fourmile Ruin, Arizona

At a vast private dig:

Backhoe roots around in Indian graves

_by Susan Kroupa

he backhoe digs through graveyards, eight hours a day, five days a week, sorting through dirt and human skeletons in search of pottery and artifacts. When the graveyards are finished, the backhoe moves to the rooms of a pueblo, more than 600 of them.

After nearly a century of neglect and vandalism, an area called Fournile Ruin near Taylor, Ariz., is being excavated, not in a search for information about its original inhabitants but for its valuable pottery.

In its heyday, between A.D. 1300 and the mid-1400s, the Fourmile pueblo was a major hub in the trade routes among the Salado Indians to the south, the Hopis to the north and the Zunis to the east. The modern-day Hopis and Zunis both claim it as an ancestral site.

But now it has become the center of a complex debate involving the treat-

ment of archaeological sites and treasures, the rights of property owners and the sanctity of burial grounds.

Some archaeologists would like the site to be stabilized and either preserved or properly excavated. The landowners say they are willing to share information with the archaeologists but insist on controlling the excavation and on their rights to the artifacts. The Hopis would like the area to remain undisturbed.

Although private excavation or removal of artifacts on public lands is forbidden, it is legal to excavate ruins on private land with the permission of the owner. At Fourmile, the owners say, the site was purchased solely to obtain the artifacts.

The digging at Fourmile has revealed a wealth of several types of pottery, including Yellow Ware and multicolored White Mountain Red Ware.

Yellow Ware pottery is not common outside the Hopi Reservation and other nearby federally protected lands. At Fourmile, the owners estimate they found more than 50 Yellow Ware pots, and they still have about three-quarters of the ruin to excavate.

Vince Watts, one of the four owners of Fourmile, disputes a theory by some archaeologists that pottery from legal excavations like that at Fourmile feeds the illegal market, primarily because little out of Fourmile has yet been sold.

"What we've got, we've kept,"
Watts said about the pottery from Four-

mile.

"We let go of a little of it when the debt for the property was tremendous, but we have sold under \$10,000 worth of pottery."

Watts also said values of pottery on the open market, often placed at \$1,000 to \$2,000 for a reconstructed pot and \$10,000 to \$15,000 for an unbroken one, have been greatly exaggerated.

"Several hundred dollars is the most we have received for any pot," he said.

John Scott Wood, an archaeologist for the Tonto National Forest in Arizona,

says such evaluation is at the bottom end of the scale.

"This type of pottery is popular and gets top dollar," said Wood, who recalled retrieving an illegal Hopi pot that sold for \$17,000 in New York.

"And that was a pot where the reconstruction was really rather poor," he added.

To the Hopis, excavation of what they feel is an ancestral site is nothing more than grave robbing.

"It's a sad sight to see what's happening at Fourmile," said Eric Polingyouma, an analyst for the Cultural Preservation Office on the Hopi Reservation.

"It's totally wrong. If we went into your graveyards and dug them up, you would be upset. But when the white man imposes laws upon us, there is nothing we can do."

Many archaeologists worry that irreplaceable information is being lost with the digging at Fourmile.

(Continued on page 10)

Dear friends,

HIGH COUNTRY NEWS (ISSN/0191/5657) is published biweekly, except for one issue during July and one issue during January, by the High Country News Foundation, 124 Grand Avenue, Paonia, Colorado 81428. Second-class postage paid at Paonia, Colorado.

POSTMASTER: Send address changes to HIGH COUNTRY NEWS, Box 1090, Paonia, CO 81428.

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Articles appearing in High Country News are indexed in Environmental Periodicals Bibliography, Environmental Studies Institute, 2074 Alameda Padre Serra, Santa Barbara, California 93103.

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Subscriptions are \$24 per year for individuals. \$34 per year for institutions. Single copies \$1.00 plus postage and handling

Gathering in Jackson

Three times a year, the High Country News community gathers in some part of its enormous region. On Saturday, Sept. 10, thanks to the Jackson Hole Alliance for Responsible Planning, HCN and the Alliance will get together with readers in Jackson, Wyo.

Normally, our get-togethers are potlucks; this one will be a modestly catered affair to be held at the Aspens Athletic Club, aka the Jackson Hole Racquet Club, on its enclosed tennis pod. The evening will start at 6 p.m. with wine and conversation; food and ceremony will begin at 7 p.m.

"Ceremony" includes a talk by Michael Frome, professor at Western Washington University and a long-time and noted environmentalist and journalist. In addition, if it can be arranged, Dick Randall, a retired staff member of Defenders of Wildlife, will display his wonderful wildlife photos. We say "if it can be arranged" because the walls of a tennis pod may not be a suitable place to hang photos.

Because this will be catered (there will be a \$10/person charge at the door), we need to have some idea of how many people will attend. Invitations will go out to the several hundred people within driving range of Jackson Hole (we've interpreted "driving range" in the Western sense: up to four hours). But if you would like to RSVP at this moment, please call 307/733-1163 and leave word on the answering machine of Len Carlman and Julie Holding. Len, who is with the Jackson Hole Alliance, has been extremely generous with his time in organizing this event.

Quite naturally, the tennis pod doesn't come equipped with tables, chairs and other necessities of a dinner meeting. So, if you live in Jackson and are able to lend a hand, please call Len at the above number or at his office -- 307/733-9417.

As many readers know, High Country News is a non-profit organization run by a board of directors. The board meets three times a year around the region, and the gatherings with readers are held on the evening of each board meeting. This board meeting will run all day Saturday, and is open to all. Just call us at the Paonia office for information (that means we're not yet sure exactly where in Jackson we will be meeting).

The evening gatherings are important to the paper since we are quite remote from most of our subscribers. Staff invariably comes away from the gatherings with ideas for future stories and the board comes away with a renewed sense of the paper, all accomplished in a very enjoyable social setting.

A stream of visitors

Staying in touch with readers has been relatively easy this last few weeks, thanks to a steady stream of visitors to Paonia. Candi Harper, who reads HCN in Amsterdam, Holland, came by with her two children, Harper and Ulysses. Coloradans may remember Candi from her "Colorado Speaks" radio program, which covered environmental and social issues. On the same day, John Driscoll, who was recently re-elected to the Montana Public Service Commission, stopped in for a visit and a long discussion about transmission lines and economic development in Butte. John is a member of the HCN board.

Geoff O'Gara, who once edited this newspaper, came by with his spouse, Berthinia, and their three children -- Rosie, 7, Genya, 9, and Nick, 4. The family has just returned from their year

"abroad" -- Geoff had a journalism fellowship at the University of Michigan, and they are now back in Lander, Wyo.

Also passing through were Dale and Pam Schicketanz of Show Low, Ariz. Dale's photography appears regularly in *HCN*. In addition to freelancing, he teaches photography at Northland Pioneer College in Show Low.

Staff got to talk shop with the newspaper team of Kim Vacariu and Lorraine Titus. The two put out what we would guess is a unique publication: an environmental shopper -- a free newspaper mailed to everyone in the Steamboat Springs, Colo., area. Although it is supported by advertising, the pair said they stress environmental issues.

The paper is the Steamboat (Colorado) Review, and its current campaign is against heavy logging in the surrounding Routt National Forest. Kim says an article he wrote suggesting that readers call the Forest Service resulted in the agency's local phone being tied up for two days. In addition to logging, the paper pays a lot of attention to the fate of the area's two rivers: the Yampa and the Elk. The Yampa, undammed until recently, is now burdened by the Stagecoach Reservoir.

Visitors should know that staff enters the HCN building, located opposite the Paonia Post Office, through a side door and that we sometimes forget to unlock the front doors. Because of this lapse, we almost missed two visitors: John De Puy and Bill Jochems. John is an artist who divides his time between Bluff, Utah, and Marble, Colo., just over McClure Pass from Paonia. Bill is a retired lawyer from Redstone, Colo. John, a long-time friend of writer Edward Abbey and himself a character in The Monkeywrench Gang, said he is within a few weeks of completing a cabin in the Marble area. His wife, Tina, a jewelry maker specializing in the Hopi and Navajo style, has a summer gallery in Carbondale.

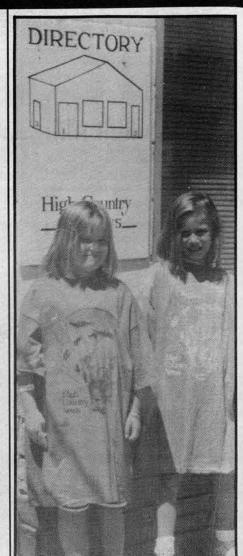
Coincidentally, the summer 1988 issue of *Mother Earth News Special* contains an account by Abbey of a camping trip conversation beetween himself, De Puy and musician-writer Jack Loeffler. Abbey says that John "Debris" De Puy is "a painter of mystic landscapes" and that he has just finished a series of huge paintings called *The Insolence of Death*.

Welcome, Emily

Congratulations to Robert and Nancy Wigington of Boulder, Colo., on the birth of Emily Elizabeth in July. The baby weighed in at 8 pounds, 12 ounces. Robert is an attorney with the Nature Conservancy and a member of this paper's board.

A megatrend

We spent an evening recently in a



Rosie and Genya O'Gara, wearing HCN extra-large t-shirts

uniquely rural way: watching smallish, black and white border collies herd sheep, cattle and ducks in a rodeo arena. We are used to urban dogs -- friendly, but undisciplined -- and it seemed miraculous to watch collies cut out several sheep from a larger band and then drive them into a holding pen halfway across the arena, all under the direction of their rancher-handler, who directed them from afar with whistles and spoken commands.

The display was an interesting mix. The collies, we guess, come originally from the British Isles, and the ranchers, although dressed in cowboy boots and jeans, held long shepherd crooks. Children were delighted by the duck herding exhibition. Ducks are used to teach the dogs to herd, since they are less inimidating than sheep to an inexperienced dog. There will be a major border collie event in Meeker, Colo., in early September, complete with a Scottish Lord to do the judging.

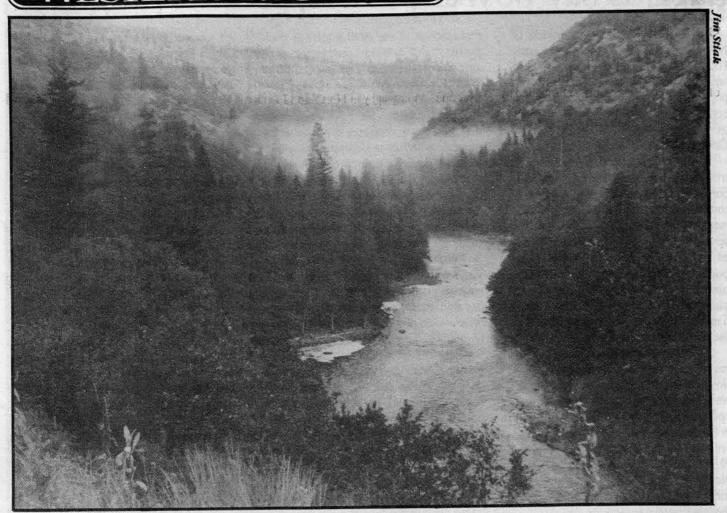
Social analyst John Naisbett says that trends start at America's grassroots. If that is true, then fashionable Fifth Avenue matrons will soon no longer be herding coiffed French poodles -- instead, the matrons will be herded down the sidewalk by their border collies.

--the staff



Paonia's post office almost became drive-through last week

WESTERN ROUNDUP



Klamath River, Oregon

The Northwest moves to protect its rivers

Northwest dam builders are hitting some rocky waters. Legislation recently introduced in Congress would protect over 40 Oregon rivers from both dams and other development.

Bills introduced in both the Senate and House this spring would grant federal protection under the Wild and Scenic Rivers Act to over 1,700 miles of Oregon's waterways.

The Senate version, introduced by Oregon's Mark Hatfield, names 40 rivers and tributaries. In the House, there are two versions. One specifies 45 rivers, including the Klamath, on which the city of Klamath Falls still hopes to build a hydroelectric project. The other House version, like the Senate bill, doesn't include this fought-over river.

The move is a "quantum leap forward" in implementing the 20-year-old Wild and Scenic Rivers Act, says Bob Doppelt, president of the Oregon Rivers Council. The council represents some 35 different sports, recreation and environmental groups in the state. To date, he says, only 73 rivers in the United States have been covered by the law although its original intent was to protect over 1,500 rivers by now.

"This is a landmark step," says Doppelt, who helped draft the legislation, "and there's no doubt it will pass. The question is how many rivers will stay on it."

Under the terms of the law, rivers can be classified in one of three categories. Wild rivers are those presently without dams or developments along the shorelines and are generally accessible only by trails. Scenic rivers are similar, but accessible in places by road, and have some development along the shorelines and may have been dammed in the past.

Public hearings on the bills were held through the summer, and a vote is expected by the end of the year. "We've had calls from every state in the U.S.," says Doppelt. "Everyone's watching us."

But not everyone's happy with it. Dayton Hyde, head of the national wildlife habitat program, "Operation Stronghold," says it could be the kiss of death for some of the rivers. One of these is the Upper Williamson, which

flows through his ranch in southern Oregon. Two years after he traded a portion of that river to the Forest Service, says Hyde, a "great fishery" there had been destroyed by overuse.

"The banks were trampled in and there was garbage all over," he says. "The quickest way to ruin a river is to make a Wild River of it.

"There may be larger rivers where it'll work," he adds, "but not on the small Upper Williamson."

Homeowners along the Alsea River, which flows through the Coast Range northwest of Eugene, are also upset by the bill. They fear they will lose their property rights and have picketed government buildings in Eugene to have the Alsea dropped from the bill.

Although the Forest Service and BLM have endorsed the legislation -- with some technical changes -- timber industry officials are concerned about its possible impact on their livelihood.

"We're not opposed to the bill," says Dennis Hayward of the North West Timber Association, a group representing small timber companies in western Oregon. "But it will have some impact on timber."

He says the industry has a problem with the bill covering the land that's miles away but still visible from rivers. He points to the situation on the Illinois, a southern Oregon river where salvageable trees, destroyed by fire last year, can't be logged if they can be seen from the river.

While the bill works its way through

Congress, two related actions also aim at protecting Northwest rivers. Backers of the Oregon Rivers Initiative have gathered over 85,000 signatures to place an ambitious proposal on November's ballot

The initiative would add almost 1,300 miles of 11 Oregon rivers, including the Klamath but not the Alsea or Williamson, to the 17-year-old State Scenic Waterways System. If passed, it would prohibit dams, placer mining and any development that could interfere with fish, wildlife or scenic and recreational values.

The second move came from the Northwest Power Planning Council, a four-state group established by Congress, that opposes any new dam construction on salmon and steelhead runs in Oregon, Washington, Idaho and western Montana (HCN, 6/6/88).

In what the council calls "the most sweeping administrative action to protect fish and wildlife in the United States," it directed the Federal Energy Regulatory Commission, which licenses all non-federal hydroelectric projects, to reject even the smallest of dams on 40,000 miles of Northwest streams.

Council members hope its nonbinding decision will move the federal agency on to the right path. It's an attempt, said one council member, to make up for the 300 million fish killed since Franklin Roosevelt's dream of dams on the Columbia became a reality.

--Jim Stiak

HOTLINE

New volunteers

Two volunteers for the U.S. Forest Service became pioneers this summer. When Alan Williams, 40, of Denver, Colo., and Creighton Grotbeck, 18, of Albuquerque, N.M., began working in Colorado's Flat Tops Wilderness area in July, they became the agency's first disabled guards to patrol a wild area. Williams, who has cerebral palsy, and Grotbeck, a quadruple amputee, instructed visitors on ethical land use and minimum-impact camping, and gathered

information about visitors during their week as guards. They rode to camp on horseback, and although it was wheelchair-accessible, their camp was maintained in the primitive character called for in wilderness areas. The two were part of a new program designed to expand volunteer opportunities with the Forest Service and open up wilderness to new groups. District Ranger Mike Spencer says, "There has been an underlying assumption that (the wilderness) is a resource available only to the ablebodied. It is one goal of our program to change that attitude."

HOTLINE

BIA is on the spot

A congressional probe of waste and corruption at the Bureau of Indian Affairs is gaining momentum, much of it from confidential testimony of large numbers of present and past agency employees. Arizona Sens. John McCain, R, and Dennis DeConcini, D, co-chairs of the Senate Special Committee on Investigations, report their staff have conducted hundreds of interviews with BIA employees and collected more than 100,000 federal and corporate documents on BIA transactions. The investigation staff numbers 20 federal prosecutors, investigators and accountants, all making simultaneous inquiries on the nation's 230 Indian reservations. While tightlipped about the results of the inquiries, the senators say testimony confirms allegations that the BIA is not working properly for its Native American constituency. The \$1 million probe, spawned by the Arizona Republic's 1987 series, Fraud in Indian Country, will continue with formal testimony and public hearings later in the year.



Hawks at Toole Army Depot, Utah

Subbing for canaries

Utah's Tooele Army Depot, where deadly chemical weapons are destroyed, has an unusual detection system for accidents: a pair of rough-legged hawks. For the past two years the pair has nested atop a platform just 1,000 feet from a chemical disposal plant and storage igloos, the Deseret News reports. If a chemical release occurred, it would kill the birds before killing humans, says army information officer Susan Voss. A fascination with birds spurred plant employees to build the platform six years ago, she says. It is one of the few high perches in the barren area and gives an excellent view of surrounding hunting grounds. Army fences and guards also provide protection from human hunters, she says. During the last six years, owls, golden eagles and redtailed hawks have also nested on the platform.

RARRS

Perhaps Wyoming could help Exxon out of its difficulty by expropriating the worthless project.

The Wyoming Natural Gas Pipeline Authority will investigate Exxon's claim that the gas used at its LaBarge plant is worthless and should not be taxed.

They'll save on pruning, too.

The city of Casper, Wyo., has thus far massacred roughly 55 green ash trees located in city parks. The trees, all in their prime, were killed when the city parks department sprayed poison around them to save the expense of mowing grass.

HOTLINE

John Vinich

It's Vinich vs. Wallop

In Wyoming, Fremont County's John Vinich has won the Democratic nomination for U.S. Senate in a landslide victory. He faces incumbent Sen. Malcolm Wallop in the fall. With all but a few hundred absentee ballots in, Vinich, a 14-year veteran of the Wyoming State Legislature, had 47 percent of the vote while Pete Maxfield, a University of Wyoming law professor has 30 percent and Lynn Simmons, the state's superintendent of public instruction, 23 percent, Vinich, a mayerick who prefers suspenders to a suit and tie, campaigned on a platform stressing a longterm energy policy for America, including oil import quotas, tax breaks for independent producers of oil and gas, increased funding for solar and wind power research and support for the domestic uranium industry. Vinich has also pledged to be involved in important state issues such as forest planning in the Bridger-Teton National Forest. Republican Wallop, a three-term veteran of the Senate, has been labeled vulnerable by Democratic pollsters in Washington, D.C., because of his focus on Star Wars and international affairs, and increasing distance from Wyoming

Still elusive

Big Foot is safe again. Grover Krantz, who had hoped to bag it from an ultra-light helicopter after finding him with an infrared heat-seeking device, now doubts whether he'll be able to get in the air before school starts. The Washington State University anthropology professor is having trouble, it seems, with the throttle of the aircraft he built from a kit.

Navajos say power plant is path to progress

BOULDER, Colo. -- Supporters of Navajo participation in a proposed coalfired power plant in New Mexico squared off with the Sierra Club in a polite debate at a natural resources law conference sponsored by the University of Colorado Natural Resources Law Center.

With several industrial partners, the tribe plans to build a 2,000-megawatt power plant near a site prized by environmentalists and some local tribal members. Maggie Fox, Southwest representative for the Sierra Club, commended the tribe's effort to make the Dineh power plant acceptable. "If such planning had gone into the other power plants in the Southwest, we would be in a much better position today," she said at the June 9 discussion.

The Navajo Nation became a partner in the project in 1984 at the invitation of the Public Service Company of New Mexico (PNM), the original project sponsor, according to Donald R. Wharton, Navajo assistant attorney general and a principal project planner. PNM was concerned that the tribe would block the power plant, using land the tribe had acquired in the area as part of the Navajo-Hopi Settlement Act.

The proposed site is just outside the reservation boundary in New Mexico and is near the Bisti Wilderness Area and the Chaco Cultural Resource Area. As part of the settlement, the tribe had chosen 35,000 acres in New Mexico on which to relocate Navajos who lived on lands claimed by the Hopi Tribe. The Navajos deliberately chose lands underlain by coal.

Later, the tribe reached what Wharton characterized as a "phenomenal" agreement with some representatives of the environmental community and mining companies. The agreement resulted in the San Juan Basin Wilderness Protection Act of 1984. Those negotiations also resulted in the recognition of the need for continuing dialogue on the project between environmentalists and the project proponents.

Because of the lack of electricity demand in the region, the project has been deferred until after the turn of the century, although planning and perhaps transmission line construction will proceed, Wharton said.

Wharton, a non-Indian, said the tribe saw many benefits to participating in the project, including up to 1,200 jobs, training and education, a guaranteed source of low-cost power, and revenues for the tribe and local people. Project Vice President Elmer Lincoln, a Navajo Indian, said the tribe's membership numbers more than 200,000, 50 percent of them unemployed. But despite the many potential economic benefits, the tribe decided it would not proceed unless it could satisfy the concerns of local people near the project site.

Navajos near the site had earlier opposed PNM's power plant plans, which they though would degrade water, grazing lands, air quality and sacred areas without any local benefits. They also feared an influx of non-Indians, who would get all the jobs.

When the tribe joined the project, it decided to involve the local people in planning how to mitigate impacts. As a result, most of the concerns have been allayed, according to Wharton. No local Navajos were present at the conference to confirm Wharton's assessment.

The tribe and the three corporations involved in the project -- PNM,

Combustion Engineering and Bechtel Power Corporation -- shared the costs of providing the local people with independent expertise. As part of its contribution, the tribe agreed to share tax revenue with the local people when the power plant is constructed.

Line Reference Target

Fox of the Sierra Club praised the tribe's efforts to address local concerns. She said that traditional people in tribes often turn to conservationists for help fighting tribal energy projects. Because of the Dineh project efforts, however, she said that burden was taken off the shoulders of the environmentalists.

Nonetheless, "This project frightens us," she said. She expressed concern for the fragile desert badlands around the proposed plant site and strip mines, including a wilderness area, wilderness study area, and important archaeological ruins. Although she said the tribe had been a leader in air quality protection, she felt any coal-fired power plant would harm air quality and contribute to the global greenhouse effect (the raising of the earth's temperature from increases in air pollutants).

Panel moderator Charles Wilkinson of the CU Law School asked Fox, "Does the fact that so many jobs will be created for Navajos make a difference in your attitude toward this plant?" Fox hesitated a moment and said, "My heart says one thing, but my head says another."

The panel discussion was part of a three-day conference that covered Indian water rights, mineral development, hunting and fishing, and taxation. The University of Colorado Natural Resources Law Center sponsors conferences each summer; this was the first devoted entirely to Indian issues.

--Marjane Ambler

National park may gain unwanted neighbor

Larimer County Commissioners in Colorado recently extended preliminary plat approval to a large subdivision on the edge of Rocky Mountain National Park. The development would place 500 homes and several hotels as close as 50 feet from the park's eastern boundary. The Colorado Chapter of the Sierra Club, Wilderness Society and some Estes Valley residents asked the county to deny the one-year extension. The Wilderness Society lists Rocky Mountain National Park as one of the most endangered parks in the nation and says the Bald Pate II development will disrupt

an elk migration route and add air pollution from traffic and woodburning stoves

"Our national parks are not islands," said Darrell Knuffke of The Wilderness Society. "Their systems depend on the management of adjacent lands." Noting that Rocky Mountain National Park drew 2.5 million visitors in 1987, he added, "Local decisions which are insensitive to the park are bound to damage the economic base that it provides." The development was first approved by Larimer County three years ago. That approval, however, came only after the Colorado

State Supreme Court overruled the county's original decision to deny approval. The court ruled in favor of zoning that had been in place for over a decade.

According to Larimer County Commissioner Daryle Klassen, "It's an old zoning decision that we now have to live with and mitigate as best as we can. The real impact is the 2.5 million people who already come tramping through the park." Bald Pate II developers have another year to submit a final plat for approval.

--Becky Rumsey

Helicopter timber-cut invades a Montana roadless area

On Father's Day last June, Montana wilderness advocate Ken Knudson stumbled on an unhappy surprise. While on a hike with friends in western Montana's Cabinet Mountains, Knudson discovered the remains of a helicopter timber-cut in the Cube Iron-Silcox proposed wilderness area.

The Cube Iron is a 38,000-acre island of old growth forest: towering cedars, hemlock, white pine and spruce with a wet understory of ferns and moss. The old forest lines the steep sides of Big Spruce Creek, from the Cabinet Mountain ridge top to the West Fork of the Thompson River. Knudson says it's one of a handful of drainages left in western Montana that has not been roaded or logged.

Knudson, who is on the steering committee of the Montana Wilderness Coalition, says before the hike he'd told his friends to expect an old growth rain forest. Instead they found trees down on

the trail and slash and other telltale signs of logging. The felled trees were three to four feet in diameter: "Big, huge, grand white pine; some must have been over 300 years old," Knudson says.

The discovery raised an outcry among Montana environmentalists, who were particularly upset the Forest Service had left it up to others to discover and report the cut. John Gatchell, director of the Montana Wilderness Association, told the Great Falls *Tribune*, "What do we have to do, patrol the trails every week to find out what is going on in the forest?"

Montana Sen. Max Baucus, D, who has included 30,000 acres of the Cube Iron in his wilderness bill, also condemned the cut but said it would not affect his proposal.

Forest Service officials said the cut was part of a 400,000 board-foot helicopter timber-sale, which accidentally included about 350 acres of the Cube Iron because

of poor maps. Lolo National Forest spokesperson Marcia Hogan says the sale was for dead lodgepole and white pine, scattered over a total of 2,500 acres. She adds that the sale was planned for low impact, taking out one dead tree per acre, and included no roading.

Hogan says that while it was a judgement error on the part of the Forest Service to log such a sensitive area, the cut shouldn't have damaged its wilderness values. The agency has offered a formal apology.

It has been 10 years since the last Montana wilderness bill passed, and Gatchell says the Cube Iron incident shows how the long fight over wilderness has left too many irreplaceable lands unprotected for too long.

The Plains-Thompson Falls ranger district, which hosts the Cube Iron, has no wilderness acreage. The Cube Iron proposal would protect only 5 percent of the district's total timber lands, says Gatchell, but

since Baucus introduced his wilderness bill the Forest Service has tripled the volume of timber sales in the Cube Iron.

"They loaded up conflicts in the Cube Iron. Frankly we think they did it to knock it out of the wilderness bill," says Gatchell.

After meeting with Baucus, the agency cleaned up most of the downed trees and slash. Hogan says Lolo National Forest officials also decided to delay action on the timber sales until the area's future is decided in Congress.

Little time remains for a decision on Montana wilderness in this Congress. Three bills are on the table: one introduced by Baucus, one by Rep. Pat Williams, D, and one introduced right before the August recess by Sen. John Melcher, D, which is being touted as a compromise bill (HCN, 4/11/88).

--Steve Hinchman



INEL radioactive waste management complex, Idaho, with stored waste pilot plant in the foreground

Idaho nuclear lab faces massive cleanup

It took the Atomic Energy Commission 18 years to bury 2.2 million cubic feet of radioactive waste at the Idaho National Engineering Laboratory.

Now its successor, the Department of Energy, predicts it will take 20 years to remove the haphazardly dumped material that has already contaminated the Snake River Plain Aquifer with toxic organic chemicals and has leaked plutonium into deep sediments below the site.

That cleanup would cost \$100 million a year, \$2 billion total, if complete removal of the waste is the government's choice. But INEL scientists are also studying several cheaper alternatives that would stabilize leaking barrels and boxes of waste without removal.

In a report released early this month INEL officials for the first time outlined the scope of their task to clean up the mistakes of the past. The report, prepared at the request of Sen. John Glenn, D-Ohio, estimated the total cleanup cost at \$2.116 billion, which at the longest would take 30 years.

The lion's share is the buried waste at the Radioactive Waste Management Complex. At least 381 kilograms of transuranic elements, which are radioactive for thousands of years, and 88,400 gallons of organic chemicals were buried in shallow trenches there between 1952 and 1970. The area has been flooded several times. And DOE officials admit that at times the flow of waste was so overwhelming that it was dumped with little regard to the future.

In 1970, Sen. Frank Church, D-Idaho, convinced AEC officials that the burial must stop. A year later Gov. Cecil Andrus was promised that Idaho would not become a permanent radioactive waste storage site.

"The Department of Energy assured me that buried wastes at the INEL would be removed," Andrus said during hearings this year.

This post-1970 waste is scheduled to begin leaving Idaho later this year for the Waste Isolation Pilot Plant, a deepwaste repository near Carlsbad, N.M.

But no one anywhere has ever had to embark on a task as huge as digging up and transporting the amount of radioactive waste that was dumped at the INEL in the 1950s and 1960s.

"We know what it costs to process, we know what it costs to package, but we don't know the cost of retrieval," said Steve Morreale, a DOE waste program manager. "A full scale retrieval would require production level operations and would probably take 20 years."

Several cheaper ways to handle the mess are also being scrutinized by INEL scientists and engineers. They could cost as little as \$500 million. Alternatives include in situ vitrification -- turning the waste into a solid mass of glass; grouting -- injecting either chemical or cement material into the waste to create a solid mass; engineered barriers -- building impermeable structures to isolate the waste where it sits.

DOE officials plan to make preliminary recommendations on how to handle the waste in 1990 or 1991. But Andrus has expressed clearly which choice he believes is best. "Permanent waste storage at that site is unacceptable to me," he said. "And I am convinced it is unacceptable to most Idahoans."

Hazardous waste also has emerged as a significant environmental problem elsewhere on the INEL. DOE officials predict it will cost \$16 million to study and clean up more than 300 solid-waste management units at the site, many of which also contain hazardous wastes.

Under an agreement with the Environmental Protection Agency, INEL officials have developed a plan for studying and eventually cleaning up these dumps that range from paint spills to injection wells and seepage ponds where heavy metals and toxic chemicals have entered the aquifer.

So far, 26 of 298 waste sites have been dropped as problems by the EPA. A third have been identified as clearly not hazardous, said William Lloyd, an INEL budget analyst. But only a handful have been sampled.

The worst is a seepage pond where the Advanced Test Reactor operates. The pond is used for disposal of waste water from the nuclear reactor. A nearby well found water containing 280 micrograms per liter of chromium, a toxic heavy metal. A second well on the southwestern corner of the INEL contained 50 micrograms of chromium.

Both exceed maximum contamination levels for chromium set by the EPA, which is 50 micrograms per liter. DOE is working on plans to dispose of the waste water elsewhere and to clean up the site.

EPA will review those plans and is currently considering recommendations for setting priorities for cleanup under the Superfund law, which sets regulations for managing hazardous waste.

INEL recently said it would cap the only remaining injection well, closing the last direct path to the aquifer. The well, which has not been used since 1986, was left open for emergency disposal of water from the Idaho Chemical Processing Plant. It was the source of pollution to the Snake River Plains Aquifer by radioactive tritium, strontium and iodine until 1985, when its use was stopped, except for emergencies.

Jerry Lyle, DOE-Idaho fuel processing chief, said that construction of a new pumping system and a 90,000-gallon holding tank will remove the need for the injection well as a backup system. The new system, including secondary backup diesel-operated pumps, is expected to be completed in 1989.

--Rocky Barker

BARBS

Picking and choosing from the a la carte free enterprise menu.

TW Recreational Services, which has a monopoly on Yellowstone National Park concessions, may ask the National Park Service to reduce its fees. The firm says business is down because of the fires.

HOTLINE

Preserving parks

The Interior Department has proposed new legislation to help it protect national parks from coal mining. The legislation would allow the department to exchange privately owned coal rights in parks for rights on Bureau of Land Management land in other states. Currently the Interior Department can buy coal inholdings, or it can make exchanges if all the parcels concerned are located in the same state. But Tom Wilson of the Interior Department says that purchasing mining rights can be expensive and exchanges within a state can not always be arranged. Under the new legislation, the BLM could identify coal deposits for exchanges, or inholders could identify deposits they would like to acquire. Assistant Secretary for Fish, Wildlife and Parks Susan Recce adds, "with or without the new law, there will be no coal mining in national parks." Protected areas that would be affected are the New River Gorge National River in West Virginia, Chaco Canyon National Historic Park in New Mexico, Friendship Hill National Historic Site in Pennsylvania, Big South Fork National River in Tennessee and Kentucky, and Cumberland Gap National Historic Park in Kentucky.



Bear deaths

The death of a female grizzly bear in Montana during a relocation attempt has sparked a review of bear management at Glacier National Park. Officials moved the bear after it followed tourists at two campgrounds. A Bozeman, Mont., pathologist says the bear died from a reaction to the tranquilizer M-99, a morphine derivative. Park Superintendent Gil Lusk has asked federal, state and Canadian bear experts to determine if Glacier Park's bear program needs changes to prevent further bear deaths. Tranquilizing procedures, training and even the drug used for sedating the bears may need to be changed, says park information officer Michelle Rotter. This was the third death in two years during relocation attempts at the park. At Yellowstone National Park, staffer Steve Coleman says M-99 is also used to sedate bears, but officials are considering trying a different drug that is safer to handle. He says they are also working on better training for bear handlers to prevent miscalculations that lead to overtranquilized bears.

More production, fewer jobs

Wyoming produced more coal in 1987 than at any time in its history, says the Casper Star-Tribune, yet employment in the coal industry dropped to its lowest level in nine years. Richard Jones, a Wyoming state geologist, said the loss of jobs was due to better efficiency in the mines, but added there isn't much more efficiency to be gained. "There reaches a point where you just need so many people to mine coal." Last year Wyoming ranked second after Kentucky in tons of coal mined but lost 250 coal mining jobs, bringing the number of jobs statewide down to 4,400. Nationwide, coal production also hit a record high last year, producing 910 million tons. Jones said this was due to abnormally cold weather which boosted the demand for coal and may have also been due to stockpiling in anticipation of labor problems. Of the coal mined nationwide, Wyoming produced 16 percent, benefitting from its low price and low transportation costs. According to Jones, Wyoming coal production and jobs in the coal industry will stay flat through 1990.

BARBS

If only small towns in the satellite states of the West had as much influence with the Pentagon.

In response to complaints from residents of small villages in the satellite state of Hungary, the Soviet Union has agreed to reduce noise caused by lowflying military jets.

Logging, tourism and a sacred site clash

Representatives of six Indian tribes oppose two timber sale proposals near the Medicine Wheel National Historic Landmark in the Big Horn National Forest of Wyoming. They also have problems with a proposal to attract yet more tourists to the site.

The tribes, which include the Shoshone and Arapahoe in Montana and the Sioux in South Dakota, oppose timber cutting on 10,000-foot-high Medicine Mountain for spiritual and religious reasons.

Atop the open, plateau-like mountain rests the mysterious Medicine Wheel, formed by rocks laid in a circle 80 feet across with 28 stone "spokes" radiating from a central rock cairn to the hub. Some scientists have suggested the wheel was used by early Native Americans as an astronomical calendar.

Bill Tall Bull, a Northern Cheyenne from Busby, Mont., said Indians believe all animals and plants on the mountain have a spirit life. "To go in there and cut trees destroys ... the spiritual ties that we have with all things growing on the mountain," he said.

Blaine Cook, a forester for the Big Horn National Forest, said the Forest Service is reanalyzing one of two timber sales planned near the Medicine Wheel. The Tillet's Hole sale was offered last August, but due to a poor market, no timber companies bid on the sale.

The sale would involve 101 acres of clear cut and 109 acres of selective timber cut about 1.5 miles north of the Medicine Wheel. Cook said the agency is taking another look at the cut, especially in light of the possible placement of a visitor center at the wheel.

Cook said no decision has been made if or when the Tillet's Hole sale would be re-offered.

A second timber sale, Elk Draw, would be about one mile west of the wheel. Logging trucks would rely on the same single-lane road which brings some 300 tourists to the site on an aver-



Part of the Medicine Wheel in Wyoming

age summer day. Cook said the agency wonders if tourists and logging can get along. The Elk Draw cut is planned "several years years down the road" to involve 120 acres of clear cut and 900 acres of selective cut.

Although tourism may be a barrier to logging, the Indians do not welcome a visitor center at the wheel itself, which is being considered by the agency. Tall Bull said the wheel was a vision quest site. To continue that use in the presence of a center, Tall Bull said, would require him to crawl over a fence and have "curious people taking my picture."

He said the tribes don't oppose a center along the main highway, U.S. Highway 14A, near the turnoff to the Medicine Wheel. Such a center would be "a wonderful opportunity" for Indian tribes to put together brochures, slide presentations or videotapes to help explain the significance of the site. Such efforts would help "bridge the gap that

has been there so long," Tall Bull said.

Line Reference Target

During the three summer months, 30,000 - 40,000 people visit the Medicine Wheel, "and use of the site is increasing each year," said District Ranger Pete Chidsey.

Cook said forest officials are in the "scoping" phase of their environmental analysis of a visitor center, and that the agency will consider spiritual values asserted by the tribes. "Hopefully, there can be some common ground." Cook also called limits on access to the Medicine Wheel while tribes are using it for religious ceremonies "definitely an option."

For more information or to participate in the environmental analysis, write by Oct. 1 to Pete Chidsey Medicine Wheel Ranger District, P.O. Box 367, Lovell, WY 82431.

-- Dennis Davis

Studies say that toxic wastes are not being cleaned up

The federal Superfund program to clean up toxic waste sites in this country is losing the battle, according to three recently released studies. But that has not daunted the Environmental Protection Agency, charged with administering Superfund, from proposing 229 more sites for the national priority cleanup list, 12 of which are in the Rocky Mountain region. The list currently has 799 sites.

Two of the studies, one conducted by the Office of Technology Assessment, an investigative arm of Congress, and the other by environmental groups and waste treatment companies, found Superfund was plagued by bad decisions and poor management. A third study done for the Chemical Manufacturers Association said Superfund cleanup costs may increase dramatically.

Both the congressional report, Are We Cleaning Up? and the environmental groups' study, Right Train, Wrong Track, said the EPA frequently chose impermanent cleanup methods simply because they were cheaper. But short-term methods don't last or protect human health or the environment, both reports concluded, and result in higher costs in the long run.

Both reports attributed improper cleanups to EPA's sporadic review of its decisions and to a too-flexible program. The privately-funded study reviewed all of EPA's 75 cleanup decisions in 1987 and found the agency's hands-off management style resembled a chain of restaurant franchises: Each EPA region cleaned up toxic waste by whatever method it wanted.

The two studies also concluded that:

The program incorrectly implements the law and sometimes ignores regulations outright;

 Capping and containing waste at a site is used almost exclusively as a cleanup method, but risks of this method are seldom analyzed;

 Cleanup costs are often inflated and based on inaccurate information, which frequently benefit consultants and contractors;

•New treatment technologies are ignored, and;

 Superfund cleaned up only six sites properly.

Superfund has come under attack since the program began in 1980, and in 1986 Congress amended the law in hopes of strengthening it. But both studies said nothing has changed: The program remains ineffective and inefficient.

The Chemical Manufacturers Association said the major effect of that 1986 Superfund amendment was an increase in costs. Completely burning waste, the most stringent cleanup method under the amendment, could cost six times more than procedures outlined previously, the report concluded. It also forecasted Superfund costs reaching

CLEANING UP?

•Capping and containing waste at a 10 SUPERFUND CASE STUDIES Superfund list, further studies are made

A Special Report of OTA's Assessment on Superfund Implementation

\$111 billion to \$133 billion in the next four years.

The EPA's proposed new sites include, in the West, Chemical Sales Co. in Denver; Comet Oil Co. in Billings, Mont.; Minot Landfill in Minot, N.D.; and Richard Flat Tailings in Summit County, Utah.

The chemically contaminated area next to Brookhurst subdivision in Wyoming, now called Mystery Bridge Road/U.S. Highway 20, is also proposed. But the 200 acres of the subdivision have not been included in the cleanup proposal even though its groundwater has been contaminated (HCN, 8/31/87).

Sites in New Mexico and Arizona complete the list of 12. The New Mexico

sites are: Prewitt Refinery in McKinley County; Cimarron Mining Co. in Carrizozo; Cleveland Mill in Silver City; Cal West Metals in Lemitar; Lee Acres Landfill in Bloomfield; and Pagano Salvage in Los Lunas. The Marine Corps Air Station in Yuma was the one site proposed in Arizona.

Once a site is proposed for the Superfund list, further studies are made and the public is given time to comment. Then sites are usually moved to the national priority list to be cleaned up.

For a copy of the 76-page Are We Cleaning Up? contact: Superintendent of Documents, Government Printing Office, Washington, D.C. 20402-9325, 202/783-3228.

Right Train, Wrong Track was written by the Environmental Defense Fund, National Audubon Society, Natural Resources Defense Council, National Wildlife Federation, Sierra Club, U.S. PIRG and the Hazardous Waste Treatment Council. Contact the Sierra Club, 330 Pennsylvania Ave. S.E., Washinton, D.C. 20003, 202/547-1141 or any of the organizations for a copy of the 100-page report.

For Impact Analysis of RCRA Corrective Action and CERCLA Remediation Programs, contact: Chemical Manufacturers Association, 2501 M St. N.W., Washington, D.C. 20037, 202/887-1224. 500 pages.

--Stacie Oulton



One of the marble quarries in the bills above the town of Marble, Colorado

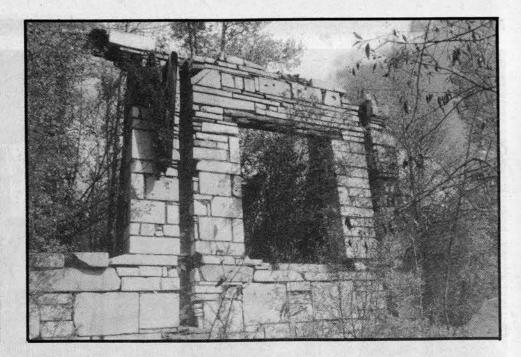
MARBLE

The tale of a Colorado town

See page 8

8-High Country News -- August 29, 1988





_by Mary Moran

Marble, Colo., had a winter population of about 30 last year. The town is in the Elk Range in the west-central part of the state in the valley of the Crystal River. At 8,000 feet and receiving over 200 inches of snow a year, it is at the end of the pavement and at the turn-around spot for snowplows. In summer the population swells as tourists and Outward Bound students in the area visit the closed quarries.

Marble, at least in human terms, is mostly a place of the past, a place of history and rocks. Huge, cut blocks of white rock are scattered for several miles along an old railroad bed that parallels the Crystal River on the approach into town. Near the town center along the river, marble blocks form white walls and pillars that rise between aspen and spruce trees -- ruins of what was once the largest marble mill in this country. The building spans the length of four football fields.

The oldest history is that of the rocks that gave the town its name. They range in color from white to a deep blue or black and are comparable in quality to the finest marble from Italy. Marble is limestone that has been changed mineralogically through pressure, or heat.

The limestone was deposited on the bottom of an inland sea 330 million years ago, shortly before the uplift of an Ancestral Rocky Mountain Range. About 60 million years ago, long after the Ancestral Rockies had been eroded flat, the modern Rockies were uplifted. Some of the mountains of the modern ranges rose along breaks or faults in the earth's crust; others were domed up by intruding hot liquids from the earth's interior. Marble-producing Treasure Mountain was the latter type of uplift; the marble formed when old limestones in the mountain were heated up by the doming hot magmas.

Until the late 1800s, Ute Indians inhabited much of western Colorado. A hunting-gathering culture, they migrated with the seasons, summering in high mountain valleys and wintering at lower elevations, sometimes congregating around hot springs. Though the United States, in 1863, made a treaty with the Utes promising them land west of the Continental Divide as long as "the rivers ran and the grasses grew," the government reneged when prospectors found silver and gold west of the Divide a few years later. In 1881, Utes were marched to the Uintah Reservation in northeastern Utah.

Indians did not leave the upper Crystal River Valley without protest. They started fires, attempting to burn the land taken from them; and they are said to have put a jinx on the Crystal River Valley, predicting that anything the white man did there would end in failure. Some future inhabitants of Marble came to believe in the power of that jinx.

The first prospectors in the Marble area came from Gunnison and present-day Crested Butte, over Schofield Pass and down the Crystal River (then called Rock Creek). That route today is a trail, demoted from jeep trail status several years ago by a series of mudslides and rock slides.

Some of the prospectors stopped at lead and silver deposits and founded Crystal City (now a ghost town). Others noticed the marble deposits five miles farther downstream and, in the early 1880s, founded the two neighboring towns of Clarence and Marble. The two towns joined in 1892, after Marble won in a competition for a post office. It seems Marble had an advantage in the competition — a half-owner in the Marble townsite was a friend of the U.S. Postmaster General.

The marble-mining business took a few years to get off the ground. Marble was just becoming known as a good

building material, and transportation from this remote mountain valley was a major obstacle. But when a philanthropist from the nearby coal-mining town of Redstone quarried a marble sample to display at the 1893 World's Columbian Exposition, it was awarded first prize for finest marble exhibited, and orders slowly started coming in.

The first big project was quarrying marble for the Colorado state capitol building. The closest train at that time was 30 miles away in Carbondale, and marble was transported there on wagon roads, by sleigh.

Marble mining on a large scale didn't begin until about 1910, after the railroad was extended to the town below the quarry, a large marble finishing mill was completed, and an electric tram was built between the marble quarries and the mill. The tram's route was a steep 3.9 miles from the town of Marble up the side of Treasure Mountain. The mill was enormous -- 1/4 mile long by 100 to 150 feet wide, with rooms for sawing, polishing and carving. Expert Italian and Polish marble cutters were brought in to work the rock.

Estimates of Marble's population at its height in 1913 range from 1,500 to 10,000. The town had two newspapers, a high school and grade school, a hospital, movies, but no saloons; the town was dry. Five hundred to 800 men worked for the Colorado Yule Marble Company, many of them housed on the side of the mountain near the quarries, in a collection of shacks and bunkhouses dubbed "Quarry Town." The company's president and general manager, Colonel C.F. Meek, was well-liked, charming and energetic. He had big plans, built big, and finally finagled lots of marble contracts.

Events that left residents wondering about the Ute jinx began early in Marble's history. A 1909 labor strike divided the town. In 1912, the company timekeeper was killed in an avalanche. A week later, another avalanche damaged the mill. There were two runaway tram crashes that year: One killed four people and the other killed one man -- Colonel Meek -- whose ambitions saddled the marble company with huge debts.

A court ruling in 1915 put the Colorado Yule Marble Company, the railroad and many of Marble's citizens further in debt. Local newspaper editor Sylvia Smith was a vociferous and heavy-handed critic of the marble company. She was first petitioned to leave by townspeople and then forcibly placed on a train leaving town. She sued the company and some of the townspeople, and won.

Though the mill turned out marble for the Lincoln Memorial and other large contracts over the next few years, debts and slump in marble demand during World War I led to the closing of the



MARBLE

The tale of a Colorado town

mines and mill from 1917 to 1922. The company was sold, split, reconsolidated and leased. A great fire in 1926 destroyed two-thirds of the mill. The company struggled to survive but was sold again -- this time to the Vermont Marble Company.

The largest single block of marble ever quarried in the world was a 100-ton chunk of Colorado Yule marble, a name that came from a creek and ultimately an early prospector in the area. By 1932, a couple of years after the quarrying, the block had been cut down to the 56-ton Tomb of the Unknown Soldier.

But the great Depression had hit the country, and marble veneers and other materials began to replace marble in construction. Production of the stone slowed, and the town of Marble shrank. In 1941, a flash flood cut a block-wide swath through the half-deserted town. Mud, rocks and the start of World War II closed down the mine and mill. By 1943, the company's equipment was sold and shipped out by railroad; many of the company houses were sectioned and shipped out by truck to Grand Junction,

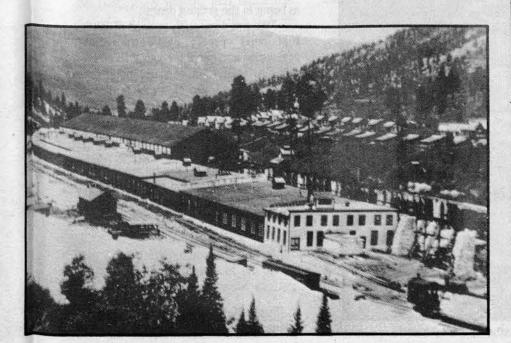
That was the year that the last railroad ran to Marble, and also the year that the town and company records were destroyed. But sheep, possibly the cause of many of the area's mudslides and flashfloods, continued to graze. In 1945, the largest flood yet buried much of Marble under debris.

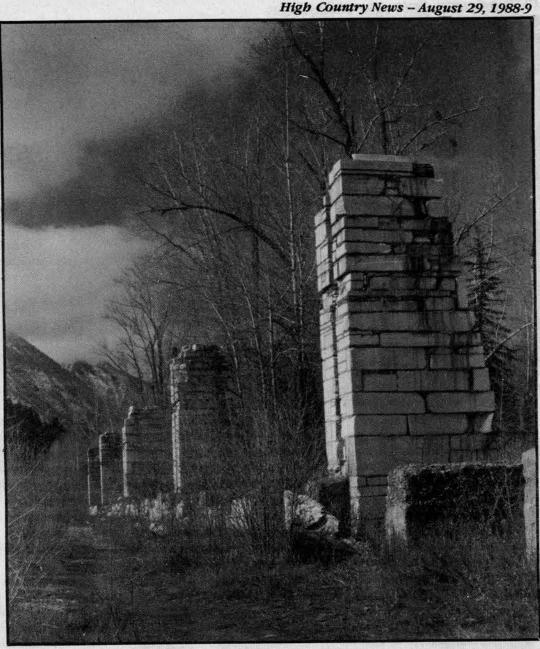
But the Colorado Outward Bound School has been teaching outdoor skills courses from a camp two miles outside of Marble continuously since 1962, when the camp opened as its first facility in the state. And though not in large numbers, tourists and geology field courses continue to visit the valley.

Sources: Marble, Colorado: City of Stone, by Duane Vandenbusche and Rex Myers (Golden Bell Press, Denver, 1970, 221 pages) is the most extensive publication on the history of Marble. Other sources of information follow: The Crystal River Pictorial, 1972, by Dell McCoy, Sundance Publication, Ltd., Denver, 224 pages; Crystal River Saga: Lore of the Colorado Rockies, 1959, by Theresa V. Francis, Poertner Lithographing Co., Denver, 48 pages; Crystal River Valley -- Jewel or Jinx?, 1966, by Rosemae Wells Campbell, Sage Books, 2679 South York St., Denver, 80 pages; The Fabulous Valley, 1950, by Alvin Foote, A&T Co. Inc., 40 pages; and Date History of Marble, Colorado, 1965, by Ruby Isler, Reminder Publishing Co.,



Two photos upper left, Marble s, 1987, Judy Moffatt; bottom left, Marble quarry, 1910, courtesy of Oscar McCollum, Marble Historical Society; middle, Marble mill, 1924, courtesy of Marble Art Gallery; bottom and upper right, Marble ruins, 1987, Judy









Pot shards found at Fourmile Ruin

Backhoe...

(Continued from page 1)

"We could get a good deal of information out of Fourmile, even though it has been extensively vandalized over the years," said Richard Lange, an archaeologist with the Arizona State Museum and associate director of the Homolovi Research Program.

However, Watts, one of the four owners, says it seems that the concern of archaeologists is a little belated.

"They haven't taken care of it for 20 to 30 years," Watts said, speaking of the extensive digging by local pothunters.

"When we first walked over the surface of Fourmile last June or July, it looked like World War II Dresden. There were potholes all over the place."

The owners declined to reveal how much they paid for the property. The identity of the previous owner was not available.

Watts stated that even after fencing the property and having a watchman live on the site, keeping pothunters out has been a constant problem.

"Archaeologists confuse me," Watts

"One year ago, nobody was protecting the site and the archaeologists saw nothing of value on it. Now that we're doing something with it, it's suddenly the most valuable and virgin site in all of Arizona"

Lange admitted that the site, known to archaeologists for years and which was partially excavated in 1904, had been overlooked precisely because of the devastation by pothunters and previous owners.

"An awful lot of the professional community assumed that there was nothing left at Fourmile," he said.

Watts maintained that he and the three other owners, Brad Watts, Mark Brady and Troy Gillinwater, bought Fourmile in order to save it from bulldozing by another prospective buyer.

Fourmile is one of several archaeological sites that they have purchased in the state for the purpose of excavation. Watts said he has repeatedly offered to work with archaeologists while excavating the site, but that for the most part, the archaeologists' demands have been unreasonable.

"They're sitting back like a bunch of crybabies," Watts said.

"If they can't have it just the way they want it, they cry. If they were really interested in science instead of politics, they'd be out there right now helping us."

Watts said an exception is Shirley Powell, an associate professor of anthropology from Northern Arizona University.

"We are working with Powell to field a school of graduate students to give us professional assistance in preserving the site," Watts said.

Powell agreed that the owners of Fourmile have "consistently asked for professional archaeological advice and have consistently said that they would slow the work and allow professional archaeologists on the site."

Site of Excavation

Taylor •

ARIZONA

Phoenix

100 0 100
Miles
Scale

"When we first walked over the surface of Fourmile, it looked like World War II Dresden."



Excavating at Fourmile Ruin

Some archaeologists have raised concerns about the ownership of the excavation site. Two of the four owners of Fourmile, Vince and Brad Watts, are also members of the Federal Land Exchange, a private company that helps the federal government procure private lands adjacent to or surrounded by national forests.

Although the excavation at Four-

Although the excavation at Fourmile is solely a private undertaking not involving the Federal Land Exchange, which has earned the admiration and commendation of environmental groups for helping the federal government obtain valuable land, some archaeologists are disturbed that members of the company would be involved.

"It is unfortunate that people who seem to have an involvement with the Federal Land Exchange are also out there making it a business to buy and sell archaeological sites," Lange said.

Watts denied any conflict of interest between his position with the Federal Land Exchange and the excavation at Fourmile

"We're not breaking any law," he said. "We're honest people doing an honest business.

"They're disgruntled that people who don't have seven or eight years of archaeology are doing a site. It's job security for them to keep sole rights to excavation to themselves."

But to Lange, the concern of archaeologists is not to be exclusive. It is to preserve, in the most scientific way, an irreplaceable heritage.

"Whether we're talking about monuments, paintings or artifacts, we need to examine the responsibility an owner has to the piece in his or her hands," Lange said.

Other archaeologists defended the general policy of refusing to work with those excavating for private gain.

"It makes us very uneasy," said Wood. "As archaeologists for the national forests we are not supposed to have any dealings with people involved in private excavation.

"Sometimes we deal with amateur societies but never with people in it for profit," Wood added.

"These are national treasures, matters of the past that concern us all," Lange said.

"It ought to be done right. If you have to have surgery, you don't go to a car mechanic rather than a surgeon."

But to Vince Watts, the issue of excavating at Fourmile was decided long ago.

"If we weren't excavating Fourmile," he said, "the general public would be -- one shovelful at a time."

Doug Johnson, president of the Mogollon Chapter of the Arizona Archaeological Society and an instructor of archaeology at Northland Pioneer College, sees the sites on private lands as being in the greatest danger.

"We are desperately in need of laws that will protect all unmarked cemetaries and burial grounds," Johnson said. "At least 12 other states, including California and Idaho, have such laws."

Aimed primarily at pothunters, the laws generally prohibit the intentional disturbance of unmarked graves or skeletal remains by unauthorized persons. While Johnson does not see this as the total solution to the grave desecration and site destruction in the Southwest, "where professional grave looters run rampant, it is an important and necessary step."

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Susan Kroupa is a freelance writer in Show Low, Arizona.

Who 'owns' the skeletal remains of Indians?

These Indian skulls are part of an exhibit at the Smithsonian's National Museum of

Natural History in Washington, D.C.

by Betsy Marston

In almost a century and a half of collecting, the renowned Smithsonian Institution in Washington, D. C., has amassed 18,500 Indian remains.

A few skulls are displayed in exhibits, other skulls and assorted bones fill green boxes in a warehouse the size of a football field.

Some Native Americans call this vast collection in the nation's archive a racist reminder of practices condoned in the past: grave robbing and battlefield pickups. They want the bones of their ancestors buried properly, with sacred ceremony and full respect.

But who "owns" these remains? How can it be proved where these skulls and bones came from?

The Smithsonian says those are the tough questions, although museum spokespeople point to one instance where the facts of acquisition are clear.

In 1868, the Surgeon General of the United States issued a directive to all Army medical staff to begin acquiring the skulls of Indians. He had begun a major study of human skulls, he said, and needed to "procure (a) sufficiently large series of adult crania of the principal tribes to furnish accurate average measurements."

If skulls were taken from cemeteries, the Surgeon General wrote in his memorandum, he wanted to know the "mode of sepulture and any traces of weapons, implements, utensils found with the specimens, or any other circumstance that may throw light on their ethnic character.'

Other skeletal remains of Native Americans have come to the Smithsonian from archaeologists or collectors, who either sold or gave their finds to the museum. The Smithsonian now boasts the largest collection of human remains in the world -- some 33,000.

The Smithsonian is not keen to return a large part of its skeletal collection to Indian tribes, and when Smithsonian Secretary Robert McC. Adams speaks, he does so with clout.

The institution he leads employs 5,000 and attracts more than that number of volunteers. It encompasses 10 museums, works with a congressionally appropriated budget of \$278 million (in 1987) and caters to 23 million visitors a year. The Smithsonian is also a premier research center.

In testimony before Congress, Adams said the Smithsonian needs its many thousands of Native American bones because researchers require large numbers to study everything from osteoporosis and the effects of diet on health, to the social structure and patterns of migration of Indians. For scientific

study, he said last year, "the North American collection of human skeletal remains and artifacts are the most important reference collection available in a single repository for scientific study."

Adams said most of the archaeological collections came from excavations that were not burial sites. And most of the sites cannot be traced to present-day Native Americans "with any degree of certitude."

Adams also disagrees with most Indian leaders on the definition of the word "sacred." He said artifacts found in graves and the bodies themselves are not necessarily sacred. The burial may have been sacred, but not the remains and nearby objects. But skeletal remains from battlefields pose additional problems. "Individuals can almost never be identified, and with tribes often having fought in alliance, to whom can remains be returned?"

One case is clear cut. This year four members of the Blackfeet Tribe in northern Montana plan to fly to Washington, D.C., to retrieve the bones of 15 people who died during the "Starvation Winter" of 1884.

The transfer of two arm bones and 15 crania, some with lower jaws, will be the first for the Smithsonian and an Indian tribe.

Curly Bear Wagner, cultural director of the Blackfeet Tribe, says his ancestors

died of hunger after U.S. soldiers drove them off their land. They camped 18 miles from Browning, close to Canada, "and it was a real bad winter," Wagner

"The agency was giving them spoiled meat and they began to starve," he said. The combination of extreme cold, not enough food and mourning their dead killed them, he added.

Eight years later, in 1892, their bodies were taken from a Blackfeet cemetery and given to the Army Medical Museum, whose collection was given to the Smithsonian.

Wagner said his tribe will reinter the remains with a religious ceremony. His people believe that when things go wrong on the reservation the cause may lie in the unquiet sleep of the dead. A proper burial of the dead is necessary for the spiritual life and well-being of the living, he said.

Once the Blackfeet tribe began negotiating with the Smithsonian, Wagner said, the three-year process was lengthy, but a good experience.

Secretary Adams, in his column in the Smithsonian, has written about the museum's realization that some of its exhibits were de caning to Indians, and about the need be more sensitive to Native American needs today. Of its col-

(Continued on page 12)

Who owns...

(Continued from page 11)



Robert McC. Adams, Secretary of the Smithsonian

lection of skeletal remains, Adams wrote in 1987: "Crania stolen from actively used burial grounds were illicitly taken and must be returned to their tribal descendants.

"Stolen or not," he added, "we at the Smithsonian recognize an obligation to return all remains that are individually identifiable from accompanying records"

Madeline Jacobs, spokes woman for the Smithsonian, said the institution has had a good working relationship with Indian tribes, 252 of which were told in 1985 about the skeletal remains at the museum.

When the Smithsonian sent its letters to tribes three years ago, it attached a computer printout of the skeletal collection by state. The Blackfeet insisted that the museum make sure no other bones would be included, Jacobs said, and that documentation took time. What also took time was casting the skulls and other bones so the museum would have a copy.

More than a dozen other tribes have requested returns, Jacobs said, and letters continue to come in.

A critic of this slow, tribe-by-tribe approach is Suzan Shown Harjo, executive director of the Washington, D.C., lobbying group, the National Congress of American Indians. A Cheyenne whose great-grandfather helped to defeat Gen.



Suzan Shown Harjo

Custer at the Battle of the Little Big Horn, Harjo calls the Smithsonian's approach a "standard colonial gambit."

The Smithsonian "wants to own everything," she said. "By insisting on a clear title which in most cases can never be proved, they can be arbitrary and capricious about returning remains." She said the computer list sent to tribes was extremely difficult to decipher since tribes routinely extended over several states. The systematic grave theft for the crania study, she added, is an example of "aberrant human behavior."

To the question of how many skeletal remains of Native Americans belong in the Smithsonian, Harjo is adamant: "Zero is the answer. None were legally obtained."

In dealing with the powerful Smithsonian, Harjo said, tribes cannot be strident. "So they came to us and asked us to do something." Arguing the matter is unseemly to Indians, she said. "Our tribe says walk quietly through life, and that can mean not revealing any aspect of religious ceremony." But respect for the dead, for "putting our dead to rest," is a sacred obligation, Harjo said.

Legislative solutions have been proposed. Sen. Daniel Inouye, D-Hawaii, chairman of the Select Committee on Indian Affairs, has tried to accommodate the concerns of Indians by proposing the creation of a national memorial where bones "not useful for scientific inquiry" would be buried. The memorial would be in Washington, D.C., which would also house the now-New York-based Museum of the American Indian.

A bill drafted and and amended by Sen. John Melcher, D-Mont., would establish a Native American Museum Advisory Board, appointed by the president and funded by Congress, which would hear claims for return of Indian remains and artifacts. The board would attempt to negotiate a settlement, but if a museum is responsible for a failed agreement, it would become ineligible to receive federal funds.

The Smithsonian says the cause of science and research projects of the future would be harmed by gutting its collection of human remains and Native

American artifacts. Suzan Harjo said she has reservations about a "mass grave" and a negotiated settlement that appears to abrogate rights at the start.

That, however, is all the two agree on, and the question of the final disposition of the Indian past continues to be an unsettling, unsettled matter.

Tribe reinters an ancestor

Warm Springs tribal elders in Oregon reinterred the bones of a 700-year-old human skeleton after teenage boys removed it from an ancient Indian grave.

Two boys discovered the skeleton April 10 while looking for arrowheads on Bureau of Land Management land, according to the police report. Instead of notifying authorities, the boys informed friends and a group returned to remove the skeleton.

After attempting to reassemble the bones in one of the boy's homes, the boys started fighting and they smashed the skull. An anonymous telephone call led state police to the garage of the teenager where the skeleton was hidden.

Some confusion as to which government agency should be involved led to Oregon State Police involvement. In handling the case they have been "very sensitive to tribal concerns and very willing to help in any way," says Warm Springs tribal archaeologist Dan Mattson.

The boys reported the skeleton to be in a crouched upright position facing east. According to Warm Springs tribal elder Prunie Williams, this position was traditional. No artifacts were found at the site.

Warm Springs tribal representatives

claimed the remains, but the reburial of a skeleton is something she did not feel good about, Williams says. When a burial site is desecrated, you are "disturbing the most sacred and private place of a person in a derogatory way, with no respect."

Deschutes County District Attorney Mike Dugan is in the process of initiating juvenile proceedings against the three 17-year-olds involved. The 18-year-old men fall under adult law and could be prosecuted for a felony offense. Deschutes County could also prosecute for illegal possession of human remains taken from an Indian grave.

Prosecution in grave site disturbance cases is necessary, says Williams. "It seems to be the only kind of language anyone understands. They don't seem to understand the Indian sacred way of burial. They just look to dig them up."

--Marsha Shewczyk Spilyak Tymoo

EDITOR'S NOTE: Warm Springs Reservation is 150 miles east of Salem, Ore., and home to 2,900 Indians belonging to the Paiute, Warm Springs and Wasco tribes.

A Montana tribe wants its pipe back

In the summer of 1869 a group of about 200 Southern Cheyenne left the hated Indian territories in Oklahoma to join their northern brethren in the still free Powder River country. It was a violent summer on the Western plains, and the Cheyenne had to fight their way north past the U.S. Calvalry.

The group, led by Tall Bull, chief of the famed Dog Soldiers, made it as far as the Platte River in eastern Colorado. While waiting to ford the swollen river, the Cheyenne were overrun by General Eugene Carr's Cavalry. Tall Bull and 52 of his Dog Soldiers died in the fight, but their stand allowed many of the others to escape. Tall Bull's wife and child were captured.

Five years after the battle of Summit Springs the Smithsonian Institution received a spectacular Indian pipe, donated by General M.C. Meigs, Quartermaster General responsible for Western expeditions. In an accompanying letter Miegs, who gathered many items for the museum, said Tall Bull's wife had identified it as belonging to her husband. No information on its purpose or significance was included.

Today the pipe sits in storage in the Smithsonian's National Museum of Natural History, part of a huge ethnographic collection closed to the public but available to scholars. The pipe stem is between 18 and 20 inches long and carved in the shape of a man with his hair cut short at the neck. Smithsonian spokesperson Madeline Jacobs says it's one of the best examples of a fully carved three dimensional human figure in the museum. Originally it was painted with a yellow mineral paint, but now only the dark color of its wood remains.

A new bowl is attached in place of the long-lost original.

Although well known by scholars, the pipe was only re-discovered by the Cheyenne a few years ago. They say it is a sacred pipe -- communal property of the Dog Soldiers and important to their traditions and religion -- and have asked that it be returned. Little is known about the pipe. The claim is being pressed by Tall Bull's descendants, who now live on the Northern Cheyenne Reservation in Montana and are still the leaders of the Dog Soldier society.

Bill Tall Bull, chair of the Northern Cheyenne Culture Committee and brother to the current chief of the Dog Soldiers, says negotiations with the museum have been difficult. Perhaps because of that, the elders of the Dog Soldier society have voted to keep silent on the matter and have strictly avoided publicity.

They have only broken that silence once, sending a delegate to Washington last month to speak before the Senate Select Committee on Indian Affairs. The occasion was a hearing on Sen. John Melcher's, D-Mont., bill to establish a board to review Indian claims to human remains and artifacts now owned by

Society member William Parker explained that the pipe is very old, and was given to the Dog Soldiers by the Great Spirit. It and other ceremonial items symbolize the covenant between the society and the Great Spirit and their assigned mission to act as the guardians and standard bearers of the tribe. The pipe was used to initiate new members to the society and accompanied the Dog Soldiers on journeys. It was

believed that the tobacco smoke carried their prayers to the Great Spririt.

Parker also explained that the Dog Soldiers, one of several Cheyenne military societies, wore a leather rope across their breast. When disaster threatened the Dog Soldier would stake himself to the ground, and wouldn't move until the tribe escaped danger or he was killed. Tall Bull staked himself down at the battle of Summit Springs. When he died the pipe was lost.

Parker's testimony was highly emotional and the committee heard him in silence. His emotion contrasted sharply with the scientific approach of the three speakers before him who represented the Smithsonian, the American Museum Association and the Society of American Archeologists.

However, following the hearing the Smithsonian agreed to temporarily loan the pipe to the Dog Soldiers, while research continued on questions the museum wants answered before it can be permanently returned.

Smithsonian Undersecretary Dean Anderson told the Billings Gazette that loans were new to the museum, but that it should help the museum and the Indians better understand each other's objectives for "materials from the past."

Thomas Cavanaugh, a cultural anthropologist with the Smithsonian, accompanied the pipe to Montana a week later. There, he was made a member of the Dog Soldier society, and participated in the ceremonies, including a Sun Dance.

While the loan seemed to improve relations between the two, it didn't

(Continued on page 13)

LETTERS

About the Wetherills

Dear HCN,

If K. C. Benedict wants to put the Wetherills at the head of the pothunting tradition in southeastern Utah (HCN, 15 August 1988, p. 11), she is going to have to come to grips with some contrary facts. The Wetherills were in the cattle business at Mancos, Colo., when they first encountered Anasazi ruins in the Mesa Verde area and became interested in the civilization they represented.

That interest became an obsession with them and led to some spectacular discoveries, including such sites as Mesa Verde in Colorado, Keet Seel and Betatakin in Arizona, and the earliest significant excavations at such places as Grand Gulch in Utah and Chaco Canyon in New Mexico. Rather than leading them to the lucrative market in Anasazi artifacts that Benedict describes, their obsession led them instead to bankruptcy in the cattle business, and they were forced to sell material they excavated in order to stay alive. None of the Wetherill brothers, in fact, ever was able -- or even tried -- to subsist on his sale of Anasazi artifacts.

As archaeologists, the Wetherills were well aware of their deficiencies and preferred to work with trained scientists whenever possible. They tried, for example, to interest the Smithsonian Institution in their discoveries at Mesa Verde but were ignored. Later, various of the brothers served as guides and assistants to archaeologists Byron Cummings, Earl Morris, Alfred V. Kidder, Samuel Guernsey, Neil M. Judd, and others whose scientific competence exceeded theirs. Even when deprived of professional guidance, though, they did rather well on their own. Richard Wetherill's field notes for his two expeditions into Grand Gulch, for example, which are now at the American Museum of Natural

History, are at least as elaborate as those of any other Southwestern archaeologist at that time. And it was on his first Grand Gulch expedition (1892-3) that Richard first developed the hypothesis that Anasazi civilization occurred in two basic chronological phases -- Basketmaker and Pueblo -- a concept later accepted by the scientific community.

It is true that the Wetherills sold pots. But to treat them as nothing more than pothunters is to misunderstand them completely. Their fundamental motive was exactly the motive of professional archaeologists: They excavated material in order to study the culture of the people who had created it.

Gary Topping Salt Lake City, Utah

The writer is curator of manuscripts at the Utah State Historical Society.

Can Wyoming learn?

Dear HCN,

Peter Carrels' article on South Dakota's sewage ash debacle (HCN, 8/1/88) could not have been more timely for your readers here in Wyoming. Our ailing energy industry is in parallel with South Dakota's suffering agriculture; economic promoters in both states are easily tempted by dubious schemes hawked by snake-oil salesmen in three-piece suits. We are about to see whether Wyoming can learn from South Dakota's mistakes.

The Wyoming Department of Environmental Quality has been approached on several occasions during the past year regarding permit conditions for dumping municipal waste from farflung U.S. cities in abandoned coal mines in the Hanna and Powder River basins. We are woefully unprepared for such commercial ventures. Wyoming does not even have a bonding law on the books that would cover site reclamation

if a waste disposal company pulled out or went bankrupt.

The news of these surface mine "trash ranches" hit the local papers about two weeks ago. The public outcry has been stunning. This is an issue that hits people very close to home. Nearly everyone, it seems, considers it an insult to be viewed as the nation's trash can.

After the initial clamor, a few letters and comments have emerged from those who are urging us to sit back and be rational, to look at the money and jobs involved. Well, looking at the money and nothing else is nothing but prostitution. But maybe -- just maybe -- there are reasonable compromises to be found. Perhaps something positive could even come from such ventures, if for example Wyoming had the fortitude to insist on tightly run landfills with utmost emphasis on recycling. Being known as the trash can of the nation would be a severe insult. Being known as the recycling center of the nation? I'm not so sure.

Fortuitously, the Wyoming Outdoor Council is holding its annual meeting on the topic of waste management. "Wyoming: Wonderland or Wasteland?" will bring together politicians, scientists, regulators, victims of waste mismanagement and concerned citizens to discuss this issue. We hope to emerge with concrete recommendations for the 1989 Wyoming Legislature. The meeting will be held at the Thermopolis Holiday Inn, Sept. 23-25. It's going to be a good one.

Will Robinson Lander, Wyoming

The writer is policy and issues director of the Wyoming Outdoor Council, Box 1449, Lander WY 82520 (307/332-7031).

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Heavy-handed Hodel

Dear HCN,

Your Aug. 1st article on Arizona's land exchange bill does not discuss the heavy-handed unreasonableness of Interior Secretary Donald Hodel in an otherwise exemplary package. As the price for Hodel's approval of Arizona's Santa Rita land exchange, he has demanded that 41,000 acres of Arizona's Kofa Bighorn Sheep National Wildlife Refuge be de-authorized to allow passage of a Southern California Edison powerline headed for Arizona's Palo Verde nuclear plant. To reduce only five miles from that 238 mile powerline, Edison would shortcut through that national wildlife refuge lambing ground.

In 1978, Secretary Andrus approved the powerline along a utility corridor in the refuge (consisting of four gas pipelines). Subsequently, lambing grounds were discovered in that corridor. Since then no utility has entered the refuge. A new BLM utility corridor was officially designated along a segment of I-10 north of the refuge. So far, two oil pipelines, two fiber-optic lines, and a 15 KV powerline have been approved in this new corridor.

That Edison's powerline could present adverse refuge impacts was firmly stated by Michael Spear, Regional Director, U.S. Fish and Wildlife Service, in his May 1987 letter to Southern California Edison. That Mr. Spear has now reversed his position demonstrates how easy it is for Secretary Hodel, Spear's boss, to bully his underlings. Together they would assault a national wildlife refuge, and invite costly impact statement delays and environmental hassles -- ironically, costing them more than the tiny savings gained from short-cutting through the refuge.

If Californians lack electricity because of their state's strict environmental regulations, the least they can do when they come over here is to respect our wildlife refuges and our environmentally sound utility corridors.

Robert A. Witzeman Maricopa Audubon Society Phoenix, Arizona

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Pipe...

(Continued from page 12)

answer the museum's questions, reports Cavanaugh. The Smithsonian's Jacobs says the museum needs very explicit

"We are not required by law to return things. The objects that are donated to us are held in trust for the American people," says Jacobs. "It's one item of 134 million objects at the Smithsonian ... but everything has to be accounted for."

The museum, which has argued that the pipe is a spoil of war, has detailed five major questions. The first is positive identification. Jacobs says, "When donated we had virtually no information about the pipe. So we have doubts to begin with of whether this was in fact Tall Bull's pipe, even though the record suggests it might have been." She adds that there is no clear link between the donator, General Meigs, and the pipe, "because Meigs was nowhere near that battle."

Secondly, the museum questions if the pipe was Tall Bull's personal property rather than communally owned by the Dog Soldier society.

Third, if it was communal, the museum wants a link between the pipe and the society's religious practices of today. After the battle, the remaining Dog Soldiers either drifted back to the Southern Cheyenne Reservation in Oklahoma or were absorbed into the Crazy Dog society on the Northern Cheyenne Reservation, says Jacobs.

Is the (present day) Dog Soldier society the same society or a new entity," she asks. "If there is a direct link, it would prove the pipe is essential to their society's religious practices."

The missing bowl raises the fourth question. The Smithsonian says it has evidence that the pipe probably had a black bowl originally. Jacobs says, however, that their research also shows that plains Indians' religious pipes always had red bowls.

"We'd like them to explain why it is necessary to have the pipe back because it would not be a religious pipe," Jacobs says.

Lastly, Jacobs says, if all the other questions are answered in full, and if the pipe is sacred and communal property, does it belong to the Northern Cheyenne or the Southern Cheyenne. The museum is now in contact with Dog Soldiers in the southern half of the tribe to see what interest they have.

Native American Rights Fund attorney Walter Echo Hawk, who is advising the Northern Cheyenne Dog Soldiers, says the Smithsonian has had the society chasing such questions for two years. He says the museum's attempts to come up with new and additional questions for the Dog Soldiers are becoming more and more arbitrary.

"Quite simply, it is stolen property, and that is borne out by the best evidence of the Smithsonian and corroborated by the oral tradition of the Cheyenne," says Echo Hawk.

-- Steve Hinchman

GUEST OPINION

Rancher gets off easy in bear killings

by David E. Brown

Arizona sportsmen, environmentalists, wildlife law-enforcement officers and some stockmen are outraged over the Lackner case.

Eddie Lackner is a rancher who set a monstrous bear trap in the Galiuro Mountains. He claimed that mountain lions and bears were killing his cattle.

In addition to endangering human life with his traps, Lackner killed what may total scores of lions and bears. Many of the animals were left to die a slow death. His most recent victim, a black bear the Arizona Game and Fish Department had tagged and released, was captured with the aid of a federal trapper. The bear died.

Lackner has been killing animals for a long time. From 1978-86, Lackner reported that he had killed 26 lions and 3 bears. Arizona Game and Fish says those 29 deaths accounted for 18 percent of the total during that period.

The Lackner case began when a deer hunter, who also happened to be the treasurer of the Arizona Bear Society, stumbled onto one of Lackner's giant traps containing a dead bear. Several bear skeletons lay nearby.

When the hunter reported his find to Game and Fish, wildlife manager John Holcomb made an investigation and found the remains of eight bears -- none of which had been reported to the wildlife agency as required by law.

More than 20 charges were filed against Lackner, and one of the grizzly traps was seized. Because of the number of bears killed, bear season in the Galiuro Mountains is closed.

County attorney Jack Williams arranged a plea bargain. Game and Fish was not consulted. On Aug. 1, a justice of the peace accepted a guilty plea to two counts of not reporting the taking of stock-killing bears. A \$150 fine was then suspended.

This week, a coalition of conservation organizations, including the Arizona Bear Society, Sierra Club, Mesa Varmint Callers, Defenders of Wildlife and Earth First!, held a news conference in Tucson, demanding that Coronado National Forest revoke Lackner's grazing lease. Such a move is provided for under federal grazing regulations.

They said Lackner should be treated like a drunken driver who has his driver's license suspended for endangering life and property.

But what is needed is the repeal of Arizona's archaic stock-killing laws that allow ranchers and their federal agents to kill bears and lions at all times of the year by any method. For instance, the huge trap used by Lackner would be illegal for use in Arizona's trapping season. It is not illegal in stock-killing cases.

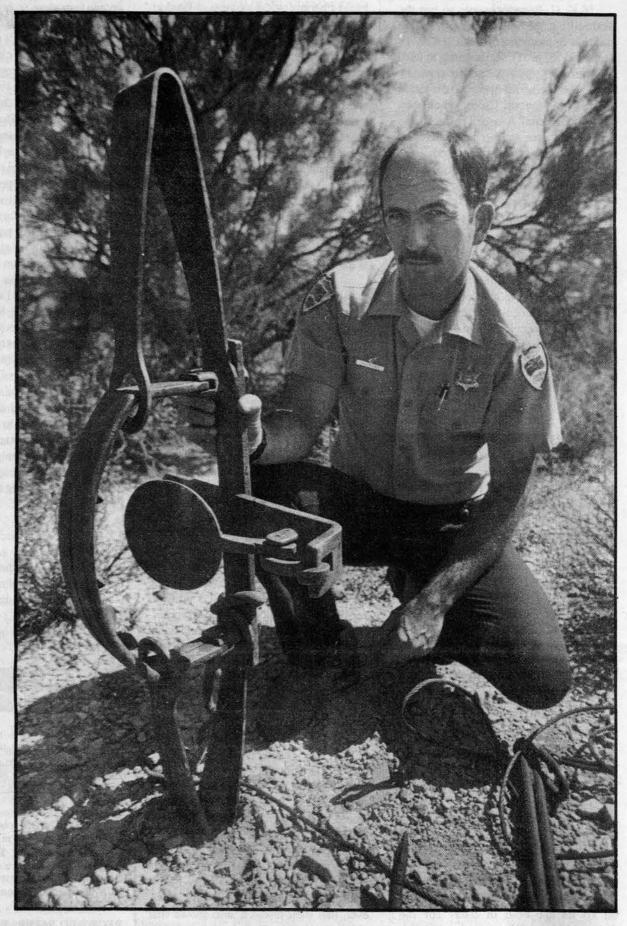
The public's dissatisfaction with the state's permissive stock-killing laws is growing. Temple Reynolds, director of Game and Fish, said he wants to be "in the lead."

His department has drafted legislation that would modify existing laws and require a rancher or a federal animal damage control agent to notify a Game and Fish regional office when lion or bear control is in progress. It also would require that traps be checked daily. Other provisions would remove wolf and lion bounties still on the books and abolish county authority to contract for the killing of wildlife.

The agency's proposed legislation is an improvement over the existing statutes but doesn't go far enough. Lions and bears should have the same status as elk and other big game. A permit to take offending animals should come from the Arizona Game and Fish Commission and be granted on a case-by-case basis.

Ranchers with chronic problems from predators on public land must change their grazing practices. Cow-calf operations should be discontinued in brushy, rugged areas of public land that are prime lion and bear habitat. Such allotments should either be restricted to steers, which are less prone to attack by lions and bears, or be retired in favor of wildlife.

Director Reynolds knows that modifying existing legislation will be difficult. Joe Lane, a rancher, is Speaker of the House. John Hayes, a rancher, is head of the Senate Natural Resources Committee. Both are powerful. Arizona might be an urban state, but rural legislators have plenty of clout.



The trap Eddie Lackner allegedly used to catch black bears in the Galiuro Mountains is displayed by Gerry Perry of the Arizona Game and Fish Department. The trap is a Newbouse Model Six that has a 16-inch jaw spread when set. A spokesman for the manufacturer says the trap was first made in the 1840s and patterned after traps used in England to catch people. Most of

the 20-30 manufactured each year are sold to collectors for about \$450 apiece. The Model Six is illegal in most states for taking wildlife, and Arizona's trapping regulations probibit the use of traps with a jaw spread exceeding 7 1/2 inches. Lackner recently pled guilty to charges of failing to report two bear kills as required by Arizona's livestock predation law.

Reynolds' proposed bill easily could die in committee and never come to a vote. Talk is that the ranching community will oppose any changes.

I keep thinking of the movie *Red River*. The movie begins with John Wayne driving his cattle onto the vast range of an absentee Mexican landowner. The Mexican's foreman rides into Wayne's camp and informs him that he is welcome to rest his stock that night but then must leave. The land is owned by someone else, not Wayne.

Wayne refuses to leave, and in the ensuing gunfight, kills the foreman. A vaquero is sent to inform the Mexican owner that he no longer owns the range. If he doesn't like it, he knows what he can do about it. The movie is a cult film on how cattlemen won the West.

I don't think Reynolds' hope for compromise legislation is realistic. Cattlemen will oppose any changes that keep them from killing bears and lions at will.

If the public wants to assert ownership of its land, it will have to take it away from ranchers. That won't be easy. Nobody wants to take on John Wayne or Joe Lane or John Hayes. But that's the way the game is played. That's how the West must be won -- again.

David E. Brown, a wildlife biologist, is a former chief of game for the Arizona Game and Fish Department.

IN BO

A TRUE TREE STORY

His 2 1/2-year-old son's question about why a huge tree lay rotting on the forest floor inspired first-time author Mike Donahue to write The Grandpa Tree. In it, he traces a tree's life from seedling to sawdust -- an ending that creates "a home for rabbits and food for flowers." Donahue lives in Allenspark, Colo., and is director of the Colorado Mountain School, which teaches rock climbing and mountaineering in Rocky Mountain National Park. The fine illustrations are by Susan

Roberts Rinehart Inc., P.O. Box 3161, Boulder, CO 80303. Paper: \$3.95. 22 pages.

BENEFIT FOR CANYONLANDS

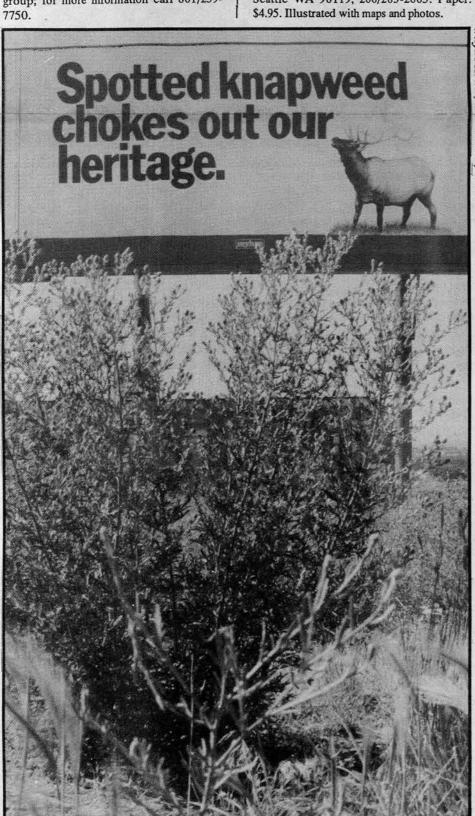
The Canyonlands Field Institute holds its fourth annual Fall Roundup fundraiser Sept. 12. It features a Dutch-oven dinner, the Midnight Rodeo band from Arizona and an auction of outdoor gear, Southwestern arts and crafts and vacations in the Southwest. The institute is a nonprofit, outdoor education group; for more information call 801/259A GATHERING OF LAND TRUSTS

Land trusts, from around the country, those nonprofit groups that buy land to protect it from development, will meet this Sept. 25-28 for a national conference in Estes Park, Colo. Called "National Rally '88: Rising to New Heights in Local Land Conservation," the conference is intended to bring together for the third year government agencies, attorneys, planners, landscape architects, conservation groups and others involved in local land conservation. Besides workshops, presentations, field trips, and exhibits, informal get-togethers will examine new developments in land protection and effective organization management. Organizing the conference is the Land Trust Exchange, a national network of nonprofit land conservation organizations. For more information, contact Kathy Barton, Land Trust Exchange, 1017 Duke St., Alexandria, VA 22314 (703/683-

VISITING MOUNT ST. HELENS

Visitors to the slopes of Mount St. Helens can witness first hand the rapid changes the mountain is undergoing as it recovers from its 1980 eruption. A handy guide to the area is Mount St. Helens National Volcanic Monument, a pocket guide for hikers, viewers, and skiers. Author Chuck Williams details the geologic and human history of the volcano and provides a wealth of practical information on visiting the mountain, including how to get a permit to climb the summit. The 112-page guide also outlines 19 trails in detail, from easy 1/2-mile jaunts to strenuous, all-day hikes.

The Mountaineers, 306 2nd Ave. W., Seattle WA 98119, 206/285-2665. Paper:



Drivers passing this billboard near Great Falls, Mont., can see

the sign and the reality - spotted Knapweed -- growing below



IN THE SHADOW OF THE CLOUD

Dale Beaman was 18 and in the U.S. Navy when he worked to convert contaminated salt water from an atomic explosion in 1946 to fresh water. He now suffers from colon cancer, muscle spasms, diabetes and hypertensive heart disease. His son is mentally retarded and has severe muscle abnormalities. He is not alone. In the Shadow of the Cloud traces family histories of 43 servicemen like Beaman who exposed themselves to radiation from atomic tests simply because their government asked them to. There are 235,000 such "atomic veterans," and many have spent years fighting physical pain and the financial burden of sickness. In this book, photographer Jim Lerager shows us some of the people involved while Dr. Karl Z. Morgan, who participated in the military's tests, writes about radiation and its effect on the servicemen. Dr. Susan Lambert, who has treated such veterans, writes about the government and the penalty paid by people who

Fulcrum Inc., 350 Indiana St., Suite 510, Golden, CO 80401. Hardcover: \$23.95. 116 pages. Illustrated with photographs.

TROUBLED WATERS

Increasing demand for scarce water supplies is changing the way Westerners appropriate, use and think about water. The change has already made big dams, subsidized irrigation and trans-basin water projects nearly obsolete, while the West has turned to conservation, water transfers and marketing. Left far behind, up a dry creek without a paddle, says a new study, is the century-old network of Western water law, policies and instituttions. In Troubled Waters: New Policies for Managing Water in the American West, Mohamed T. El Ashry and Diana C. Gibbons say the era of plentiful supplies and pork-barrel money has left a legacy of incentives that thwart flexibility and discourage water conservation. The report, part of the World Resources Institute's study of arid lands in North America, includes a profile of the West; a chronicle of the switch from agricultural water demand to urban water demand; new water conflicts emerging in the region; and several policy recommendations for urban, state and interstate water management.

World Resources Institute Publications, P.O. Box 620, Holmes, PA 19043. Paper, \$10. Order number 784. 89 pages, illustrated with graphs and maps.

AN AMERICAN HERITAGE TRUST

Legislation to increase the government's ability to buy land and provide money to build local recreational facilities has cleared the House Interior Committee. The bill sponsored by Rep. Morris Udall, D-Ariz., establishes the American Heritage Trust. It would generate \$1 billion in interest annually to be used by federal agencies for land acquisition and provide dollar-for-dollar matching grants for communities to build swimming pools, parks, and other recreational facilities. The fund would be formed by combining the existing Land and Water Conservation Fund and the Historic Preservation Fund. The fund would be started with \$7.2 billion from the unappropriated portions of these funds, but revenues from offshore oil and gas leases would finance the new trust. Some timber, logging and mining interests have opposed the bill, and the Interior Department has said that it will recommend a presidential veto if the bill is passed in its present form. For more information call the House Interior and Insular Affairs Committee, 202/225-4761.

IDAHO RIVERS WORKSHOP

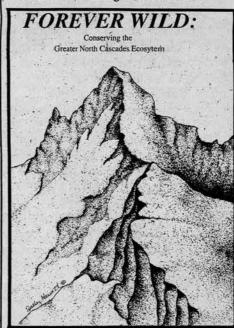
Activists from across Idaho come together at the Idaho State Historic Museum in Boise Sept. 10-11 for a strategy discussion and workshop on Idaho's new rivers bill. On July 1, an Idaho rivers bill became effective which protects portions of five river systems by prohibiting water diversions, dams or dredging along certain portions. The meeting, which is sponsored by the West Rivers Council, Friends of Payette and Idaho White Water Association, features Keith Higgenson, director of the Idaho Department of Water Resources, and the bill's legislative sponsor, State Rep. Bruce Newcomb, R-Burley. A \$20 fee covers all workshops and a Saturday evening banquet. For more information call Wendy Wilson, 208/345-3689.

LLAMARAMA

The Rocky Mountain Llama Association holds its seventh annual conference in Montrose, Colo., Sept. 23-25, to discuss the latest in llama health care, nutrition, reproduction, packing, herd-management and basic care and training. The site, Friendship Hall at the Montrose County Fairgrounds, has facilities for llamas, and participants are invited to bring their llamas. For more information, contact Erma Hast, 15251 6100 Rd., Montrose, CO 81401 (303/249-3083).

21 TIPS

The authors of Energy-Efficiency: A New Agenda hope to influence the next president to make energy-efficiency the nation's top priority. It "is the single most important way to slow global climate-warming caused by fossil fuel burning," say authors William Chandler, Howard Geller and Marc Ledbetter. The 76-page pamphlet outlines 21 policies that would help, including taxing gasoline 30-50 cents per gallon and providing energy-efficient technology to developing nations. The measures would save consumers over \$1 trillion, reduce acid rain, make U.S. industry more competitive and help trim the federal budget, they conclude. The agenda is sponsored by the American Council for an Energy-Efficient Economy, 1001 Connecticut Avenue NW, Washington, D.C. 20036.



FOREVER WILD CASCADES

Dramatic contrast is the rule in the North Cascades, where mountains were formed in cramped spaces and more than 500 glaciers are still active. Contrast is also found in the management objectives of different federal agencies administering three national recre ation areas, eight national forest wilderness areas and three national forests of the region within Washington and Canada's British Columbia. Authors of Forever Wild, an 87page proposal by activists in the region, say conflicts among these agencies is the area's greatest threat. Their solution is to create an 8.2-million-acre wilderness area managed solely by the Park Service. The proposal calls for destroying several dams, stopping all logging, closing roads and actively restoring clear cuts and mines. Underpinning their proposal is "biocentrism," the approach that says equal weight should be given to non-human concerns in making decisions. The authors say areas have been managed too long solely for the benefit of humans. Editor Mitch Friedman says he hopes this proposal will serve as an example for other regions.

Mountain Hemlock Press, P.O. Box 2962, Bellingham, WA 98227. Paper: \$11.50. 87 pages. Includes map of area.

OTHER VOICES

Save the forests: Let them burn

_by George Wuerthner

Flames have charred thousands of acres in Yellowstone National Park thus far this summer and the National Park Service is under intense pressure to reverse its "let burn" policy. That policy tolerates natural fires unless structures or human life are threatened.

But as fuels continue to build up throughout the Rocky Mountains and most of the arid West, the real issue is when will the inevitable fires occur, and how intense will they be? Fires are like earthquakes in California -- you cannot prevent them, only learn to live with them in a safe manner.

We do have some options on how destructive fires will be. We can allow small periodic burns to occur on a regular basis to release the fuel buildups, much as small tremors release energy along faults. Or we can allow them to continue to build until, like a major earthquake releasing pent up pressure along a non-moving fault, we face a major conflagration.

There is no getting around this ecological fact of life: Within nearly all forest communities of the Rocky Mountains, fires are essential for maintaining a healthy ecosystem. In pre-suppression days fires regularly swept through our forest community every three to 20 years in lower, drier environments, with longer rotations up to several hundred years in the higher and very moist areas.

In the arid Western states, fire -- not bacteria or fungi as in warm, wet climates -- is the primary agent responsible for recycling nutrients. Dead litter covering the forest floor in most of our Rocky Mountain forests does not decay or rot, it simply piles up until released by wildfire.

Fire is like a predator that keeps a forest healthy. Most fires do not kill all trees within a burn, and there is usually a mosaic pattern of unburned and burned areas, as well as individual trees that survive the flames. With competition for nutrients, light, and water reduced by fire, remaining trees grow stronger and are healthier.

Years without fires results in trees that are sick and weak from intense competition and lack of nutrients tied up in undecomposed litter. These trees become ever more susceptible to other forest diseases and pathogens. It is no coincidence that since the Forest Service and other agencies began total fire suppression decades ago, the incidence of pine beetle infestations and other forest pathogens has increased in both scale and severity.

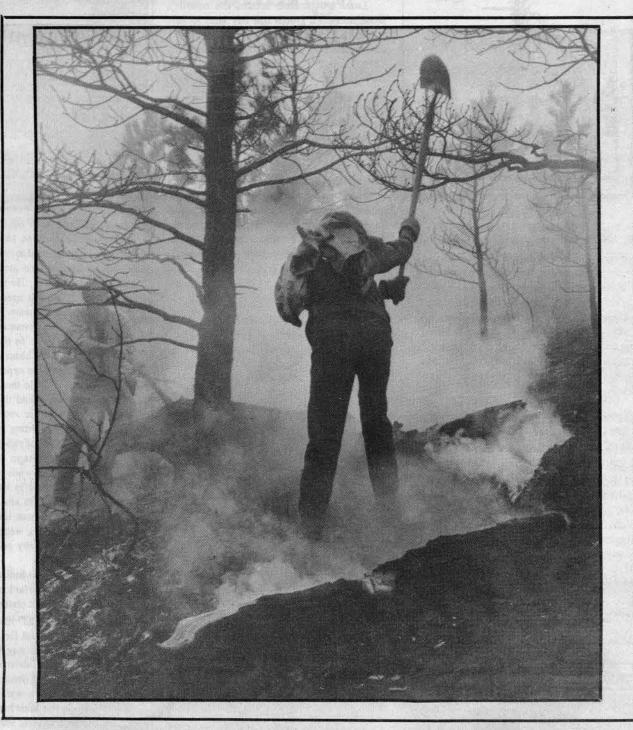
Because wildfires are such a common and important evolutionary force in the West, it is not surprising that many species are dependent upon them for their continued existence. For example, lodgepole pine, a common Rocky Mountain forest specie, and the tree which covers some 80 percent of Yellowstone Park, is a fire-dependent specie.

It is shade-intolerant and cannot reproduce under closed forest canopy. If disturbance of some sort does not occur to open up the canopy, lodgepole will eventually be replaced by other species more tolerant of shade.

From the evolutionary perspective of the lodgepole, this would be disastrous. Instead of a foe, fire (along with the pine beetle) is a friend since it thins the forest canopy, giving lodgepole pine the opportunity to reproduce. Fire and pine beetle work to keep the lodgepole pine forest healthy. Ironically, the Forest Service, whose general policy is suppression of all fires except some in designated wilderness, is creating unhealthy forests rather than improving them.

In addition, by suppressing fires over millions of acres, the Forest Service may increase the hazard and risk of future fires. Certainly one positive result of the numerous forest fires now burning in Yellowstone will be the reduction of years of accumulated dead litter. Once this summer fire season is over, Yellowstone will be a far safer place to visit.

Beyond ecological and public safety concerns, fire suppression is a costly and, in many cases, unnecessary public expense. Scientific research has shown that the vast majority of wildfires die out, seldom burning more than 100 acres. For example, there have been 140 natural fires in Yellowstone during the last 16 years, and these have burned an average of 240 acres before going out. Under extreme fire weather conditions, the acreage burned may be larger, but



stopping a fire under these conditions is usually impossible. It is only when the weather changes to one less favorable for fire growth that any suppression efforts are successful. Large or small, it is far more expensive to suppress a fire than to monitor it.

The Straight Creek fire that burned 466 acres near Montana's Scapegoat Wilderness this summer cost more than \$500,000 to suppress, while a 16,000 acre fire within a let-burn area of the nearby Bob Marshall Wilderness cost less than \$10,000 to monitor.

Logging, of course, does reduce fuel loading, but it does not have the same consequence for the environment as wildfire. Harvested trees are exported and the nutrients they contain are taken from the local ecosystem. Heat and smoke from fires also cleanses the forest and soil of some tree pathogens, while logging does not.

Logging also has other environmental consequences not associated with fire. Logging roads often result in increased sedimentation in watersheds, harming water quality and fisheries. Roads also provide increased access for hunters, reducing the security value of the uncut timber. Finally, from an aesthetic point of view, timbering and its road network result

in unnatural-looking scars, while a mosaic resulting from a fire is frequently (but not always) less disruptive to the eye. In many cases, particularly in cool, light burns, not all trees are killed, so within a few years it is difficult to tell a fire swept through an area.

But the main reason logging is not a viable alternative to fire over much of the West is simply cost. We would have to log far more acres than at present to significantly reduce the fuel build-up that occurs each season. The steep slopes and small-diameter trees that dominate much of the Rocky Mountain forests usually are not profitable to harvest without massive government subsidies -- hence our below cost-timber sales.

Suppressing fires is like neglecting oil changes in your car, though it may seem to save money now, it will cost you a rebuilt engine later. Fire is the oil that keeps the forest ecosystem running smoothly, and without it, the ecosystem becomes sick and unhealthy.

Save a forest -- let it burn.

George Wuerthner is a naturalist and writer in Livingston, Montana.

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