

High Country News

March 13, 1989

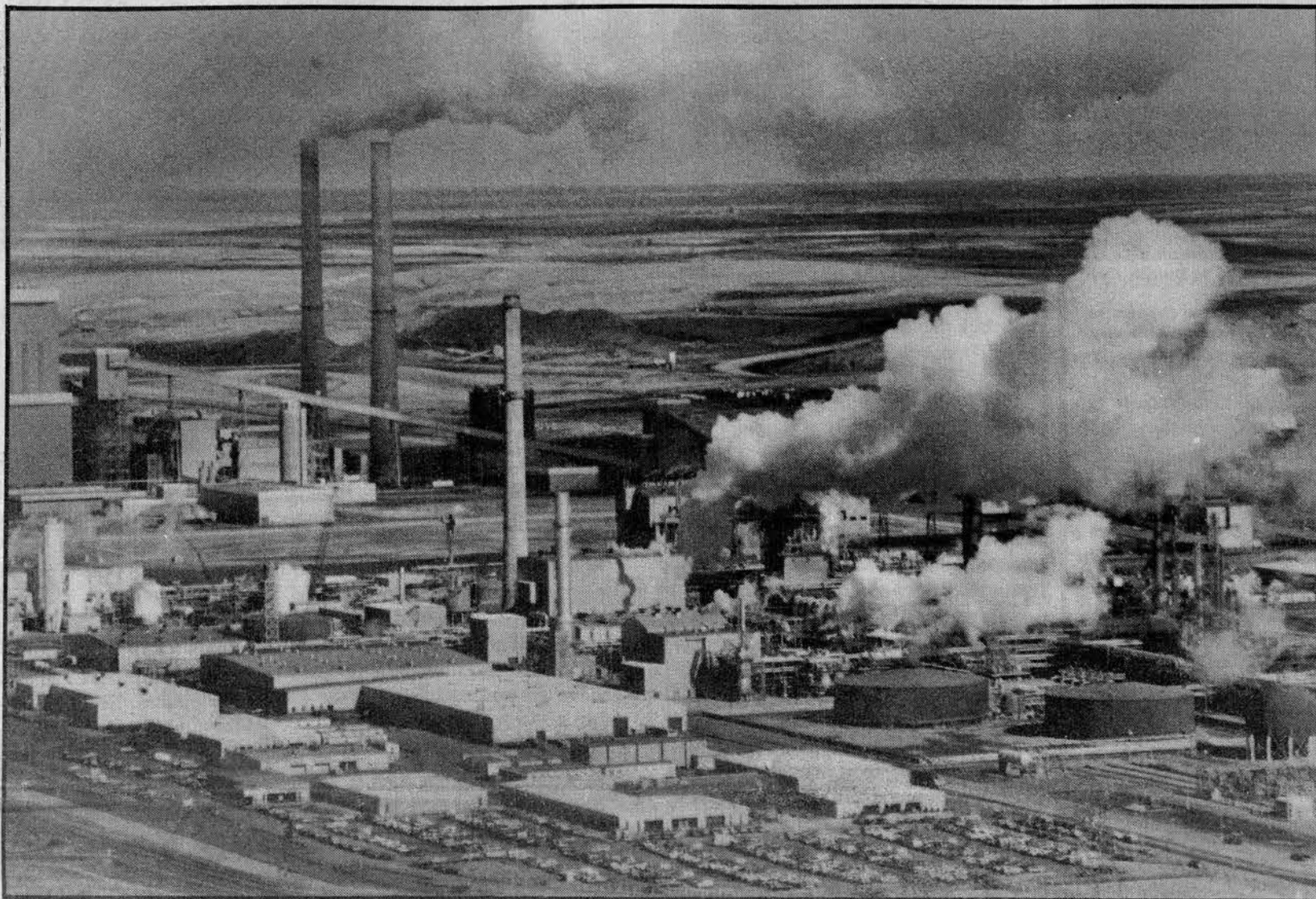
Vol. 21 No. 5

A Paper for People who Care about the West

One dollar

Part II of Synthetic Fuels Revisited

Beulah Beacon



Aerial view of part of the great Plains coal gasification plant in North Dakota

Syngas plant survives the '80s

by Peter Carrels

What many see as a relic of the federal government's fascination with synthetic fuels in the 1970s remains alive, thanks to contracts that insulate it from low energy prices.

The survivor is the nation's only functioning, commercial coal gasification plant.

The Great Plains gasification plant, located in Beulah, N.D., was to be one of a fleet of gasification and electric plants planned in the 1970s and intended to turn the Northern Plains into a giant energy producer for the nation. These coal-based gas and electricity producers were to complement oil shale operations planned for the Rocky Mountains.

Falling oil and natural gas prices killed all the synthetic fuel plants but Unocal's oil shale plant in Colorado and the Great Plains gasification plant in North Dakota (HCN, 2/27/89).

The gasification plant, which came on line in 1984, at a cost of \$2.1 billion, has had its problems. The five private firms that built it could not run it profitably and defaulted on a \$1.5 billion loan from the federal government in 1985. It was the largest foreclosure in the history of the federal government.

The federal government ran it until late 1988, when it sold the plant to North Dakota-based Basin Electric Power Cooperative.

The jury is still out regarding the wisdom of Basin's acquisition. The electric cooperative already suffers from an overbuilt system. Its 1 million users in eight western states use less than half of the 2,300 megawatts it is capable of generating. The surplus is sold to other utilities but because of an overabundance of electricity in the West, the price is low.

Basin's dilemma is its historical association with the gasification operation. In 1984, Basin opened a coal-fired electric plant which sells 90 megawatts of power to the adjacent gasification gasification plant.

Should the gas plant close, Basin says it stands to lose about \$37 million each year: \$17 million from lost power sales, \$12 million from the increased cost of operating what are now shared facilities, including nearby coal mines,

and \$8 million for increased fuel costs due to the end of a cost-share arrangement with the gasification plant.

There would be other losses. The gasification plant employs about 775 people and spin-offs from the plant create another 1,700 jobs. Twenty percent of the jobs in Mercer County, the site of the plant, are attributed to the facility. To put it bluntly, the plant is an economic mainstay in western North Dakota.

The plant may also have been attractive to Basin because it is operating successfully in a technological sense. It is presently converting 16,000 tons of lignite coal per day into 142 million cubic feet of natural gas. That is the equivalent of 22,000 barrels of oil.

Basin won the gas plant from nine other bidders, including two other finalists, Coastal Corporation of Houston, Texas, and a Southern California Edison subsidiary, Mission First Financial. The giant cooperative offered an \$85 million downpayment and promised to waive \$590 million in federal tax credits. It was Basin's promise to waive the tax credits that boosted its bid ahead of the competition.

The Department of Energy says its profit-sharing agreement with Basin and federal income taxes could bring an

additional \$1.8 billion to the government over the next 21 years.

Basin has promised to operate the plant until 2009, when contracts with four pipeline companies that purchase Great Plains gas expire. For its part, the DOE has committed \$120 million to the long-term operation of the plant, including financial assistance so Basin can set up a wholly owned subsidiary, called Dakota Gasification Company, to operate the plant. The subsidiary has been set up to insulate Basin's members, which are rural electric co-ops in the Northern Plains, from liabilities that may occur as a result of the gas plant.

The profit-sharing plan calls for DOE to get all the plant's profits during the first 15 months Dakota Gasification is the operator. During the ensuing five years, Dakota Gas will pocket the profits. Then, DOE will receive all profits for 10 years; in the final five years of the plan the profits will be equally divided.

Its \$85 million investment gave Basin plenty of hardware and real estate. In addition to the gas plant, the co-op secured a coal mine and mining equipment. The coal mine is particularly important. The mine currently feeding Basin's generating plants in the Beulah area will be depleted in five years or so.

(Continued on page 10)

Dear friends,



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Thank you, readers

Readers from across the country responded generously to our request for copies of the Jan. 2, 1989, issue. Among those sending in the paper were:

Ruth and Chuck Powell of Pasadena, Calif., John Roberts of Lakewood, Colo., Phil LaLena of Grand Junction, Colo., Dan and Rachel Norton of Evergreen, Colo., Chuck Worley of Cedaredge, Colo., Doug Young of Boulder, Colo., Tim and Audrey Graham, of Moab, Utah, Ann Harvey of Wilson, Wyo., Barry Leech of Idaho, and Tim and Audrey Graham of Moab. With the paper, the Grahams sent a photo of their two-month-old baby, Hannah, reading, or at least patting, an issue of *High Country News*.

We also received copies of the paper from the following: Corkran of Portland, Ore., Gregg, of Denver, Colo., Wilson of Des Plaines, Ill., O'Malia of Farmington, N.M., and several others of whom we lost track. Most of the copies were surprisingly unblemished. We thank all who responded.

Survey is coming

The fact that we don't know the first name, or even the initials, of Corkran, Gregg, Wilson, and O'Malia is a relic of our last computer conversion, which dropped the initials of all subscribers. As renewals or other communications occur, we are adding first names. But that process can take years, so Linda Bacigalupi is about to send a mailing to all subscribers, asking you to tell us how you wish your mailing label to read. Because we can't bear to do a mailing for only that purpose, we are going to include a brief survey and the third Research Fund appeal. More on that later.

Garbled

The HCN staff apologizes to its readers and to writer John Baden for garbling the last third or so of his article, "Free markets can protect the earth," in the Feb. 27 issue. Responsibility for mistakes of this magnitude always lie, in theory, at the top of an organization, but in this case it is literally true. It is publisher Ed Marston who does the last proofreading on Sunday, and who is responsible for scanning the paper on Monday evening (the flats go to the printer on Tuesday morning) to be sure that headlines have no misspellings and that stories are in order.

In the aftermath of the Baden error (the garbled section of his article is reprinted on page 12 of this issue), staff writer Steve Hinchman has been asked to take an early Tuesday morning look at the paper. Because Steve is not part of the production or proofing process, he should bring a fresh eye to the paper, and catch large errors the rest of us have



missed. It is Steve who quickly spotted the error when the paper returned from the printer.

In our initial desperation and embarrassment, we had thought to say that the essay was purposely garbled to test our readers' intelligence. But we decided that HCN subscribers are too intelligent to believe that explanation.

Rump-sticker

Especially during the 1970s, when the West grew due to the energy boom, stickers saying "Native" flowered on the bumpers of thousands of pickup trucks, four-wheel-drive vehicles and even an occasional sedan. They were an improvement on the West's xenophobic manifestation in the earlier part of this century — the rise of Ku Klux Klan — but they still rankled.

So we were pleased to get Bryan Kyle's response to those bumper stickers, and are pleased to reprint it here. Bryan is an illustrator from Weston, Colo., who writes to say that sub-zero weather in his town is giving way to spring "intermittently." He also confesses, "I love to talk about the weather, unashamedly."

Welcome, Alexander Vartan

Our congratulations to Washington, D.C., reporter Andrew Melnykovich and his wife, Debra, on the birth of their first child, Alexander Vartan, Sunday, Feb. 26. He weighed in at 8 pounds. Andrew, who keeps the *Casper Star-Tribune*

informed of happenings within the Beltway and also sends a monthly column to HCN, said that while he was technically back at work, life was proving a bit "incoherent."

We spoke with him the day after the baby's return from the hospital. He told us that little Alex had awakened every few minutes. "But," Andrew told us confidently, "we think we have his needs figured out, and tonight will be different."

It occurred to us, after we hung up, that it is delusions such as Andrew's that lead otherwise rational people first into marriage and then into parenthood.

Visitors

Recent visitors to Paonia included long-time subscribers Murray Pope and Doty Fox of Snowmass, Colo. They had stopped in Paonia on their way down valley to eat at the Country A-Peel restaurant, next door to the HCN building. The restaurant, which had been closed for several years, was opened by Dan and Lisa Marquez in spring 1988, and did a rousing business through December. But even a rousing business in Paonia isn't particularly lucrative. As a result, the couple decided, on their Christmas trip back home to southern California, that the grass was much greener in that part of the country, and Paonia has another closed business.

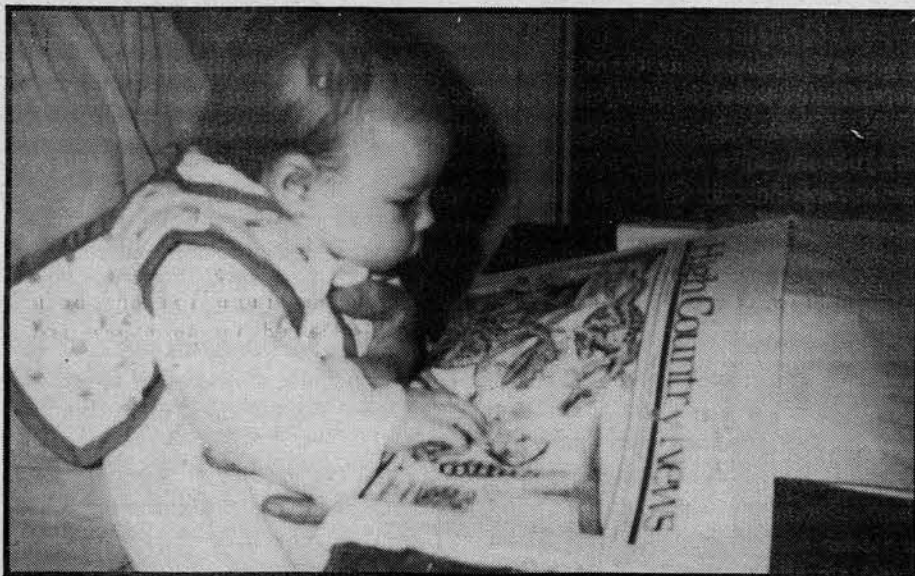
We were also visited by subscriber Cole Wist, who grew up in Paonia, went to George Washington University for his law degree, and is now with a law firm in Utah. He was in Paonia for a few days recovering from the Utah bar examination.

Bruce P. Van Haveren, who is mountain states director of the American Water Resources Association, came by in February to talk about water. The Bureau of Land Management employee had taken a few days off to drive through western Colorado and New Mexico in order to plan community-based conferences on water issues.

Correction

The illustrator next to writer Edward Abbey in a recent issue is R. Crumb.

—Ed Marston for the staff



Two-month-old Hannah Graham and suggested reading material

WESTERN ROUNDUP



Demonstrators in front of the Navajo Tribal Council chambers, Burton Yazzie, left, and B. R. Yazzie hold golf balls symbolizing payoffs to tribal chairman Peter MacDonald

Navajo Nation is in governmental gridlock

WINDOW ROCK, Ariz. — You're a Navajo college student, a tour promoter or a coal company executive and you need the chairman of the Navajo Nation to sign your scholarship or contract. Who's in charge?

That is what Navajos have been asking each other for weeks.

While three men alternately claim the title, no one — not the tribal administration, the Navajo Tribal Council nor the Navajo courts — can say with certainty who holds power.

Telling traditional Navajos that the federal government may impose martial law because of the current tribal political crisis, Navajo Chairman Peter MacDonald says he is still in control despite the tribal council's Feb. 17 vote to place him on administrative leave.

The council majority, however, backs Marshall Plummer, council delegate from Coyote Canyon, N.M. Plummer was elected chairman pro tem and is to serve until the completion of the stalled winter session. Yet MacDonald and his attorney claim the council's vote was illegal and any action it now takes is also invalid.

Vice Chairman Johnny R. Thompson, a third contender for power and the person who ordinarily stands in for MacDonald in his absence, has attempted to negotiate unity between the factions. But some see him as a puppet of MacDonald and he has been unable to assume control.

MacDonald said he would step down if the council granted him legal fees to prepare a defense. He asked the council to transfer remaining funds from a contract for the tribe's Washington public relation firms — some \$730,000 — but was refused. While he asserts that the allegations against him reflect on the tribe as a whole, more and more Navajos reject the notion.

But the tribe is in disarray. Many of the tribe's operations have essentially ground to a halt, and Navajos and non-Indians alike who have business to conduct with the tribe are left in limbo.

Tribal scholarships, tribal loans, home and business site leases and new

energy development are just some of the many programs that remain frozen where they were a month ago.

The council recently placed a moratorium on future payments to contractors who admitted before a Senate committee that they paid kickbacks to the chairman.

With the turmoil showing little sign of abating, millions of dollars worth of economic development prospects — the linchpin of MacDonald's administration — may also soon go down the drain as investors shy away.

MacDonald's relationship with the Arizona congressional delegation has essentially crumbled. This followed allegations that he accepted hundreds of thousands of dollars in bribes and kickbacks from building contractors. He was also accused of defrauding the tribe in the Big Boquillas Ranch purchase and then conspiring to cover it up (*HCN*, 2/27/88). Going on the offensive, MacDonald said that Arizona Sens. Dennis DeConcini and John McCain, co-chairmen of the Special Senate Investigating Committee that exposed MacDonald's alleged corruption, were racists and liars.

Hoping to salvage some tribal goodwill with Congress, the council's majority that remains united against MacDonald has asked ex-presidential candidate and former Arizona Gov. Bruce Babbitt, now a Phoenix lawyer, to intercede for them. No specific role has yet been defined for Babbitt although he says he is available as a "friend."

In all likelihood, this is probably only the beginning of a bad period for the 200,000-member tribe, the country's largest. Leaders of the council's majority, nicknamed the "49ers" for the number who voted to place MacDonald on leave, predict the struggle to last some 12 to 18 months, or until MacDonald is indicted.

MacDonald is now under investigation by the U.S. Justice Department, the U.S. Inspector General, the U.S. Attorney's Office and the FBI.

Recently, the council reconvened and authorized the tribal Justice Department to file suit against MacDonald for his role in the Big Boquillas purchase. Some \$200,000 of the money MacDonald

wanted for his legal defense was appropriated to a Navajo law firm the council hired for itself.

Still, MacDonald continues to claim full authority and disregards both the council and a recent order of the Navajo Supreme Court, which revoked a lower court order restoring him to power.

His schedule continues to include back-to-back travels to reservation communities to rally grass-roots support, which nonetheless is dwindling.

"I will maintain my position that I have done no wrong, broken no law and that all I have been accused of are mere allegations," he told one such meeting at Ojo Encino, N.M., on March 2. "It is the Navajo people who decide what is best for the Navajo Nation."

Most recently, his rhetoric has escalated to the point where he and his supporters now claim the council majority's actions have created "anarchy," "communism," and "socialism" on the reservation.

"If the council delegates continue to pursue the route they are taking, one extreme possibility that may arise may be for the BIA and the federal government to impose a martial law government, which will lead our tribal government to be maintained by the federal government," MacDonald said.

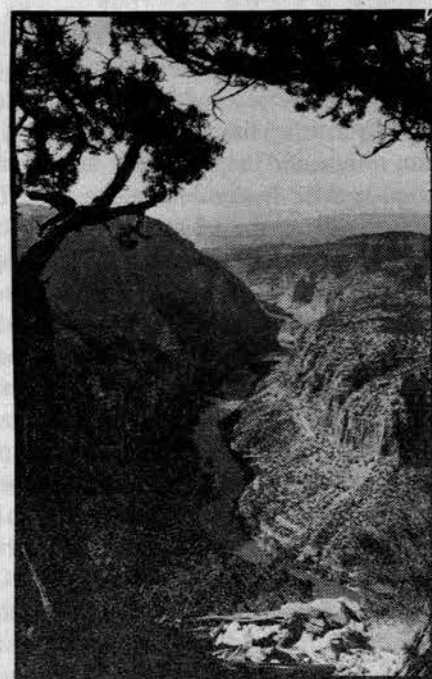
His legal battles with the tribal council began four days after it voted to place him on leave. He obtained a temporary restraining order from a tribal judge — his brother-in-law — blocking the council's action and restoring him to full power. But on the day of the court hearing, the Navajo Nation Supreme Court intervened to suspend the order.

In its ruling a week later, the tribal high court vacated the judge's order, permanently removed him from any case in which MacDonald has an interest, and dismissed MacDonald's suit against the council, saying the council is protected against suit by sovereign immunity.

What it declined to address, however, is who is in control of the tribal government, leaving the council to decide that itself.

— George Hardeen

HOTLINE



Dinosaur National Monument

\$1 billion to protect the land

A coalition of 20 national conservation groups has called on Congress to spend almost \$1 billion to acquire important natural and recreational areas in 46 states. The funds would come from the Land and Water Conservation Fund, which has amassed a \$6 billion surplus because the Reagan administration refused to spend money on land acquisition. In the West, the coalition proposed spending \$59 million on 77 Bureau of Land Management areas in 11 states. It would spend \$17.4 million to add 14,824 acres to national parks and another \$238 million to add 112 areas to national forests, mostly in the 11 western states. In Colorado, funds would be spent on acquiring private lands along the Colorado River in Ruby Canyon, west of Grand Junction. The coalition also wants the federal government to buy inholdings in Colorado at Dinosaur National Monument, Little Bookcliffs-Wild Horse Area, Unaweep Canyon, and 3,600 acres of cultural sites near Hovenweep National Monument. In New Mexico, almost 6,000 acres around Chaco Canyon are targeted for purchase as are 9,412 acres for additions to El Malpais National Monument. In Montana, conservationists propose spending \$3.6 million to buy the 3,300-acre Church Universal and Triumphant/OTO Ranch, "the planned site of inappropriate development." For a copy of its recent 186-page report, contact Don Hellman or Ben Beach at the Wilderness Society, 202/842-3400 or 202/842-8724, and ask for *The Land and Water Conservation Fund: The Conservation Alternative for Fiscal Year 1990*.

BARBS

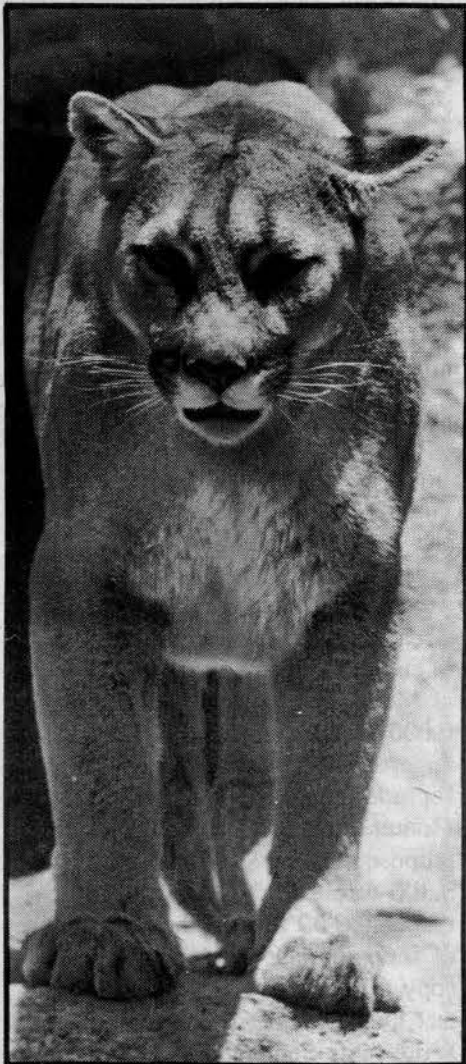
Concise, to the point, and logical.

Denver water attorney Glenn G. Saunders recently wrote, "Forgetting that the civilization on which the good life exists in Colorado, with its skiing and other recreational advantages, depends on the careful management of our limited water resources, many people (often referred to as "environmentalists") have now come to the attitude that water should be wasted by leaving it in the streams for the fish and the stream fishermen, eliminating more reservoir construction (in spite of improved fishing) without any realization that the population of the United States is constantly increasing and that Denver's population and water needs will go on increasing for many years to come."

HOTLINE

Two Forks review

The Environmental Protection Agency has delayed its decision on the controversial Two Forks dam so that the agency's new director, William Reilly, can review the project. Reilly decided to step in after leaders of the nation's 10 largest environmental groups asked him to look at the hotly debated Colorado dam. The announcement Feb. 13 drew cheers from environmentalists, who hoped it meant Reilly would make the decision on Two Forks rather than Denver EPA administrator Jim Scherer. Scherer, who is embroiled in the politics surrounding the issue, has said that he may not necessarily follow the recommendations of his staff to veto the permit. However, a day later, on Feb. 14, EPA officials in Washington announced that Scherer would still decide the fate of the \$1 billion dam. Reilly would only review it for his own edification. The EPA has authority to veto or significantly alter the U.S. Army Corps of Engineers' conditional approval of the dam. Reilly has met with Scherer and Colorado Gov. Roy Romer, and last week held back-to-back meetings with both opponents and supporters of the dam.



Leases sold in a Utah wilderness enclave

Utah environmentalists are paying for a compromise that left the Antone Bench near the town of Escalante out of the 1984 Utah Wilderness Act. Oil and gas leases on these lands were sold Feb. 28 despite attempts by the Southwest Wilderness Alliance, Sierra Club and Wilderness Society to block the move.

Vern Jones of Salt Lake City, bidding for an undisclosed client, paid \$25,086 for 794 acres on the Antone Bench, a narrow ridge that extends into the Box-Death Hollow Wilderness. Denver-based Lockhard and Associates Inc. bid \$18,300 for leasing rights on another 1,458 acres.

The 1984 Act excluded these areas from wilderness designation in exchange for the addition of 10,000 acres to the High Uinta Wilderness, a controversial compromise that split the Utah environmental community (*HCN*, 10/12/87). Rich reserves of carbon dioxide, used in the recovery of oil deposits in aging oil-

fields, are believed to underlie the region.

Since 1984, SUWA, the Utah Sierra Club and the Wilderness Society have fought to keep the Antone Bench undeveloped. Most recently they appealed to the Interior Board of Land Appeals to suspend the leasing.

Scott Groane, an attorney for SUWA, says loopholes in the BLM's environmental impact statement process may allow development not covered in an environmental impact statement, at which point the BLM no longer has the authority to prevent the action.

A second argument revolves around stipulations in the Utah Wilderness Act that require exploration on Antone Bench from a helicopter. Groane says that state standards may allow exploration companies to bypass requirements for the costly helicopter exploration.

Elaine Larsen, BLM coordinator for the lease sales, says stipulations are

attached to the leases regarding helicopter exploration. But if carbon dioxide reserves prove to be significant and full scale development proceeds, the road issue "will have to be considered on a case-by-case basis. It's hard to say what will happen," she says.

The BLM will hold the leases for 60 days after the sale, by which time the Interior Board of Land Appeals hopes to have made a decision on the appeal. If it is upheld, the BLM will refund the \$43,386 paid for the leases. If the board rejects the appeal, the Sierra Club's Lawson Legate says conservationists may turn to civil courts.

Ultimately, protecting the canyons but not the ridges was a mistake, says Groane. With the upcoming Utah BLM wilderness legislation, he says, "We want to be damn careful we're not put in the same position next time."

—Gingy Anderson

HOTLINE

Lions come closer in Colorado

Cougars are on the prowl on Colorado's Front Range. A Lyons, Colo., woman chased a lion off her porch with a broom after it ate Fifi, her 13-year-old miniature poodle. In rural Niwot, a farmer shot and killed a 35-pound lion kitten. In addition, residents of Boulder, Colo., and other foothill communities have reported more than 50 sightings since September, a noticeable increase from years past, says Todd Malmsbury of the Colorado Division of Wildlife. One reason may be that humans are increasingly intruding into the big cat's territory, Malmsbury says. Another is that mule deer, the lion's principal food source, are moving into the foothills as their numbers increase. But lions are elusive and officials don't know if their numbers are growing. Even some wildlife biologists who study mountain lions have never seen one in the wild, says Malmsbury. Estimates for the number of big cats in Colorado range from 1,500 to 3,000. Once killed for bounties, mountain lions are now protected as a big game species; hunting demand is increasing, with 180 lions killed last year compared to 83 a decade ago. Malmsbury says the lion's protected status is a costly one for the Division of Wildlife: Damage claims in 1987 totalled \$34,000, mostly for killed or injured livestock.

Intense job competition

Along the Wasatch Front of Utah, Geneva Steel, the state's major air polluter, advertised for 60 entry-level heavy labor jobs paying \$8 an hour and attracted 1,000 applicants in the first two hours. The plant in Orem presently employs about 2,400, reports the Salt Lake City *Deseret News*. Job seekers came from as far away as Roosevelt and

Price, Utah, and a Geneva spokesperson said 14 people slept on the grounds overnight waiting for the personnel office to open.

BARBS

Give me a microwave or give me...

A poll of 600 adults in households earning over \$100,000 a year showed that 79 percent believe they "cannot live without a microwave," reports *UPI*.

Did agency plot against owls?

Officials in the U.S. Fish and Wildlife Service ordered changes in a study affecting protection offered the spotted owl, says a recent report from the General Accounting Office.

The changes kept the owl off the endangered species list, ignoring wildlife biologists who said that unless logging was slowed in old forests in the Northwest, the species could face extinction.

Although the Interior Department agency is required to consider only biological factors in making decisions about a species' status, GAO researchers said, "The nature of the changes made and the way they were made raises questions about whether objectivity was maintained." The agency refused protected status to the bird, which lives only in

old-growth forests in Oregon, Washington and northern California.

"The revisions had the effect of changing the report from one that emphasized the dangers facing the owl to one that could more easily support denying the listing petition," said the GAO report. The USFWS decision has been challenged in court and officials have until May to show how the agency reached its decision.

The report, *Endangered Species: Spotted Owl Petition Evaluation Beset by Problems*, is available free from the General Accounting Office, P.O. Box 6015, Gaithersburg, MD 20877 (202/275-6241).

—G.A.

U.S. Supreme Court will re-examine Indian water rights

The U.S. Supreme Court is about to take another look at Indian reserved water rights. The result could be a fundamental change in the way tribal water rights are quantified.

Last month the nation's highest court agreed to review a 1988 Wyoming Supreme Court decision that awarded extensive federal reserved water rights to the Shoshone and Northern Arapahoe tribes on Wyoming's Wind River Reservation. That ruling, which gave the tribes 477,000 acre-feet of water for agricultural purposes but nothing for industrial or municipal uses, was appealed by both Wyoming and the tribes.

The state maintains that no reserved water rights exist on the tribes' Wind River Reservation. It asked the high court to deny the rights absolutely or, barring that, review the state court's

award of 477,000 acre-feet of water based on the "practically irrigable acreage" standard.

The tribes argue that their reservation is a "homeland," and therefore water rights should not be limited solely to agriculture. They want water rights for municipal and industrial purposes as well.

The Supreme Court rejected the state's petition to deny the tribes any reserved water rights, but agreed to review the quantification of those rights based on the "irrigable" standard.

Every court has affirmed the irrigation standard since it was established by *Arizona v. California*, in 1963. The standard quantifies Indian reserved water rights by measuring the amount of water needed to irrigate all acres on a reservation that can be profitably farmed. The

tribes on the Wind River Reservation have spent considerable time and money establishing over 76,000 acres within the reservation as "practically irrigable" (*HCN*, 11/25/85).

"It's a whole new ball game" if the U.S. Supreme Court rules against the irrigation standard, says Kevin Gover, attorney for the Shoshone Tribe. Gover says the state may get more than it bargained for if the high court rejects the standard. If a new allocation method based on need or standard of living is imposed, Gover says the tribes will go back for more water to overcome severe poverty levels on the reservation.

Anderson says the court could throw the standard out. "Everybody's a little nervous about what the Supreme Court is up to," he says, especially since the

court's make-up has changed in recent years.

If the high court strikes down the irrigation standard, says Anderson, it could favor the state's notion of determining water rights by historical use. He says that would be extremely unfair since the tribes have only recently gained equal access to water.

Jane Caton, an assistant attorney general for Wyoming, refused to comment on the issue before the state's brief is presented to the Supreme Court.

Wyoming's appeal to the U.S. Supreme Court was supported by a brief submitted by officials from Montana, New Mexico, Nevada, South and North Dakota and Washington. A decision is expected in June or July.

—Steve Ryder

Feds let endangered species wither and die

HOTLINE

Since its passage 16 years ago, the Endangered Species Act has done little to decrease the number of threatened plants and animals. Furthermore, federal agencies that are supposed to study and protect jeopardized species have never effectively done so. Those are some of the conclusions of the Government Accounting Office in its recent 100-page report, *Endangered Species: Management Improvements Could Enhance Recovery Programs*.

After a year-long investigation, the GAO found that the chances of survival for 34 percent of threatened species are diminishing, while only 16 percent are improving; 37 percent are stable and 2 percent have become extinct.

The agency warns that extinction of species is proceeding at a rate unequalled since the age of dinosaurs. One plant or animal species is becoming extinct each day, and that rate will increase to one an hour by the end of the century.

The two agencies charged with carrying out the Endangered Species Act are the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. The GAO, the investigative arm of Congress, found that neither agency maintains centralized, up-to-date information about the status of species threatened with extinction. GAO researchers had to contact individual Fish and Wildlife staff biologists most familiar with each species to compile their information.

Wildlife officials told the agency that at least 137 of the species listed as endangered aren't likely to recover because their habitats have disappeared. One species in that category is the New Mexico ridgenose rattlesnake. Its territory in the mountains of southwest New Mexico diminished through excessive

Kathleen Marie Menke



Wounded eagle at Colorado Mountain College

overgrazing, mining and timber harvesting.

Under the law, officials at the two agencies must develop plans to recover threatened species. The plans must identify threats to the species and actions needed to resolve them. But, as of 1987, the USFWS had developed only 56 percent of the plans required. Moreover,

only half of the actions in the plans had been initiated.

Though the act doesn't specify deadlines for the completion of the plans, environmental groups and members of Congress are concerned that while wildlife officials delay, the status of species in peril continues to worsen. The study also found that the agencies had no system for tracking what actions had been taken or what money was spent in the process.

USFWS blamed inadequate funding for its inadequate recovery efforts. In 1985-86, its list grew by 95 while funding levels remained constant.

Because funds are limited, the Act directs the wildlife agencies to set up a priority system to guide spending. The GAO found that in an effort to please the public, priorities were sometimes skewed. USFWS focused extra resources on species such as the bald eagle that had high visibility but was not in extreme danger. The GAO recommended a priority system to better allocate scarce funds and help protect species in immediate danger.

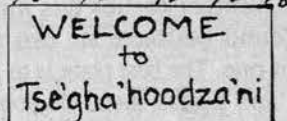
Since 1973, 12 domestic species have become extinct while only five have recovered: The American alligator, brown pelican, Palau dove, Palau fantail and Palau Owl. Of these, the three Palau birds "recovered" because of the discovery of more birds; not due to wildlife agency efforts. The brown pelican recovered because of a nationwide ban on DDT rather than a successful endangered species program.

The report is available free from the General Accounting Office, P.O. Box 6015, Gaithersburg, MD 20877 (202/275-6341).

—Gingy Anderson

Does Bambi have to die?

There seems to be a difference of opinion between new and old officials in Washington, D.C., about feeding Yellowstone National Park's starving elk. Park Service Director William Penn Mott said it would do more harm than good to provide food for thousands of elk and bison facing starvation after the harsh winter. Mott cited disease and cost as main reasons for opposing supplementary feeding. In addition, wildlife officials say the park is burdened by the herd of 19,000 elk living there. Newly appointed Interior Secretary Manuel Lujan sees things differently, however. He told Washington, D.C., reporters: "You can't go around and say, 'Well, Bambi has to die because that's the way it is' ... Maybe that's the scientific way. I don't know but I'm not comfortable with that."



Tit for tat in Arizona

If Arizona wants to be an "official English" state, the Navajo Nation can play that game, too. After voters in Arizona passed Proposition 106 mandating English as the official language, Navajo chairman Peter MacDonald said all place names on the reservation should be changed from English to Navajo. That means that Monument Valley would become Tse'bi'ni'dizigai, and tribal capital Window Rock would be called Tse'gha'hoodza'ni. Tse'yi' would replace Canyon de Chelly. If the Navajo Tribal Council makes Navajo the official language of the reservation, up to 7,000 names could be changed.

Wyoming and two tribes reach a water settlement

A water battle between Indians and non-Indians on the Wind River Indian Reservation in Wyoming has come to a negotiated close, at least for a year. The settlement may prevent another round of potentially ugly disputes over water on the arid Wyoming reservation this summer.

Under the terms of the carefully crafted, one-year agreement, Wyoming will pay the Shoshone and Northern Arapahoe tribes \$3.3 million to improve their irrigation system and the tribes will share their water with their non-Indian neighbors. The settlement also divvies up oil and gas severance taxes to be collected on the reservation in 1989, with the lion's share going to the tribes.

Gov. Mike Sullivan told the *Casper Star-Tribune* that the agreement "is merely a first step in a complex process, but it is an historic first step." Both sides hail the agreement as setting a national precedent for tribal-state cooperation, and they hope it sets the stage for a more permanent solution.

Wyoming's Wind River Reservation covers 1.8 million acres of land between the Wind River Range on the west and Big Horn River to the east. It is home to over 5,000 members of the Shoshone and Northern Arapahoe tribes and several hundred non-Indian farmers.

For years the tribes and non-Indians have been fighting over who owns the reservation's water, which comes down out of the Wind River and Absaroka ranges and is used to irrigate thousands of acres along the Wind-Big Horn River. Last year, after 12 years of litigation that

started with a surprise lawsuit brought by the state in 1977, the Wyoming Supreme Court awarded the two tribes rights to 477,000 acre-feet, or approximately half the water on the reservation.

The water carried an 1868 priority date — the year the reservation was created — and is senior to all other water rights on the Big Horn River. The tribes used that senior water right during last summer's drought, shutting off supplies to 33 non-Indian irrigators on the reservation and touching off a tense confrontation.

Fears of another drought and more conflict next summer forced the state to the bargaining table this winter, even though the U.S. Supreme Court has agreed to review the Wyoming Supreme Court decision.

The negotiated agreement, recently signed by Gov. Mike Sullivan and the Joint Business Council for the two tribes, calls for the state to spend \$1.3 million to upgrade the tribes' Wind River Irrigation Project system, and \$2 million to mitigate potential drought impacts to Indian farmers.

Though not a part of the state's package, Gov. Sullivan has also offered a seat on the Wyoming Water Development Commission to a representative from the reservation. The commission currently has nine members who represent different parts of the state.

Kevin Gover, attorney for the Shoshone Tribe, says the agreement is a "win-win" situation. The state, he says, has agreed to honor the tribes' 1868 water right and also to contribute to

repairs on the Indian's irrigation system. The state's money will address a problem the Bureau of Indian Affairs and other federal agencies have ignored for years.

There are two irrigation systems on the Wind River Reservation: the Wind River Project, which irrigates lands that are 70 percent Indian-owned but farmed mostly by non-Indians; and the Midvale Project, which is almost entirely non-Indian.

The century-old Wind River Project was built by the Bureau of Indian Affairs and hasn't received federal funds for construction or maintenance since 1979. In 1985, the government cut off operating funds. Today the system is literally falling apart, forcing much of the project's land out of production.

The Midvale Project, built in the mid-1950s by the Bureau of Reclamation, lies just across and downstream of the Wind River. It received \$46 million in federal improvements between 1970 and 1986 and the ditches and headgates are now in tip-top working condition (HCN, 10/27/86). Ironically, much of the water that flows through the system is owned by the Shoshone and Northern Arapahoe tribes.

Gover says the tribes hope this year's agreement will result in a long-term settlement with equitable water distribution for both sides. But, he adds, the only way to ensure a reliable water supply for non-Indians over the long run is to continue upgrading the reservation's irrigation systems and to build new storage facilities. Tribal officials say it will

be up to state and federal officials to find the money.

The settlement also defuses a growing fight over oil and gas severance taxes before it too goes to court. This year, the tribes will collect two-thirds of Wyoming's six percent severance tax for oil, gas and coal development on reservation lands, an estimated \$2 million.

The agreement on the severance tax issue is due to the state's fears that the tribes will sue to collect all severance taxes on oil, gas and mineral development on the reservation.

In January 1988, the U.S. Supreme Court let stand an appeals court ruling in favor of the Crow Tribe in Montana that gave it \$29 million held in trust from severance taxes collected on Crow lands and may allow the tribe to set its own severance tax rate on reservation lands (HCN, 6/6/88).

Kevin Gover says both the state and the tribes want a long-term solution to the tax question. He says that the state found it had the resources this year to contribute to a settlement, but that the current agreement won't serve as a model for future discussions.

Finally, the Wind River agreement may affect negotiations between the tribes on the Fort Hall Reservation and the state of Idaho. The Shoshone and Bannock tribes want to use their water rights to develop hydropower and fisheries. Negotiators may decide to suspend their negotiations until after the Supreme Court rules on the Wyoming case.

—Steve Ryder

6-High Country News — March 13, 1989

Montana tries to hold back the bison

Fifteen hunters gathered before dawn at the Forest Service ranger station in Gardiner, Mont., on a recent Saturday to be briefed on the rules of shooting bison.

The buffalo are wild, and most have never been fired upon. But when they wander out of Yellowstone Park, they become fair game. The State of Montana four years ago made them into a big game animal, subject to a special hunt run on a kind of lottery system. Montana's livestock officials want the buffalo shot, because they say the buffalo might spread brucellosis to domestic cattle.

So it's up to the game wardens to make sure the selected hunters, who pay \$200 for the license, not only get a shot, but that the bison die. If a hunter can't finish the job, a warden will.

Warden Captain Bud Hubbard told a group of hunters earlier this month: "We've found out there are two good spots to hit one. The best place is to get a side view and a head shot." He points it out on a photograph of a cow buffalo.

"You want to go from the base of the horn and about that far back is where you hold. If you're going to get that big vertebra, right there on the end of the spine, or you're gonna get a brain shot, then just drop 'em right there, you've got a real good hit. It won't wreck the skull or the part you're gonna put on the wall."

"Second best: heart shot. If the animal is walking, or you're just too far away to feel good about a head shot, go to the heart, that's fine, and that'll do it quick. But stay behind the front leg, and stay way low. Don't get any higher up the animal than about that. What people tend to do is think like they're shootin' an elk or a deer and get up there in the ribs, and believe me, we've had these things shot clear through, in the ribs, hole that big around, and they just keep right on walkin'. We've had a lung-shot buffalo keep up with a bunch two miles away. They've got so much lung, they can go a long way. It'll kill them eventually, but not as quick as we need it for our purposes here."

Hubbard warned the hunters not to be too choosy. This is a damage hunt, after all, he explained. "That's why we're all here. We take you to the bunch of buffalo we know that needs to be worked on. From that point, you have your pick of that bunch." But if a hunter

refuses to fire because there isn't a good enough bull, "that gives us some big problems. This isn't a trophy hunt. We don't mind trophies — if I had a permit, I'd want a bull, too."

That said, the hunters pile into their jeeps and trucks and head down Highway 89 to the gathering point, close to where the Yellowstone River emerges from the mouth of Yankee Jim Canyon. It was a cold morning, with an inch of fresh snow on the ground. Clouds bumped into the side of the mountains and all along the road were small groups of mountain sheep, elk and bison. There were some fine-looking trophy bulls on the way, haughty and blowing vapor into the cold morning air, but these were not to be shot today.

The target group was 40 buffalo, mostly cows and calves, that had been chased and shot at before. It took several wardens playing herder for more than an hour to haze the bison off high ground, through private land and onto a place for the hunters. The animals were evasive and unpredictable, but they stuck together. On a steep, rocky hillside, the buffalo showed speed and agility cattle could never match.

The bison halted on a low hillside near a ranch road. The first two hunters were turned loose, with wardens directing them. No. 1 hunter shot repeatedly, apparently hitting the bison's knee, and causing the animal to fall. It then got up and hobbled up the hill. Classic bison stamina. More shots. Finally, it fell for good. No. 2 was luckier, knocking his animal down with one shot. The rest of the buffalo took off over the hill.

Wardens and hunters followed, but returned soon, as the bison had circled around and were now on the other side of the road, on level ground obstructed only by short juniper trees and big boulders. This was good position for the hunters. A 34-year-old woman and a teenaged boy were next. She, a nurse about five-feet tall, knocked down a cow with one shot from her .358 Winchester. The boy's one shot from his 7mm rifle sent his young cow off the ground, flipping it completely over backwards. The herd was stirred up momentarily and danced around the fallen bison, but quickly settled down again.

Another woman hunter rested her

Steve Dowell



Downing a buffalo

rifle on a boulder, took her time, squeezed off a shot and scored.

Another teenaged boy fired several shots into a young bull. Each shot hit, but failed to knock the bison down. His father was behind him, recording the event with a video camera. The herd again disappeared, this time down toward the river. The wounded one emerged alone a few minutes later, standing tall, head raised, blood pouring from his nostrils. A warden drove the boy closer, and he leaned his rifle on the pickup box for the kill.

It then turned out the sure-shooting nurse hadn't killed her buffalo. It took another 20 minutes of coup de grace shots before that was over. Audubon would not have been surprised. His journal of a buffalo hunt noted that one bull took 24 shots before falling to the ground.

In Montana, big game hunting is a strong tradition. Many consider it a rite of passage for young people. To others, it is a measure of masculinity and skill with firearms. It is a way for industrialized man or woman to touch nature at a basic level. Certainly it is a very personal act, and shooting a buffalo for the first and probably only time in your life is hard enough without attempting it in front of an audience of other hunters and assorted total strangers while being coached by game wardens. But despite the circumstance, hunters are glad to have their numbers picked. Thousands more can only dream about this opportunity.

Farther up the canyon, the highest-numbered hunters brought down their bison in a sagebrush clearing at the edge of the forest. Frank Castagne, 81, had a fine bull, but after several shots a warden had to bring it down. The bull was turned on its back, its polished black hooves turned to the bright sky, and Castagne began to proudly hack open the brisket with a long-handled cleaver. It wasn't his first bison kill. He had shot them when his family raised bison many years ago.

A hundred yards away lay the last buffalo of the day. Diane Leum, the third woman hunter, had little trouble knocking down the young cow. She said she had been anxious and sleepless since learning a day earlier that she had been picked. Now that it was over, she said, it felt better. She gently passed her hand around the cockleburs in the dead bison's fur, admiring the tones of color ranging over the cow's hide, from coal black to golden tan. "Isn't she pretty?"

The scene of hunters with their

killed bison was lit by the afternoon sun and looked like a modern version of an ancient North American ritual. Bright red blood colored the new snow as bison were laid open and hunters and their helpers, all wearing surgical gloves, pulled out stomachs, lungs and other heavy entrails. If the bison is a carrier of brucellosis, humans could contract undulant fever if they did the butchering without protection.

Back down the road, Yellowstone research biologist Mary Meagher listened to warden radio-chatter and scanned the landscape. She said the killed-bison blood samples so far this season tested at around 50 percent brucellosis — no surprise. It was a broad sampling, since 250 had been killed. The Yellowstone bison have been her project for a good part of her life. She flies over the park often, checking them from the air. On the ground, she examines their range, their wallows, their calving grounds, their winter-killed corpses. She knows the animals intimately.

She said the bison are migrating because of last year's drought damage to the range, and because the population of the herds is higher than ever. It is only natural that they move out, she said. If left alone, they would re-colonize the upper Yellowstone Valley.

What does she feel as she watches her bison being killed by hunters? She looked away quickly, up the river. She won't comment on any aspect other than biological, but says she hopes the political solution will be compatible with the biology of the herd.

The "political solution," of course, is to kill bison to prevent the spread of brucellosis to Montana cattle. There are few cattle right now on this part of the upper Yellowstone. The disease can be passed onto cattle from bison only by close contact, notably sexual contact, or if cattle eat the afterbirth of a bison calf. These bison don't calve until April, and the cows are unlikely to abort now, because they are immune to the contagious abortion-inducing effects of brucellosis. There are no documented cases of wild bison infecting domestic cattle. But Montana cattle are certified as free of brucellosis, and state government intends to keep them clean. Some say the hunt is an overreaction by the state.

The buffalo is the victim now, as it has been for more than a century. Brucellosis was originally passed to the buffalo by domestic cattle. Consider this: Back in 1973, the USDA proposed that as many bison as possible in Yellow-



Steve Dowell

Bison on his way out of Yellowstone National Park

stone Park be rounded up, corralled, tested for brucellosis, and all those carrying the disease be destroyed. Those left free on the range would be hunted down and killed, just to make sure. At that time, maybe 85 percent of the herd of 700 would have been killed.

The National Park Service said no deal. It also said it had been mistaken years earlier, when it reduced the park's bison by wholesale slaughter. Over the three winters from 1954-57, the herd was cut from 1,500 to 500. From 1961-66, it was cut from 900 head to 300.

The Yellowstone bison have made a remarkable comeback. That's why Mary Meagher says she's not worried about this "damage hunt" threatening the remaining 2,700 or so bison.

Exactly 100 years ago, William Temple Hornaday, chief taxidermist of the U.S. National Museum (now the Smithsonian), conducted a U.S. bison census. He found 85 free-ranging bison, 200 in Yellowstone, and a few more in zoos and private reserves.

Three years earlier, he'd had a difficult time finding specimens for his museum's buffalo exhibit, but managed to take 25 from the remote badland plains of eastern Montana. The following year, 1887, an expedition from the Museum of Natural History came out looking for bison specimens. They hunted the same area for three months and found not one buffalo.

Yellowstone's herd was soon decimated by poachers gunning for hides and heads. By 1901, the park was down to 25. Alarmed conservationists bought 21 from private herds in Texas and Montana and coddled them with food and shelter in Yellowstone. Since then, the park's bison have had their ups and downs, until today there are so many they are trying to migrate back to their historic ranges.

The first big migration of Yellowstone bison came during the winter of 1984-85. Pressured by animal rights groups, national park rangers at first

Pat Dawson



Frank Castagne, 81, wields a cleaver on his bull bison

used rubber bullets, cattleguard gates and other schemes to try to turn back the bison or prevent them from leaving Yellowstone.

That winter, Montana game wardens also shot 88 bison, which infuriated state hunters. They wanted some of the action. The bison had not, of course, been legal

to hunt for nearly 100 years. So the 1985 Montana Legislature enacted a law making the bison a big game animal, subject to a special hunting season. The law was intended to solve the Yellowstone buffalo problem.

During that first open-season of 1985-86, hunters killed 57. The next year, they brought down only six which wandered out of Yellowstone. From July 1987 to Sept. 30, 1988, they took 39 head.

Since last Oct. 1, they have shot over 500, and permits have been issued for 250 more.

The day I observed, the herd of 40 lost more than a third of its number to hunters' guns. The survivors cancelled their migration and headed back up the river toward the park. That pleased the state game wardens.

By the side of the road at the mouth of the canyon that afternoon, a party of buffalo hunter helpers had a massive hide staked out on the ground, drying in the warming air. In the box of their truck was a buffalo carcass, splayed open, neon red in the sun, naked to the world. It looked like the migration had been halted here.

A few miles farther down the road there appeared a startling sight on out the valley plain. About a dozen buffalo trotted close together, like an oldtime football team rushing downfield. They were pointed north and looked determined, as if driven from inside by some collective mission. They had eluded the wardens and the hunters and were headed off to find some ground where they could graze in peace and drop calves. They were returning to their ancestral country, despite government resistance, barbed-wire fences, highways and plowed ground. Their movement was a sign that the buffalo are trying to come back. It's only taken a hundred years.

— Pat Dawson

REPORTER'S NOTEBOOK

Utahn Calvin Black is in another uranium-related fight

Uranium has figured prominently in the life of Calvin Black, the San Juan County, Utah, commissioner.

At age 18, he drove a truck hauling uranium ore from a mine in southeastern Utah to a mill near Naturita, Colo. He worked underground as a uranium miner and owned several uranium mines in the Four Corners area. And as a stridently pro-nuclear county commissioner, he fought an unsuccessful battle to build a radioactive waste dump near Canyonlands National Park.

This lifelong association with radioactive materials may have had a price.

Commissioner Black, 59, was diagnosed last November as having inoperable cancerous tumors on the center lobe of his right lung and right shoulder blade.

His doctors say there's a good chance the cancer was caused by exposure to high levels of radioactive radon gas while working in unventilated uranium mines. The precise cause of his cancer will never be known.

"We didn't use ventilation back then. We didn't know radon was there and we didn't know she had any daughters running around," said Commissioner Black.

Radon daughters are the decay products of radon gas which can become lodged in the lungs and cause cancer.

"After they finally were able to measure the concentrations of radon in some of the areas I mined, they found I was probably exposed to several hundred times the radon exposure in one year that you're allowed to give an underground uranium miner in a lifetime," he said.

In addition to exposure in the mines, the commissioner was also fond of wearing a bolo tie which contained a chunk of some of the richest uranium ore ever discovered in San Juan County.

"Oh... I don't think that has anything to do with it (the cancer). I haven't worn it that much, but it was probably a little foolish," he said.

Commissioner Black is receiving chemotherapy and remains optimistic about the future. "Philosophically, I think I can beat it. A lot of people have ... But if it doesn't work, then the doctors told me I could measure my time in months," he said.

Except for a stiff shoulder and minor problems with infections, Commissioner Black said he feels fine and intends to complete the remaining two years of his term as county commissioner.

"Then I think I'll run for Senate again in 1992. That tells you I think I'll still be here." Commissioner Black made an unsuccessful bid for the Senate seat representing southeastern Utah in 1988.

Although he intends to continue in politics, the commissioner said his cancer has prompted him to reconsider priorities and devote more time to family.

"I don't have time to be sick and I don't have time to feel sorry for myself. I've got a lot of things I want to do with whatever time I have left on this earth, and that's the way we all ought to look at it," he said.

The Blanding native has served on the San Juan County Commission since 1967, except for two years when he served in the Utah House of Representatives. He owns a trucking company and the Best Western Gateway Motel in Blanding. He is also a partner in a Blanding restaurant.

The commissioner is known throughout the Intermountain West for

his vociferous, pro-development positions. He has waged long and bitter battles with environmentalists over such issues as wilderness, mining, power plants, highway development, nuclear-waste disposal and the management of public lands.

"I think I understand what is reasonable and what balance is. But if they (the environmentalists) take an extreme position, and we take a balanced position, the decision ends up somewhere between their position and ours," said the commissioner.

"I've learned that we should always take a position as far from reasonable as theirs."

— Jim Woolf

HOTLINE

Drilling gets green light

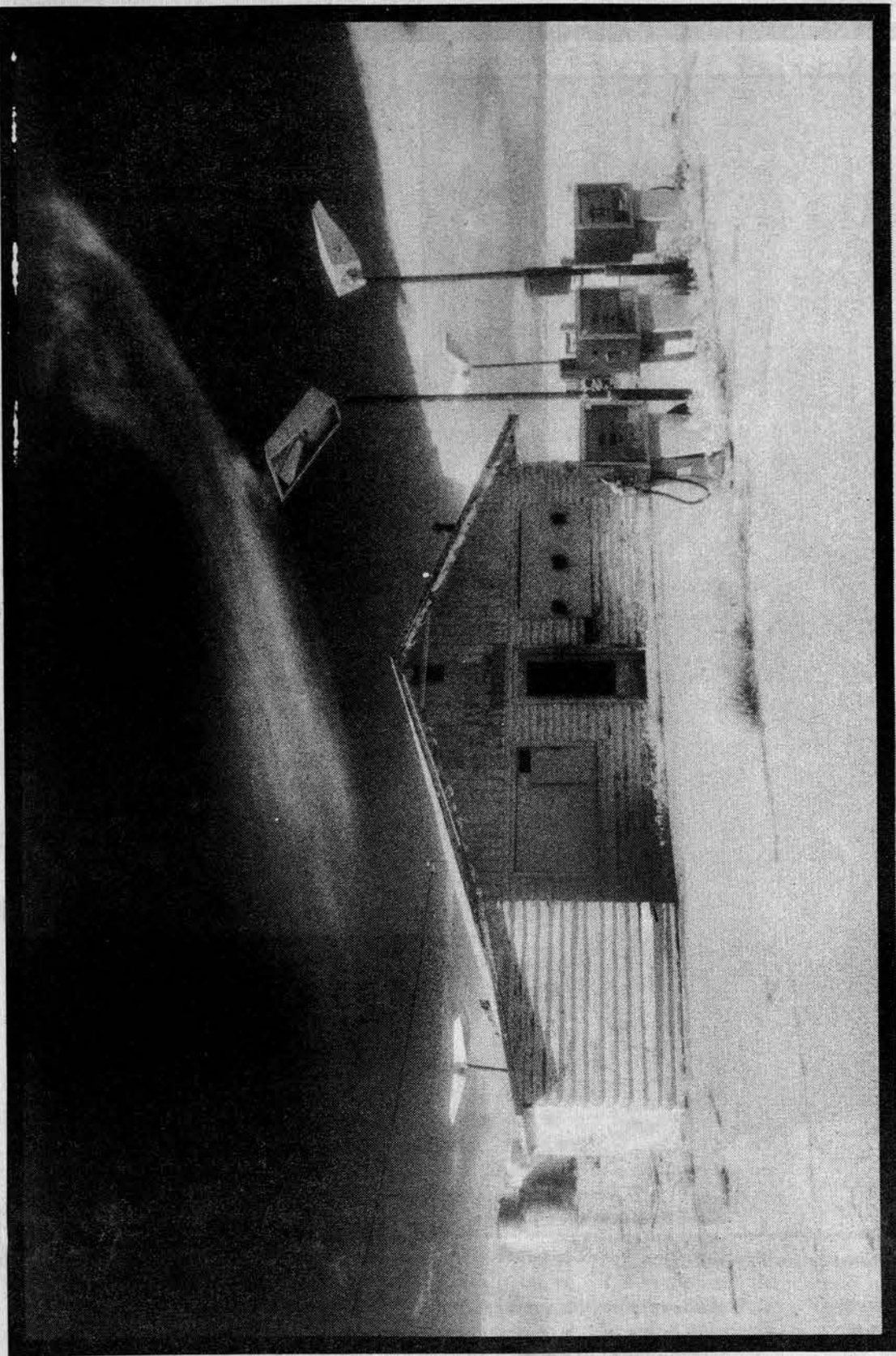
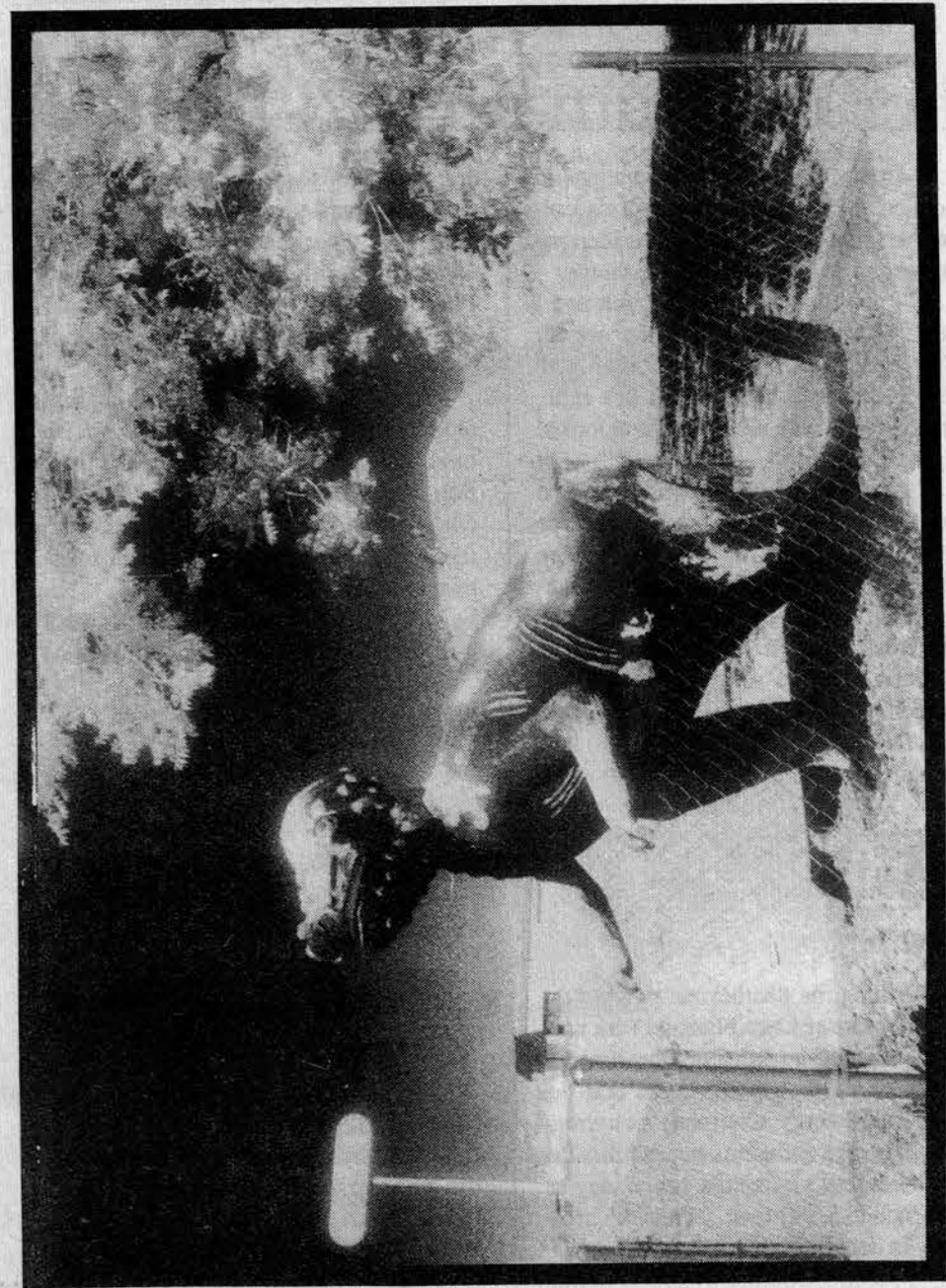
Drilling for geothermal power near Oregon's Crater Lake National Park may soon resume. The Interior Department's Board of Land Appeals ruled that the California Energy Company's environmental studies are adequate, and that the two holes they've already begun may be deepened to 5,500 feet. While the company is deciding when to begin again,

the Oregon Natural Resources Council, one of the groups which filed the appeal, is considering another lawsuit.

BARBS

We're waiting for the engagement calendar to come out.

A blurry photo of Old Faithful with the photographer's finger on the lens won a "Boring Slide" contest in Jackson, Wyo.



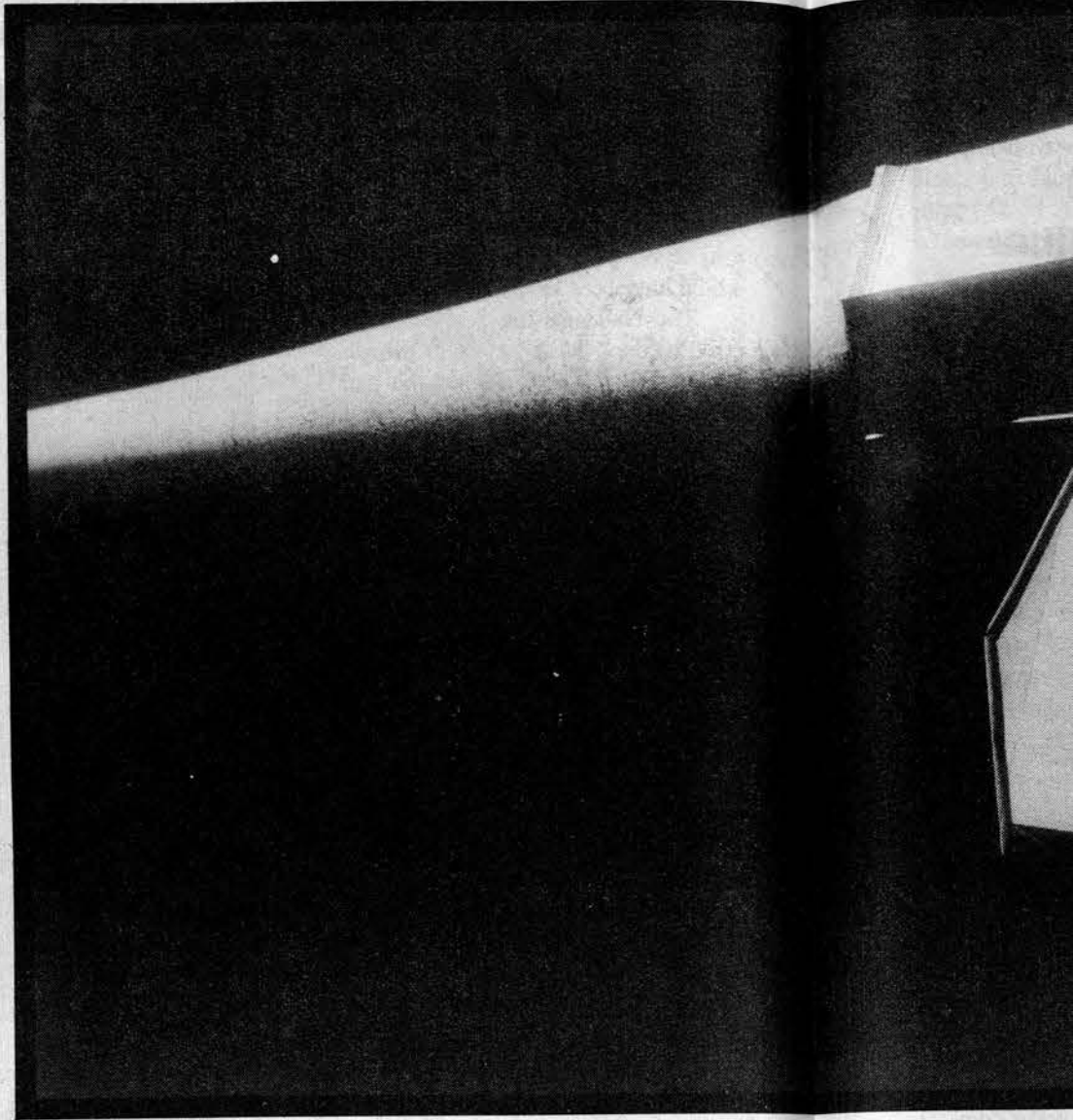
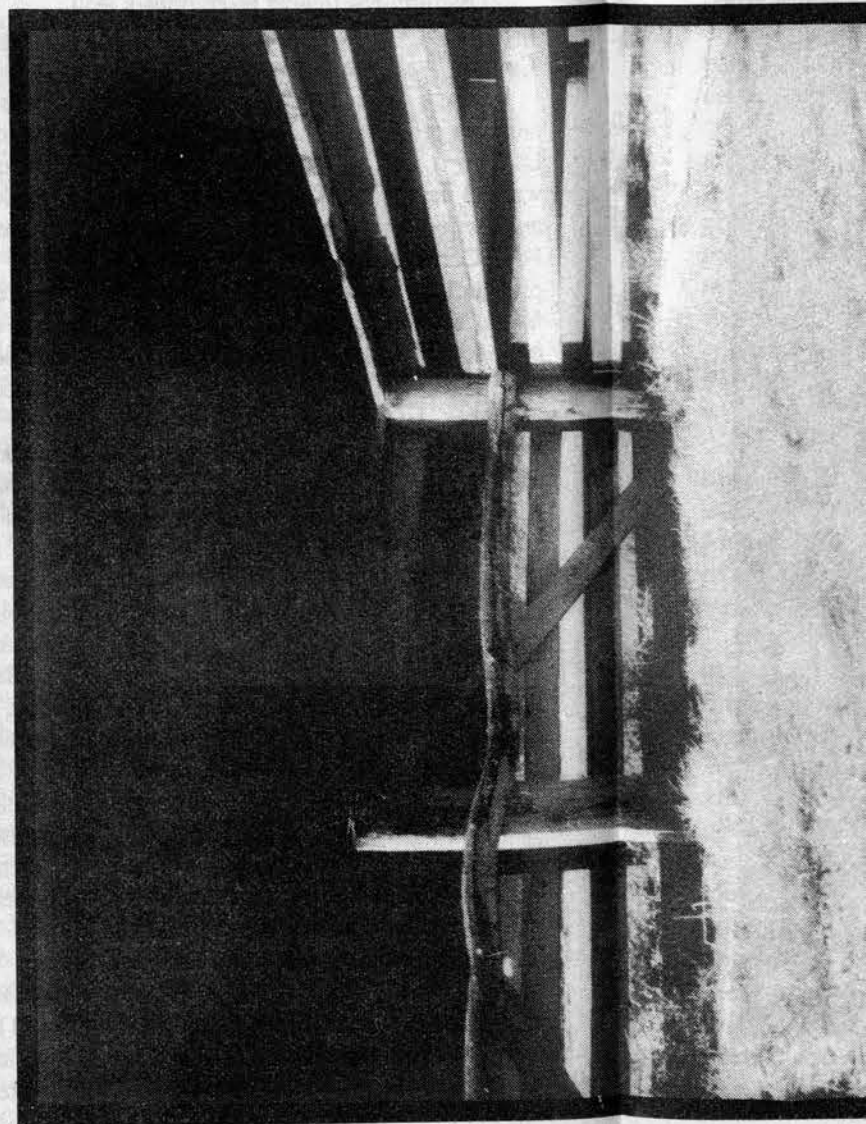
Whatcha' takin' a pitcher of?

by Doug C. Rhinehart

I photograph isolated, lonely and out-of-the-way locations throughout the West. Though my contacts with people in such environs are few, some have been funny and enlightening. Many encounters begin with an observer's curiosity.

A few years ago I was pursuing a series of photos of objects caught on barbed-wire fences. On some desolate road in southeastern Colorado, I spotted a single old high-top tennis shoe hanging from the top strand of a roadside fence. I stopped the car and got out my camera equipment. As I worked, I became lost in what I was seeing. I was intrigued with the old canvas sneaker barely hanging by one shoelace onto the barb.

When satisfied, I picked up my camera and tripod, turned to walk back to my car and noticed an old, dusty pickup slowly approaching and pulling to a stop on the other side of the road. I thought the two cameras inside, about as old and as



was seeing. I was intrigued with the old canvas sneaker barely hanging by one shoestring onto the barb.

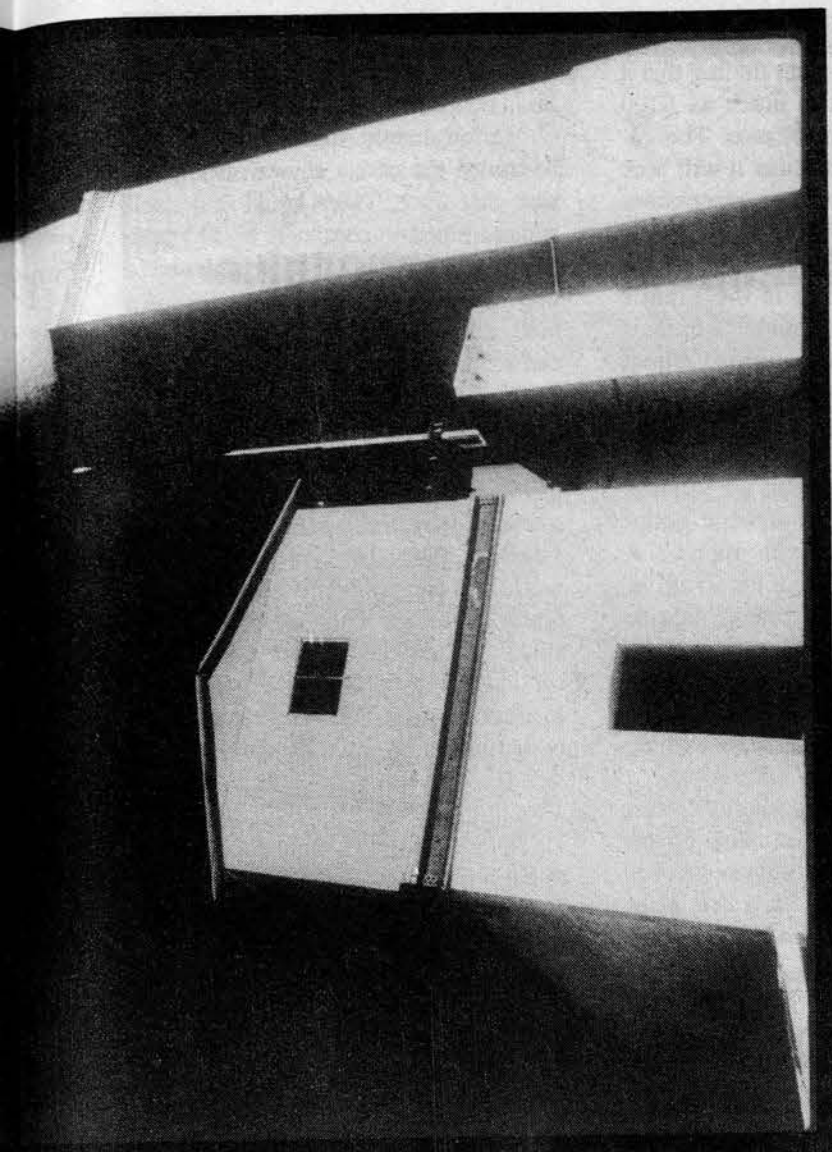
When satisfied, I picked up my camera and tripod, turned to walk back to my car and noticed an old, dusty pickup slowly approaching and pulling to a stop on the other side of the road. I thought the two farmers inside, about as old and as dusty as the truck, might own the land and were just checking on what I was doing.

The old guy who was driving slowly rolled his window down and very deliberately rested his arm on the door. He leaned his head out and methodically pushed the brim of a battered hat up on his forehead, revealing a bright band of untanned skin.

I figured my best tactic was to be friendly and unthreatening. So I gave them a smile and greeted the driver with, "Hi, how ya doin'?"

He stared at me for a few uneasy seconds. "Whatcha' takin' a pitcher of?" he asked as slowly and deliberately as he had rolled down his window.

Ahh, yes. That question once again. I pointed, cheerfully volunteering, "That old tennis shoe hanging on the fence down there."



A few more seconds went by as he studied me. His timing was as keen as any actor's. He likely didn't know what a pregnant pause was, but he had it down. "Ya want it?" he drawled. He turned to his cab mate, and they both chuckled.

I figured I might as well laugh along with them and replied, "No, I'll just leave it there for the next crazy photographer."

They must have found my reply to their liking, as they laughed a little bit. I felt pleased that we seemed to be on more equal footing. Any moment now they'd be asking me to go have a beer with them.

"Where ya'll from?"

I replied I was from Aspen and that was up in the mountains, and I began to explain to those two old boys my aesthetic sense. I said that I liked photographing on the plains because of the play of space and I found the distant horizon line was ...

"Well, I'll tell ya what. Wherever you're from, I'd suggest when ya get ta home that ya go see a doctor." Another pause, eyes still fixed on me and a smirk as he lay on the clincher, "Cause you're sick!"

Laughter erupted from inside the cab, and my inquisitor rolled up the window, put the truck in gear and slowly pulled onto the road. Left standing there, I watched the hats on their heads in the back window bob

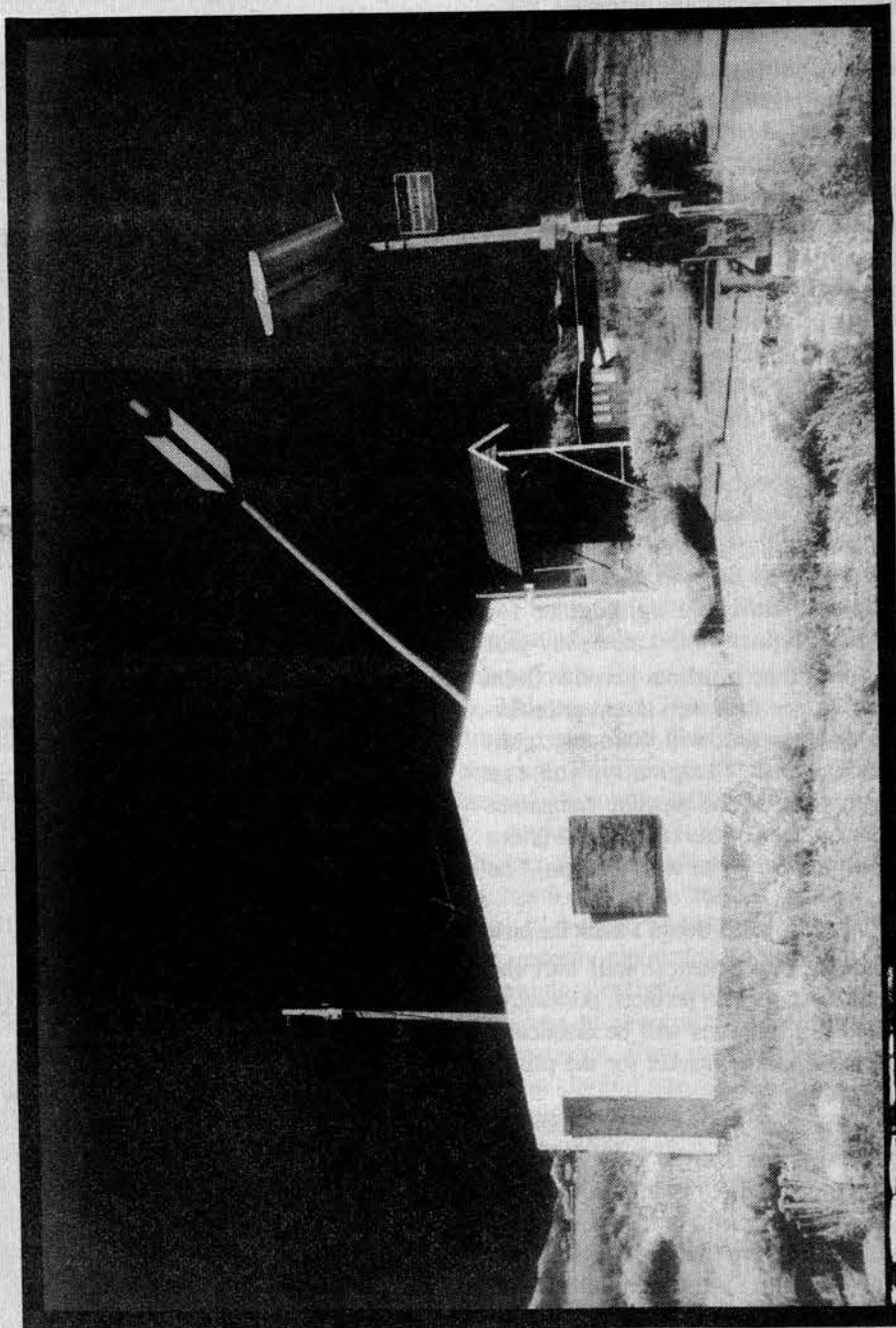
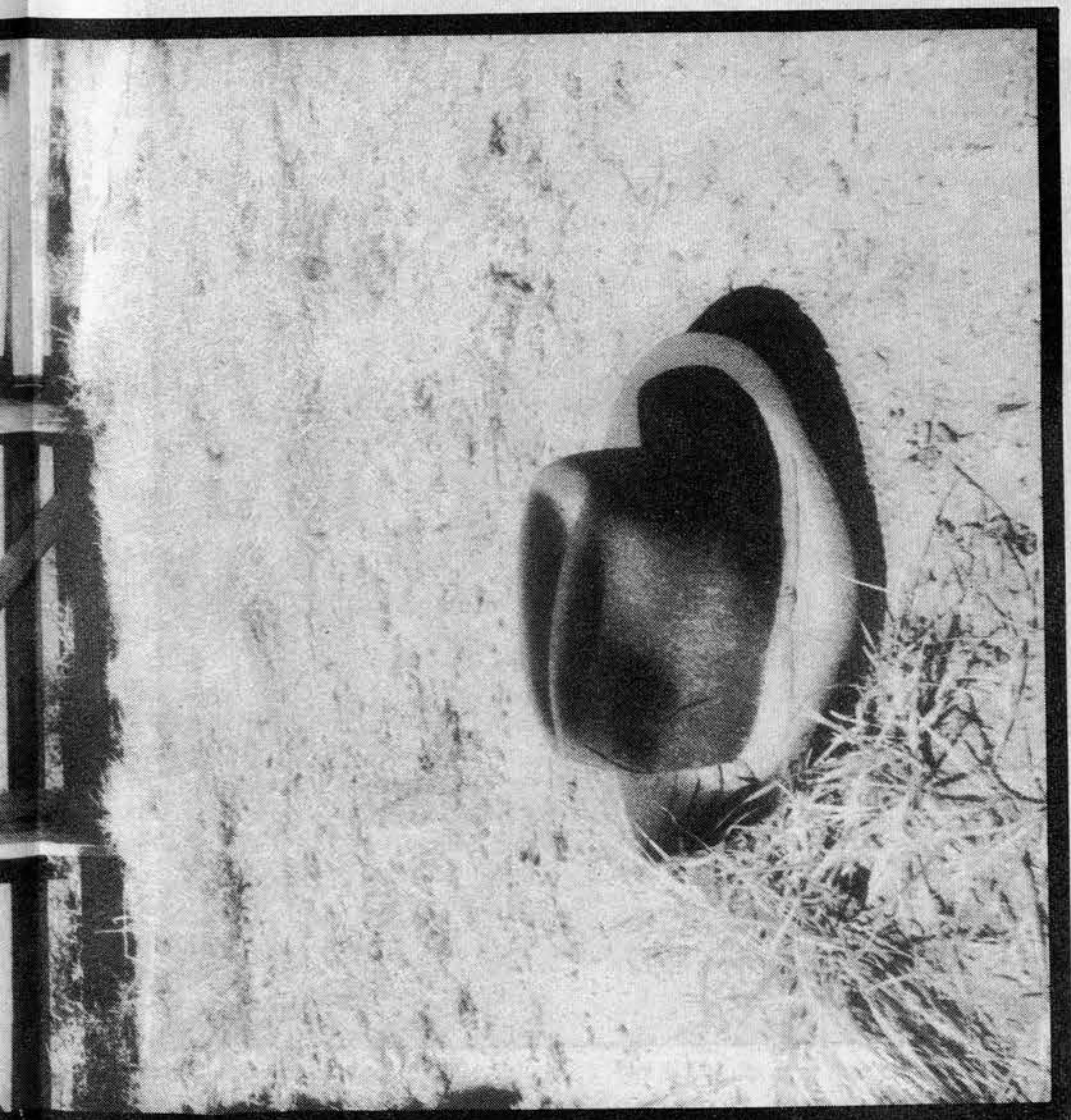
up and down, back and forth, as, I'm sure, they repeated the punch line several more times and slapped their knees harder with each telling.

I was born and raised in the West. It makes me sad to see change come — I know, I know, "Change is inevitable." But that doesn't mean I necessarily like it. So I seek out lonely, isolated places in the West where the landscape predominates but a man-made remnant or two is left to symbolize our struggle for a foothold. Such places hold a silent and sad beauty. They're not a part of the force-fed scenery along the sterile corridors of an interstate. I spend hours upon hours upon miles exploring the back roads.

My photos are not intended to be documentations. Rather, I am trying through my work to capture the essence of such places and the feelings that I have for them. I photograph in black and white because I can feel a place better in black and white. Just as I am trying to express feelings that are unseen, the infrared film that I use also reveals an element that is not visible. It all has to do with a sense of time, a sense of place and a sense of light.

□

Doug C. Rhinehart lives in Woody Creek, Colorado.



Syngas...

(Continued from page 1)

But the big question is: Can Great Plains turn a profit?

Though skeptics are plentiful, the former manager of the plant, Mike Mujadin, is optimistic. "It should be quite profitable for Basin," he says. "I think it's inevitable they'll make money."

Mujadin knows the plant as well as anyone. He was involved in the earliest planning for the gas plant, starting in 1973, and he saw the project grow from "a paper blueprint to an actual operation employing hundreds of people." Mujadin's employer, American Natural Resources, ran the plant for DOE, and Mujadin was the plant manager during that time. Although he left the plant when Basin took over, he remains a supporter.

Mujadin reports the DOE accumulated cash reserves of \$150 million during the three years it controlled the facility. The DOE had no debt to service, but Basin has very little debt to service either, since it paid so low a price.

The crucial question is what will happen to Great Plains when contracts with the four pipelines are no longer in force? The contracts use a complex pricing formula to regulate the price the pipelines must pay for the plant's output.

There are three phases to the pipeline contracts. Through most of 1989, the plant's gas price is tied to the going price of No. 2 fuel oil. The second phase, running until 1994, binds the pipelines to a sale price equal to that of the most expensive natural gas they are transporting. The third and final phase, ending in 2009, aligns the price of Great Plains gas to the average selling price of natural gas at the wellhead.

According to Ken Ziegler, manager of communications and government relations for Basin, "The price of gas out of the plant is about double the price of natural gas at the well head." It has been estimated the pipelines have already lost \$300 million buying this gas.

James Baily, a spokesman for Coastal Corporation, a company that owns one of the pipelines bound to Great Plains, agrees that the current price formula and contract will discourage contract renewal. "Logically, you can assume none of the pipeline companies will renew the contracts unless the prices are competitive (with well head gas)," he says.

Mike Mujadin doesn't think the lack of protective contracts will hurt the plant. "By then," he predicts, pointing to 2009, "well reserves will be drastically diminished and a market for the plant's gas will exist."

Recent studies, however, indicate that natural gas can be found in more places and in larger quantities than had been thought, and experts such as Amory Lovins predict energy prices are likely to remain flat or even decrease for a few decades.

Robert McPhail, general manager for Basin, has acknowledged the financial risks associated with owning Great Plains. But McPhail says those risks can be minimized. In testimony before the Senate Energy and Natural Resources Committee last fall, he stated, "Through active development of the plant's by-product potential, we anticipate sufficient revenues to offset the risk of continued low energy prices."

Basin's subsidiary, Dakota Gasification, does plan to aggressively market

by-products such as carbon dioxide, sulfur dioxide, nitrogen and others.

Scott McBride, manager of communications for Dakota Gas, says less than 5 percent of the plant's revenues now come from by-product sales. The plant already supplies 10 percent of North Dakota's anhydrous ammonia for use as fertilizer. Carbon dioxide, the plant's most abundant by-product, can be marketed for tertiary oil recovery, though prospects for carbon dioxide injection are dim when oil prices are low. Tapping the plant's by-product potential is further complicated by the need to invest substantial capital to purchase and develop required technology and hire expert personnel.

In addition to the question of profitability, there is the question of the plant's emissions. Some nearby residents complain about the plant's odor and pollution. Julie Ruplinger, director of the Dakota Resources Council, says the plant has never met North Dakota's sulfur dioxide standard.

"It's been operating under a Notice of Violation since opening," she says.

North Dakota allows a maximum emission of 1,340 pounds of sulfur dioxide per hour. Great Plains has been releasing 3-6 times that. Asthma and other respiratory problems are associated with sulfur dioxide.

As part of their sale to Basin, the DOE has agreed to install \$30 million worth of pollution control equipment. Federal officials, however, say the resulting reduction might still fail to meet legal limits.

Julie Ruplinger worries that Basin's local status and statewide political clout will protect it. "We're afraid the state standard for sulfur dioxide will be changed," she warns, citing a North

Dakota Health Department finding that it could cost the plant as much as \$100 million to achieve compliance. The co-op has not indicated whether it will seek changes in state law or other concessions from state government.

The most nagging and far-reaching environmental concern is the plant's emission of carbon dioxide, which is implicated in global warming. About 12,000 tons of the gas are released each day by the Great Plains facility.

Does the plant's contribution to atmospheric pollution concern Basin? A spokesman for Basin, Ken Ziegler, seems unconvinced that carbon dioxide releases can affect climate, though he says the plant's board is investigating the matter. There is no way to reduce the plant's carbon dioxide emissions without reducing its production of natural gas.

Obviously, Basin's primary interest in the plant is financial. The co-op acquired Great Plains mostly to prevent the sudden financial hardship that plant closure would have caused the coopera-

tive. This has been candidly stated by Basin officials.

Unfortunately, such a hardship may be around the corner anyway. It is plausible that Great Plains could find itself without pipeline customers in 20 years, and although Basin's user-members have been assured their electrical rates are protected if the gas plant fails, the financial resiliency of the already overbuilt cooperative will be severely tested if the plant shuts down.

Pollution, jobs and Basin's desire to protect economies of scale have created a triangle of trade-offs in the Great Plains situation. The cooperative and its employees are willing to gamble on the future of the gasification plant. Critics wonder if the plant can withstand continued low energy prices. Others see Great Plains as a waste, both contaminating the environment and draining capital.

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Peter Carrels is a regular contributor to *High Country News* from Aberdeen, South Dakota. His story was paid for by the High Country News Research Fund.

Coal-to-gas alchemy

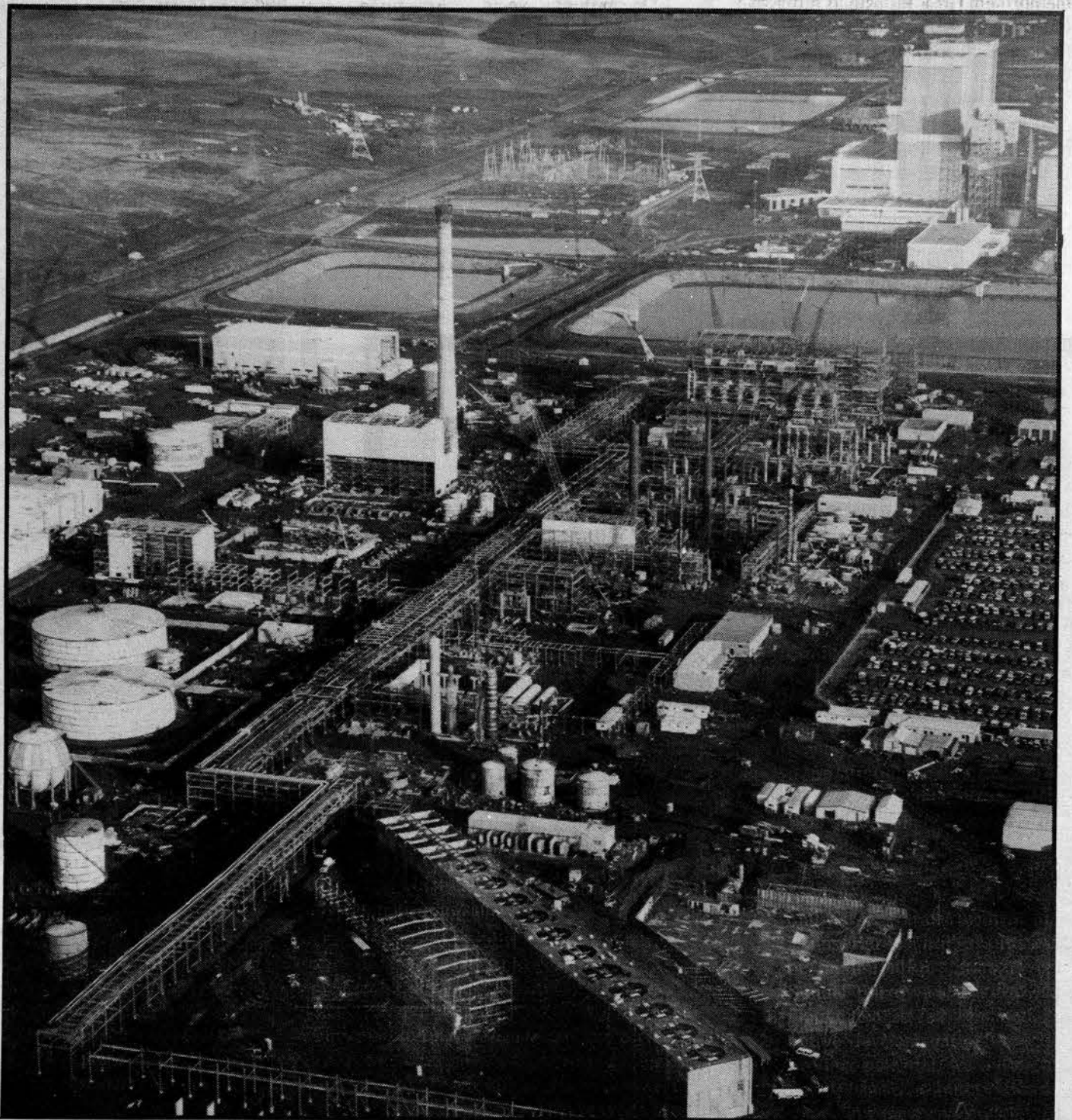
At the Great Plains plant, locally mined lignite coal is conveyed into one of 14 gasifier units inside the plant. The gasifiers are the heart and soul of the coal-to-gas conversion technology. These units are manufactured by Lurgi, a German firm, and details regarding the design of the Lurgi product are not available to the public. Other Lurgi gasifiers are in use in South Africa.

In the gasifiers, a mixture of steam, oxygen and the lignite are heated to

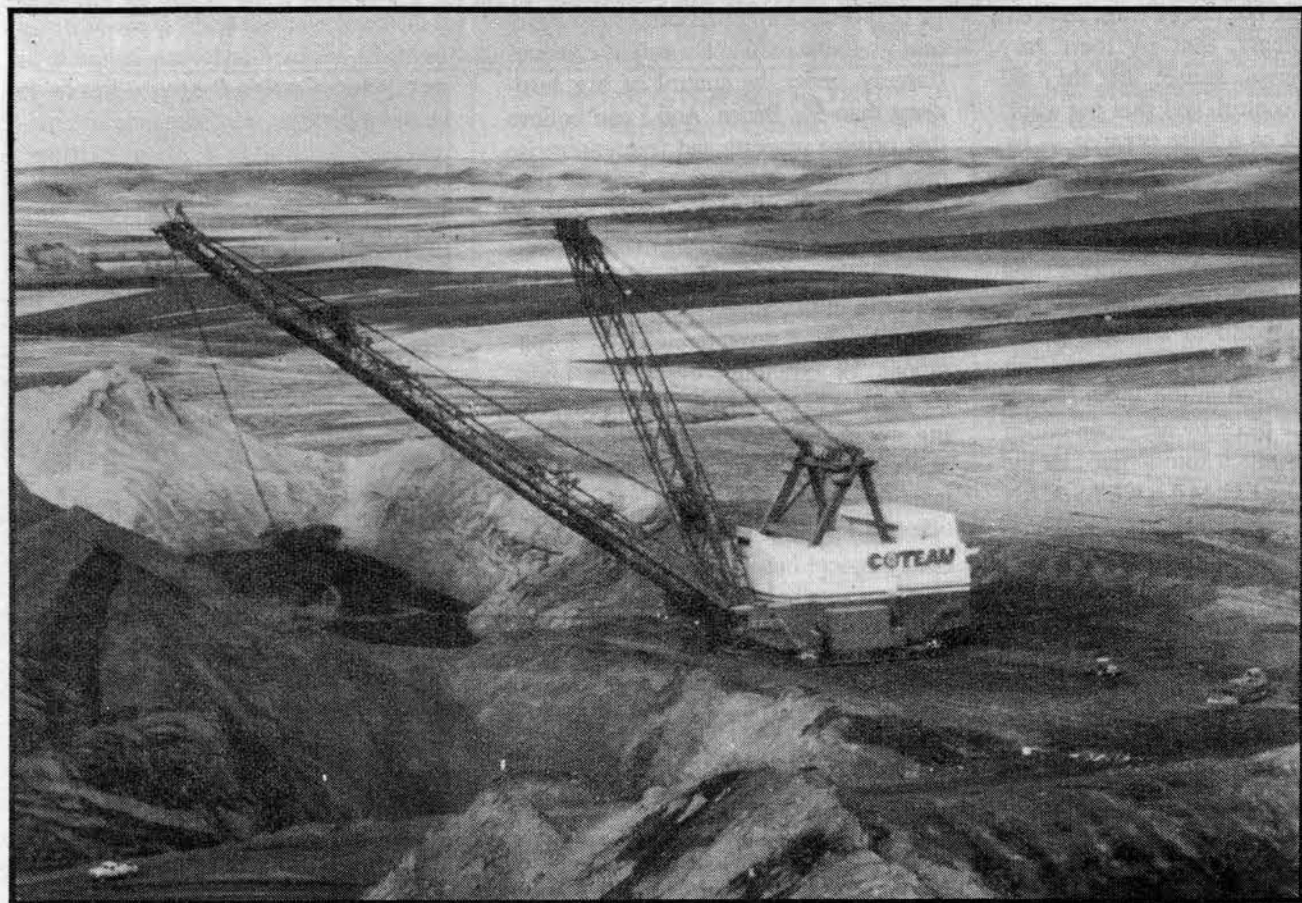
2,200 degrees. This breaks down the coal's molecular bonds and releases carbon, nitrogen, hydrogen and sulfur compounds to form a raw gas stream. The raw gas then undergoes a four-part purification process, including, in order, cooling the gas, catalytic reactors, a cold methanol wash and compression. At that point, the gas is ready for the pipeline.

—P.C.

ANG Coal Gas Co.



Great Plains coal gasification plant in North Dakota



Beulah Beacon

A car, lower left, reveals the gigantic size of a dragline at the Great Plains coal plant

What did not happen on the Great Plains

by Steve Hinchman

In late 1971, farmers, ranchers and Indian tribes of the northern Great Plains got a glimpse of a federal blueprint for their future. They were horrified.

The blueprint, called the *North Central Power Study*, was developed by the U.S. Bureau of Reclamation and 17 utility companies. It called for turning the northern Great Plains into a massive industrial complex to supply electricity and natural gas for much of the rest of the nation.

The grandiose plan was based on the region's immense coal reserves, which lay in huge and relatively untouched deposits throughout northern Wyoming, eastern Montana and the Dakotas. Assuming almost all the coal, which is close to the surface and easily stripable, would be leased and mined, the study recommended building enough coal-fired power plants to produce between 53,000 and 197,000 megawatts of electricity. Each power plant would be built next to a strip mine and have a capacity of 5,000 to 10,000 megawatts.

By comparison, the giant Four Corners coal plant in New Mexico produces only 2,000 megawatts. At the time of the proposal no other country in the world had an electrical capacity of 197,000 megawatts except for the United States and the Soviet Union.

Participating utilities ranged from Pacific Power and Light in the Northwest to Detroit Edison in Michigan, and the proposal included vast networks of high voltage transmission lines stretching from Portland, Ore., to St. Louis, Mo. Some 4,800 square miles of right-of-way would have been required to build the transmission network.

In addition to power stations, the plan envisioned 20 or 30 coal gasification and liquefaction plants. The sprawling, complex plants would process the West's low sulfur coal into hundreds of millions of cubic feet of natural gas or millions of gallons of methanol per day. Also built near the Great Plains' strip mines, the plants would be connected to cities in the Midwest by hundreds of miles of pipelines.

The study estimated over 1.5 million people would flood the region, tripling and quadrupling most existing

towns and requiring construction of several new ones.

New railroad lines and spurs were mapped out and BuRec estimated that it would take up to 2.6 million acre-feet of water for coal development in Montana and Wyoming alone. The agency proposed construction of extensive dam and aqueduct systems, draining water from almost every major river and aquifer in the region, and several outside the region.

One proposal would have pumped 60,000 acre-feet from the Green River east across the Continental Divide to the upper North Platte River. The water would then go north across another divide to feed more than a dozen coal gasification plants planned for Gillette, Wyo., in the Powder River Basin.

The 1971 *North Central Power Study* was based on historic energy consumption rates and projected the maximum possible development of the region's coal reserves. It did not consider environmental, social and economic impacts.

To the farmers, ranchers and Indian tribes of the rural plains who did consider those impacts, the study portended "a pretty frightening future" says Pat Sweeney, an environmentalist who cut his teeth on the 1970s coal battles and who now directs the Western Organization of Resource Councils in Billings, Mont.

However, soon after the study was made public the 1973 energy crisis hit. The price of oil and natural gas escalated, and what had been viewed as a utility wish-list became real. Lines appeared at gas stations across the nation, and the Atomic Energy Commission, forerunner to the Department of Energy, predicted gas rationing by 1974 and total depletion of natural gas resources by 1986.

The Great Plains' coal was seen as a panacea for the nation's energy woes, and in some areas the crisis spawned a virtual gold rush. Throughout 1973, for example, *High Country News* was filled with reports of ranchers and Indian tribes besieged by energy companies offering to lease or buy their land to mine coal buried below. In one of a series of special issues, *High Country News* founder and editor Tom Bell listed current developments in Montana, Wyoming and North Dakota as of June of that year:

- New coal leases were issued on 320,000 acres of Bureau of Land Management land, 519,000 acres of Bureau of Indian Affairs land and 490,000 acres within the states of Montana and Wyoming;

- Two coal-fired power plants were under construction at Colstrip, Mont., and there were plans for two more, which would bring the installation to a total capacity of 2,100 megawatts. Officials there talked of eventually reaching 10,000 megawatts. Two more 750-megawatt plants were under consideration for Wyoming, and four other large plants were being planned for South Dakota.

- Two Midwestern natural gas companies announced plans for four coal gasification plants to be built in Montana and Wyoming. And, the Michigan-Wisconsin Pipeline Company had asked the state of North Dakota for 375,000 acre-feet of water to operate 22 huge, 250 million cubic-foot-per-day coal gasification plants. The towns of Gillette and Rock Springs, Wyo., were booming faster than construction companies could build houses.

The scale of development was so large, and the anticipated environmental damage so severe, that in a 1974 study, the National Academy of Sciences coined the term "National Sacrifice Area" to describe the potential long-term impact to much of the Great Plains. The study said that because of the region's aridity and thin topsoil much of the land opened to strip mining could never be reclaimed. Scientists also warned of irreversible pollution of groundwater and fouling of the air.

As a result, during the mid-1970s, there was a broad grass-roots reaction, both from citizen groups and state governments. Bruce Hamilton, the Sierra Club's former Northern Great Plains regional representative, says plans to dry up rivers and ring existing towns with coal gasification plants were the downfall of some politicians and an opportunity for others. Wyoming Gov. Stan Hathaway, who supported the energy companies, was defeated, and Wyoming Sen. Malcolm Wallop, who campaigned on the slogan that the energy crisis was creating a nation of "49 states and one smudge," was elected.

Montana, Wyoming and the Dakotas

passed the strictest industrial siting, strip mining and air and water quality laws in the nation, most of which are still on the books. The states vied with each other for the country's highest coal severance tax rates, and the Western Governors' Association formed a special regional Energy Policy Office to protect states' rights.

Sweeney and Hamilton say the energy crisis was also the catalyst that started the environmental movement on the Great Plains, spawning groups like the Northern Plains Resource Council in Montana and the Powder River Basin Resource Council in Wyoming. The groups filled their ranks, says Hamilton, with hundreds of "shell-shocked" farmers and ranchers, who until then had been conservative and apolitical.

Mounting public opposition, strict state laws, energy conservation and low fuel prices slowly began to take effect. The *Northern Great Plains Resource Program Study*, written by the Department of the Interior in 1975 and 1976, still predicted intensive development but scaled down the number and size of projects. The 30-volume study included for the first time an investigation of social and environmental impacts.

The boom got a momentary lift when Congress established the \$88 billion Synfuels Corporation in 1976. Much of that money was earmarked for coal gasification and liquefaction, and proposals from the big energy companies started pouring in for the Great Plains states.

By 1980, in Montana alone, Tenneco, Mobil Oil, Amoco, Burlington Northern and several others had bought land, coal leases and water rights. They were applying for permits and were on the verge of beginning construction on five coal gasification and liquefaction plants. Next door, in North Dakota, 22 new plants were planned.

However, those proposals fell to the same falling energy prices that killed the coal-fired power plants and the synfuels oil shale program in Colorado. By 1983, all but the Great Plains gasification plant in Beulah, N.D., were dead.

In the end, only a tiny portion of the projects listed in the *North Central Power Study* were built. Today the Great Plains hosts one gasification plant, which is only half its planned size. The states of North Dakota, Montana and Wyoming combined produce only about 11,600 megawatts of electricity from coal-fired power plants, most of which were built after 1971.

And not all of it is needed. Basin Electric, the giant utility company serving North and South Dakota, Wyoming, Iowa, Nebraska, Minnesota and Montana, recently reported it has over 1,000 megawatts of excess capacity.

Some of the study's predictions were accurate. Coal production in the West has climbed steadily. The six states of Wyoming, Montana, North Dakota, Colorado, Utah and New Mexico produced less than 25 million tons of coal in 1968. Last year they topped 250 million tons. Much of that is shipped to coal-fired power plants out of the region. Several energy companies still own water and coal leases, waiting for the day high fuel costs will make their investments feasible again.

However, because of the greenhouse effect, high prices and a new demand for Great Plains' coal may never materialize. Coal power, whether for gas or electricity, says Pat Sweeney, is an "antiquated technology that is ruining the world's environment. It can no longer be the cornerstone of our energy future."

□

12-High Country News — March 13, 1989

LETTERS

NO REVIEW AT ALL

Dear HCN,

Your "review" of Edward Abbey's *The Fool's Progress* is no review at all, but merely a hateful attempt at character assassination. And why? Hasn't Abbey been a friend to HCN? Hasn't he brought tens of thousands of people into the environmentalist world? Edward Abbey is a gentleman and one of the finest writers working today. His "crime," as near as I can tell from your criticisms, is being outspoken and honest. I am embarrassed for HCN. In the future, you'll do well to stick to straight environmental journalism, at which you are among the best. Why couldn't you have brought your usual impartiality to bear on the Abbey review?

David Petersen
Durango, Colorado

TOO SIMPLISTIC

Dear HCN,

Some time ago I sent an article to the editor of HCN expressing my observation that corporations, especially big

ones, are at the bottom of most environmental problems, that by their very nature they invite abuse, that they are totally out of control, and that our whole system is built on a false premise — i.e. that it is morally acceptable to ride free on the labor of others through the practice of loaning money at interest.

The editor rejected that piece stating that it was too long for a letter and, further, didn't respond to something that had occurred previously in the paper. But now we are offered in the latest issue a longer editorial piece by Mr. John Baden which is pretty much summarized by the headline — FREE MARKETS CAN PROTECT THE EARTH.

No doubt it's comforting to believe that there is some natural mechanism that will automatically and fairly regulate all our economic processes if we will only let it alone and let it work — "...lean government, private property rights and free enterprise," in Mr. Baden's words. But historically it doesn't seem to have worked that way. In the earliest days of the industrial revolution when business enterprise was the freest, abuses were also greatest. Further, at the present time the nations that seem to have the highest form of economic justice and concern for the environment are those that have a balance of private, public and co-operative ownership — e.g. the Scandinavian countries.

I am no more a supporter of our present government and the way it operates (largely under the control of big business) than Mr. Baden. And I can believe that private property and free enterprise may be the best system as long as they are small enough to be under control. But does Mr. Baden or anyone else seriously believe we'd all be better off if the nation's entire forests were under the total control of seven or eight big corporations, or agriculture even more under the control of the present big six marketing corporations, or auto production under the exclusive control of three big manufacturers, etc.?

I can see some value in Mr. Baden's opinion piece but it seems to me it looks at only a small part of our total economy, that it is too simplistic. In a system such as our own, in which most of our productive wealth is controlled by a few rich people through big corporations, the belief that we have anything resembling a free market is a pipe dream.

Chuck Worley
Cedaredge, Colorado

HOSTILITY

Dear HCN,

Edward Abbey is a nationally recognized spokesman for Western environ-

mentalism. But his hostility toward progressives, women and other cultures, as revealed in *Fools's Progress*, stands to further a popular misconception of environmentalism as a form of elitism.

Tom Ribe
Eugene, Oregon

When the dust had settled,
there was nowhere to turn.
Especially not the government.

FALLOUT

An American
Nuclear Tragedy
by Philip L. Fradkin

"A meticulously researched recounting of the events sparked by the atmospheric testing of atomic weapons in the Nevada desert during the 1950's and 60's; a tale of governmental inefficiency (or worse), of human trust and duplicity and resultant suffering, of political cynicism and greed. . . . An expose that should create a firestorm of controversy and that deserves a wide audience." (Kirkus Reviews)

300 pages, \$24.95 cloth

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Free markets...

(This section of John Baden's Feb. 27 op-ed article, "Free markets can protect the earth," was garbled, and is therefore reprinted here.)

O'Toole and Emerson portray the Forest Service in the Rocky Mountains as the world's largest, socialized road-building company. They show the Forest Service generating the economic and environmental problems that characterize socialist enterprises elsewhere.

In their work, Willey and Graff demonstrate how property rights in water can improve economic efficiency, eliminate the demand for more dams, and clean up agricultural pollution of water. They are trying to relieve the West of its burden of grossly dysfunctional Progressive Era institutions such as the Bureau of Reclamation and the Forest Service. Those agencies were ostensibly created to apply "scientific management" to the environment. But instead, their managers contrive projects that are economically inefficient and environmentally destructive.

If these agencies were to function as advertised, they would require platonic despots with the conscience of St. Francis, the ecological understanding of the mature Aldo Leopold and the political independence of Peter the Great. Lacking those characteristics, their projects are wasteful and destructive.

It is time to change the institutions governing man's relations with the environment. In the field of study called "the new resource economics," we are developing an understanding of the required changes, but we are strongly opposed by special interest groups organized for exploitation and privilege.

We are also opposed by environmentalists who refuse to recognize the positive environmental potential of private arrangements and free markets. These people were well represented in HCN's special issues. I detected no classical liberals, libertarians or economic conservatives in the lot. The authors sang well, in good harmony and from the same score. I believe, however, they were singing the wrong song. I suggest an alternative below.

It is fairly easy to demonstrate how private, market-oriented reforms would protect the environment in managing timber, range and water. But let us consider the tougher case of applying this logic to managing Yellowstone National Park.

Yellowstone was the world's first national park and is one of America's most ambitious experiments with preserving nature. But as last summer's fires demonstrated, it is presently in ecologically poor condition. The Yellowstone experiment has shown that politics are not conducive to ecological integrity.

The incoming administration is positioned to reform that management. President Bush has promised to expand the national park system. Unfortu-

nately, the problem is not a scarcity of government and politics, but of incentives to manage parks responsibly.

The parks could benefit from more funds, if they were well spent. The obvious solution to the financial squeeze is to make those who use the parks pay for them. In 1915, an annual permit to Yellowstone cost \$15, the same as today. This past summer, a seven-day pass per carload doubled in price, but to only \$10. Park managers increase demand by keeping prices low, and then justify greater budgets by citing increased traffic.

Public ownership leads to economically inefficient policies; more significantly, it also leads to ecologically unsound policies. As Alston Chase shows in *Playing God in Yellowstone*, the incentives that guide park managers' decisions are incompatible with science and efficient management. Like all bureaucracies, the Park Service operates to maximize its budget, and this means it gives greater weight to the political benefits of high tourist numbers than to science.

Yellowstone is an overgrazed and a seriously degraded resource. The dominant elk have driven out almost all white-tailed deer, antelope, mule deer and bighorn sheep. Apparently their overgrazing and browsing so reduced small-diameter fuel — bushes and aspen in the Northern Range, for example — that the "let burn" fire policy initiated in 1972 failed to result in small burns that would have created natural fire breaks through the years. Then the drought of 1988 brought conditions that permitted mature trees to burn explosively.

If we are to achieve ecological integrity in the parks, we need to buffer them from transitory political forces. What institutions can we employ to accomplish this end?

Several non-profit conservation groups have shown how entrepreneurial energy can be harnessed in the interest of environmental quality. Ironically, one organizational model is the mechanism used by the federal government to lease oil and gas tracts in federal lands and waters. There the companies identify the most promising areas and then bid for control. This logic can be expanded to non-profit conservation groups to improve the management of our parks and wildlands.

An experiment in letting a "quasi-market" manage our environmental amenities should begin with an announcement that eligible conservation groups could nominate existing federal parks, wildlife refuges and wilderness areas for private control. Five percent of the current acreage would be a conservative amount to allocate each year. These groups could then bid for the right to manage specific tracts on an experimental basis.

Because of the competition, the organizations would have incentives to be creative and efficient. They would be required to follow guidelines imposed by Congress when it established the areas as parks, wildlife refuges or wilderness areas. The managing organization for each unit would be subject to "ecological audits," perhaps by committees established by the National Academy of Sciences.

Conservation organizations have demonstrated great success in generating revenue. The annual budget of The Wilderness Society is nearly equal to that of Yellowstone Park. The Sierra Club's is more than twice that, and the National Wildlife Federation has a budget four times as great. The Nature Conservancy, an immensely successful institution, already manages a portfolio of lands valued at more than \$500 million.

The revenue required to manage the amenities of the West in an environmentally responsible manner is quite modest. Our scenario includes funding by market exchange, and by grants and contributions. The more than 2 million visitors to Yellowstone, for example, would generate user fees, as would selling the outfitter and hunting rights to portions of the Gallatin National Forest. According to Randal O'Toole's studies, it is highly unlikely that any significant timber sales would occur on Montana's Gallatin National Forest under a private property approach: Current sales are dependent upon massive subsidies.

A significant source of income would be contributions and grants from individuals, corporations and foundations. Americans are renowned for their desire to "do good." A privately run "Friends of Yellowstone" fundraising drive could foster identification with this special place and attract massive support.

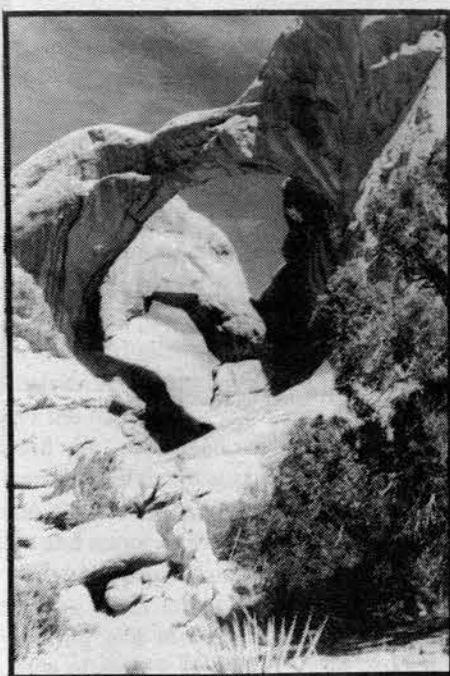
But the primary argument for turning precious environmental resources over to private organizations is not economic — it is the ecological advantage of insulating science from politics. A triangle is the most stable of geometric shapes, but our approach could dismantle the notorious Iron Triangle that employs taxpayer subsidies to foist inappropriate development and federal mismanagement upon the West.

The words "ecology" and "economics" share more than the Greek root *oikos*. They imply interdependence and it is important that we recognize cause-and-effect linkages in both ecological and economic systems. Only if we take fundamental laws of ecological and economic relationships into account can we deal with these systems humanely, while fostering freedom and responsible stewardship of the West.

□

John Baden is chairman of the Foundation for Research on Economics and the Environment in Bozeman, Montana.

BULLETIN BOARD

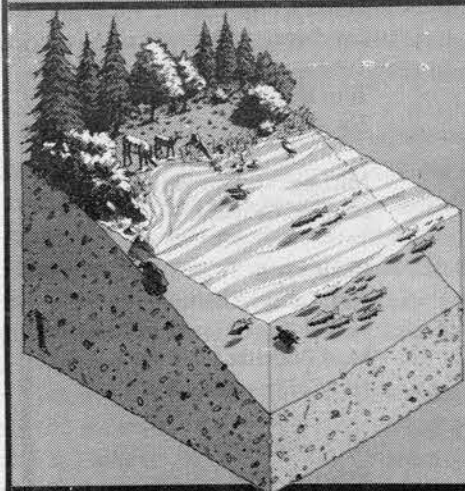


ARCHES IN THE YEAR 2,000

A draft management plan that will guide development in Arches National Park through the end of this century is available for public comment until April 14. The 170-page draft says major goals are improving handicapped access, roadside interpretive information and the museum; expanding the visitor's center and entrance facilities; protecting park headquarters currently located in a flash flood area; paving the road to Delicate Arch and Wolfe Ranch; protecting rock art on the north side of US 191; and settling adjacent lands, boundary and capacity issues. Close to 500,000 people visit Arches annually and park officials predict a 36 percent increase in the next 20 years. No analysis now exists of the effects of much greater use of the park. The draft proposes to assess future impacts and also proposes adding 12,882 acres of adjacent lands to the park's existing 73,379 acres, with 2,882 acres coming from Lost Spring Canyon, a wilderness study area bordering the park that is currently managed by the Bureau of Land Management. The other 10,000 acres were once a part of Arches National Monument but were deleted when the park was established in 1971. For a copy of the Draft General Management Plan, contact Arches National Park, PO Box 907, Moab Utah 84532 (801/259-8161).

Down by the River

The Impact of Federal Water Projects and Policies on Biological Diversity



RIVERS AS SPIGOTS

Federal water projects have treated rivers as if they were garden hoses — turned on and off at will, says the author of *Down By the River: The Impact of Federal Water Projects and Policies on Biological Diversity*. Constance Elizabeth Hunt, a biologist formerly with the National Wildlife Federation, reveals the weakness of federal water planning by looking at river basins such as the upper and lower Mississippi, the upper and lower Colorado River, the Columbia and the Missouri. Along with writer Verne Huser, she also details the resurgence of small hydroelectric projects in the Northeast. They conclude by calling for preserving what riparian habitat remains, reversing the trend to develop and restoring habitat already lost to development.

Island Press, 1718 Connecticut Ave. NW, Washington, D.C. 20009. Paper: \$22.95. 266 pages.

OPPORTUNITY IN NEW MEXICO

State business magazines have a deservedly bad reputation: They are usually glossy slicks that are more cheerleader than reporter or critic. New Mexico *Business Opportunity News*, a four-year-old, 16-page unslick publication out of Santa Fe, is refreshingly different. The publisher and editor, Kingsley and Jerilou Hammett, understand that economies are built from the ground up and depend on people who are educated, fairly paid and daring. The monthly publication has several profiles of entrepreneurs in each issue — people who run small bakeries, natural farms, mountain-climbing equipment stores and the like. The editorials are also refreshing: suggestions on how New Mexico and the nation can wean itself from the defense industry; why the state's low-wage appeals to industry guarantees future poverty rather than healthy development; and so on. Sample copies are \$1 each and subscriptions are \$12 a year from: *Business Opportunity News*, 2405 Maclovio Lane, Santa Fe, NM 87501.



SLOGGING THROUGH UTAH

Old Utah Trails, the fifth and newest book in the colorful Utah Geographic Series, covers the most famous explorers and trails of the West, beginning with the story of the Escalante expedition and wanderings of Jedediah Smith. It travels the Mormon Trail, the route of the forty-niners and the Pony Express. Author William B. Smart also tells of the amazing Hole-in-the-Rock expedition of 1880, when Mormon pioneers slogged their way across the slickrock of southern Utah, chipped down sandstone cliffs to the Colorado River and went on to colonize the southeastern part of the state. There are maps of each route and excellent color photographs by Utah veterans Jeff Gnass, Tom Till, Stephen Trimble and John George.

Utah Geographic Series, P.O. Box 8325, Salt Lake City, UT 84108. Paper: \$17.95. 138 pages. Illustrated with 85 color photographs and nine color maps.

FINE-TUNE THE COLORADO TRAIL

Volunteers are needed to make the 480-mile Colorado Trail one of the top-rated backcountry routes in the nation. The trail links Denver to Durango for hikers, horses and mountain bikers and roughly parallels the Continental Divide for two-thirds of its length as it winds its way through five of the state's seven national forests. This summer's work will reroute existing portions of the trail to minimize elevation changes and move it away from roads. In addition, trail crews will construct a new loop in the Gunnison area and connect a spur from the main trail to Mesa Verde National Park near Cortez, Colo. Some projects will be accessible by vehicles while others will require backpacking. For a schedule of dates for trail crews and other information, contact the Colorado Mountain Club Trail Crew, 2530 W. Alameda, Denver, CO 80219, or the Colorado Trail Foundation, 2515 S. Newton, Denver, CO 80219.

ELK OF THE NORTHERN HERD

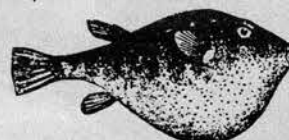
Documentary filmmaker Bob Landis has a new movie out, this one called *Elk of the Northern Herd*. As Landis shows us some of the thousands of elk in Yellowstone National Park, writer Jim Schall explores issues such as fire management, the restoration of wolves to the area and problems caused by overpopulation of elk. Startling scenes in the 26-minute film include an elk defending a newborn calf against coyotes, bulls fighting for the privilege of mating and an elk calf's capture by a grizzly. For more information, write Dale Johnson, Trailwood Films, Box 1421, Huron, SD 57350 (605/353-1153).

GET A BIKE

The Bureau of Land Management is looking for volunteers to help build a mountain-bike trail between Grand Junction, Colo., and Moab, Utah. Ninety-five percent of the 125-mile trail already exists in the form of old county roads and jeep trails, and all that is needed are signs. Just two sections need building: five miles in Colorado near the Mack interchange of I-70, and two miles near Cisco, Utah. Carlos Sauvage of the BLM says the trail project is almost entirely a volunteer effort initiated by local mountain bikers. The trail will run from the Loma boat launch on the Colorado River to the Slickrock Trail outside of Moab. Work days are March 18, 19, 25, 26 and April 1, 2, 8 and 9, and volunteers are asked to call the BLM to note the day(s) they want to work. The agency will send out information and maps. For more information, contact Carlos Sauvage at the BLM in Grand Junction at 303/243-6561.

SAVE OUR BUFFALO

With "hunters" killing more than 500 bison leaving Yellowstone National Park, a newly formed group called "Save our Buffalo" intends to prevent more of what they term the slaughter of America's bison. The fledgling group plans to publish a newsletter and develop a different solution for handling bison that leave the park's borders. For more information, contact sculptor Jim Dolan, Save our Buffalo, PO Box 3866, Bozeman, MT 59772 (406/388-1720).



LEAD CARP AND OTHER AWARDS

The spring edition of Trout Unlimited's *Rocky Mountain Streamside* magazine includes its second annual awards for both dubious and exemplary acts. Editors awarded the Lead Carp Award for Sinking and Bottom Dwelling Achievements in Environmental Journalism to *Denver Post* writer Bill Hornby for the "wretched doggerel he continually pumps out on Two Forks and other water issues." The Colorado Legislator Award went to "So what if he's from Nebraska" Sen. James Exon, D-Neb., for opposing Two Forks Dam and restoring "one's faith in representative government ... by comparison (he) shows us exactly why Colorado is in such bad shape." The issue's feature is by Hank Hotze, owner of Gunnison River Expeditions, who took former President Jimmy Carter on a successful fly-fishing float through the Gunnison Gorge. *Rocky Mountain Streamside* is published four times a year and is free from Trout Unlimited, 1557 Ogden St., Denver, CO 80218 (303/837-1908).



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EXAMINING YELLOWSTONE

Fire ecology and fire management are among the topics of a symposium on the Yellowstone area sponsored by the University of Wyoming this spring. Called "Examining the Greater Yellowstone Ecosystem," it is set for Laramie, Wyo., April 13-15. Other topics include wolf re-introduction and overgrazing in the 12-million-acre region. Workshop participants include Utah law professor William Lockhart, bear researcher John Craighead, University of California professor Joseph Sax, national-forest reformer Randal O'Toole, and Ed Lewis of the Greater Yellowstone Coalition. Wyoming Sens. Malcolm Wallop and Alan Simpson, and Wyoming Rep. Dick Cheney, are invited speakers, and Wyoming Gov. Mike Sullivan is scheduled to open the symposium. For information, contact the conference office at the University of Wyoming, Box 3972, Laramie, WY 82071 (303/766-2124).

ACCESS

NEAT STUFF

SUMMER INTERNSHIP: Canyonlands Field Institute is seeking applicants for its summer intern position, mid-June - mid-August, 1989. Experience in outdoor programming for adults and children, logistics and planning, and *The Canyon's Edge* slide production showings. Private housing in Moab provided. No stipend. Contact CFI at Box 68, Moab, UT 84532 (801-259-7750). (2x5B)

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14-High Country News — March 13, 1989

Kathleen Marie Menke



Bison

The Research Fund lets HCN cover all of the West's creatures

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GUEST ESSAY

If everything else fails, we may behave wisely

by Amory Lovins

A decade ago, conventional wisdom held that the skies above western Colorado and eastern Utah would be hazy by now. Burgs such as Grand Junction, Rifle and Meeker in Colorado would be doubling in size every few years. Pedestrians in the region would have to step nimbly to avoid the huge rolling open pits from which oil shale would be extracted. Even the Missouri and Mississippi rivers would flow a little less mightily because some of their waters would be diverted to the cities and retorts of the oil shale West.

The Northern Plains would also be transformed. The flat, open lands of the Dakotas and eastern Wyoming and Montana would be dappled by an armada of electric power and coal gasification plants. A skyline once broken only by grain silos was to take on an industrial cast. Of that, "everyone" was certain.

Why was everyone wrong? What went right? The answer is that the West was saved by the genius of a free market, even though that market was far from perfect. Consider these facts:

- Since 1979, the U.S. has gotten more than seven times as much new energy from savings as from all net increases in energy supply;

- Of the nation's new supply, more has come from renewable sources of energy, now 11-12 percent of total primary supply, than from fossil and nuclear sources;

- From 1979 to 1986 inclusive, efficiency expanded the energy available in the U.S. by seven times more than nuclear power did;

- Because of the reductions in energy intensity — in the amount of energy we use to accomplish a unit of economic activity — the recent U.S. energy bill has been about \$430 billion instead of \$580 billion a year. That means we save about \$150 billion a year, roughly equal to our annual federal deficit;

- The effects of past energy efficiency gains continue to accumulate. Altogether, the savings from 1973 to 1986 produced 40 percent more energy in 1986 than the domestic oil and gas industry extracted. Put another way, if we hadn't been caulking our windows and driving more efficient cars since 1973, we would today have to extract more than twice as much domestic oil and gas simply to do what we are doing. It is those cumulative savings that helped save the Rocky Mountains from oil shale; and

- Electric savings from 1973 to 1983 meant that the nation did not need to spend several hundred billion dollars to build 141,000 megawatts of electric power capacity — the equivalent of 141 large coal-fired power plants. And that is why the skyline of the Northern Plains is still dominated by grain silos.

Does the death of these vast plans mean the millenium has come, and right on time? Is the U.S. functioning in a sane and rational way when it comes to energy? Unfortunately, no. The 1970s-era projects were so expensive, inefficient and unneeded that even a subsidized market and determined federal manipulation could not build wings large enough to make those projects fly.

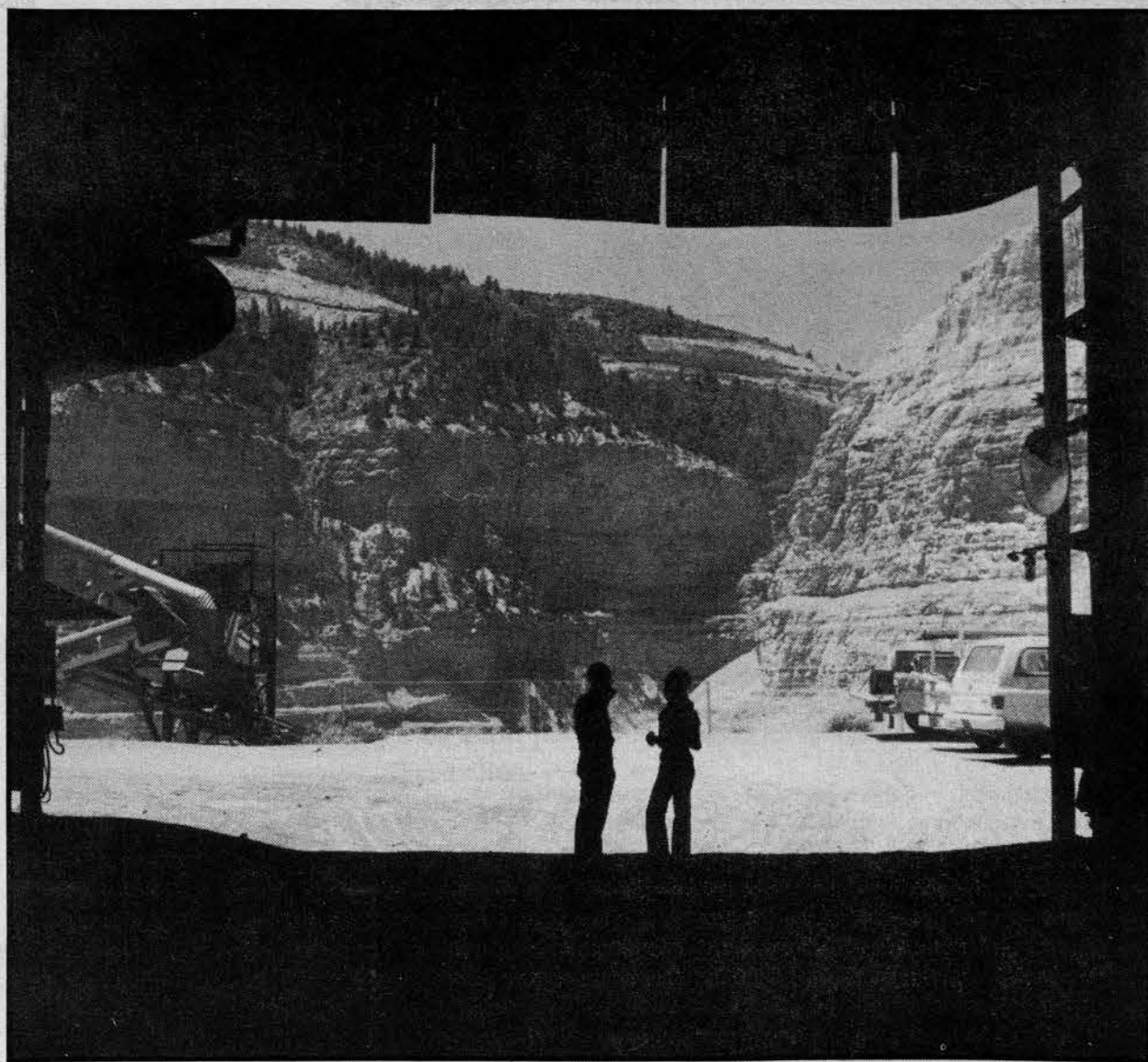
Today, we revisit the plans for oil shale and coal gasification in wonder. But still in place and operating are mines, power plants and electric power grids that make as little sense as the dead synthetic fuels projects. In fact, the achievements of energy efficiency are all the more startling in view of the powerful forces arrayed against it. Wastefully used, depletable, environmentally damaging and egregiously uncompetitive energy options have received lavish government subsidies that have distorted the way we produce and use energy. For example:

- Federal subsidies to the energy sector just in fiscal year 1984 were upwards of \$50 billion;

- The Interior Department is continuing its strenuous efforts to sell or lease all public fuel resources despite a glutted market and depressed prices. Interior also effectively values at zero the costs of damage to national security and to environmental and cultural resources;

- The Federal Energy Regulatory Commission is vigorously seeking to stifle state initiatives to introduce genuine competition into the electric-service market;

Kent and Donna Dannen



Entrance to Exxon's Colony oil shale mine in Colorado, 1982, shortly before the project halted

- Federal monitoring and enforcement of existing environmental, health, safety and antitrust laws as they apply to the energy industries have largely been gutted;

- Building and appliance standards legislated to overcome well-known market failures have been opposed, weakened or ignored; and

- The Department of Energy has cut real spending for research and development of efficiency by 71 percent.

These interventions by the federal government on behalf of existing energy arrangements have serious, even absurd consequences:

- The energy still wasted in the U.S. today costs about twice as much as the federal budget deficit or more than the entire \$10,000-per-second military budget;

- The amount of crude oil wasted in 1986 by that year's rollback of automobile and light-truck efficiency standards equalled 1985 U.S. imports from the Persian Gulf. It also equals the annual oil output which Interior hopes to extract from the Arctic National Wildlife Refuge (ANWR), so the rollback un-discovered one ANWR's-worth of oil;

- Today's electric power marketing programs are officially projected to cancel out about two-thirds of the savings the utilities' efficiency programs will achieve;

- In fiscal year 1984 (the last reliable data available), electricity received upwards of \$35 billion in federal subsidies, making it look one-fifth cheaper than it was; and

- Just the difference in energy use per unit of production between the U.S. and Japanese economies creates an automatic cost advantage of 5 percent in favor of the Japanese.

In short, successive administrations have been acting out at least the last part of Abba Eban's remark that people and nations "behave wisely once they have exhausted all other alternatives."

Have we exhausted all other alternatives? Are we on the verge of wise behavior? There is no technical block to more rational energy production and use. In the technical sphere, there is only good news, with more on the way. With no changes in lifestyle, for example, full practical use in existing buildings and

equipment of the best electricity-saving technologies on the market could save 75 percent of all electricity now used.

Moreover, the average cost of the savings would be below one cent per kilowatt-hour, less than the cost of just operating a coal or nuclear power plant. There would be immense additional benefit. For example, an 18-watt compact fluorescent lamp producing the same light as a 75-watt incandescent lamp will, over its lifetime, avoid the emission from a typical U.S. coal plant of one ton of carbon dioxide and about 20 pounds of sulfur dioxide.

In addition, full practical use of the best demonstrated oil-and gas-saving technologies (many already on the market and the rest ready for production within four to five years) would save about 75 percent of all oil used now, at an average cost well below \$10 per barrel and probably nearer \$5 to \$6 per barrel — less than it costs just to find new domestic oil.

So there are no technical barriers to greatly increased efficiency, and to the end of such things as roading national forests in search of oil and gas, emitting carbon dioxide into a warming atmosphere, and other harmful side effects of energy production. But there are institutional barriers to efficiency in the form of federal subsidies, laws that reinforce present wasteful practices, and attitudes that emphasize the production of energy and ignore the human purpose of the energy. The extent to which those barriers can be overcome is not, of course, a technical question. The answer is intimately tied to the manner in which U.S. and global society evolves.

I do not mean to say that energy generation and use is simply a tail on a large social dog. The question of energy, because it affects so many things, including perhaps our survival as a species, is wonderfully effective at focusing our attention. Grappling with energy is one way in which we grapple with larger questions. But it is important to know where the clearly technical questions end and where the deeper waters begin.

Normally, the "deep" approach to energy asks whether limits on energy availability should constrain growth. But the more interesting question is what kind of growth, or development, is at stake. The

(Continued on page 16)

16-High Country News — March 13, 1989

OFF THE WALL

Wyoming writer tries for big time, a la Salman Rushdie

by Tim Sandlin

JACKSON, Wyo. — Heather Heidi Walsowski-Smith brought by some baby clothes Friday — only six months before we need them.

"When was the last time you saw the ground?" she asked.

"Pavement's visible on Broadway."

"Not pavement, ground. Rocks and grass, you know, the stuff that disappeared back in October. I'd give my entire Danskin collection to feel some dirt right now."

"Bring out your briefs. I'll take you to dirt."

"You'll never find dirt without a shovel."

"There's visible dirt at the information center."

"What information center?"

"North of town. The building with weeds on top in the summer has weeds underneath in the winter."

"We have to crawl in a cellar?"

"No, it's like a deck or something. Come on."

So Heather Heidi and I drove down to the visitor's center and crouched under the wing they built on stilts. Felt stupid to me, but she likes that sort of symbolic stuff.

Heather Heidi lit a cigarette, one of those extra long things that are supposed to appeal to women. "Do you understand this deal with the book that has Moslems screaming in the streets?"

"Satanic Verses by Salman Rushdie."

"You write, sort of, after a fashion, as it were. What's the deal?"

"Very simple. A guy born in India who lives in England wrote a book about Persia and now Pakistanis are burning American flags."

"Why are people dying over a fictional story?"

I shrugged. "You could understand life, death and the weather in Wyoming and still not have a clue on that one. Maybe it's the ultimate bad review — put a price on the author's head."

"Maurey O'Hara's really hacked about your last column. I heard she's going to change her name to Mohammed and offer 500 bucks to anyone who'll kick your butt."

"Mohammed O'Hara?"

"I wonder how many militant Moslems live in Teton County. I heard there was one in the Glenwood ghetto."

"It'll be the newest thing in art criticism. Kill the creator. We can put a 'Bounty' section in the classifieds. A thousand dollars to anyone who breaks John Denver's legs, ten thousand to shave Cher's head, thirty bucks even for the director of *Last Temptation of Christ*."

"I bet it sells a lot of books."

"Sure, but the Ayatollah's gig is working. The national chains pulled the books out of the malls. You can't buy the thing in Casper. The Moslems and the author are at least idealistic about their anger. It's B. Dalton and Waldenbooks who are the real chickenpucks of the situation."

"Jackson book stores will never buckle to Iranian bomb squads."

"If the Hindus threaten to bomb anyone selling dead cow, you think Wendy's would pull the quarter pounder?"

"Hell, no."

"If the fundamentalists decide wine is evil will the Cowboy Bar close?"

"That's not likely to happen."

"This country was built by people with the courage of their convictions. When some sand guru on the other side of the Earth can keep a novel out of the malls of Casper, Wyoming, American values have fallen off the deep end. Freedom falleth by the wayside."

"Tim, I believe your cheeks are flushed."

"Well, I fly off the handle when I see my rights being jacked by a chain store."

"Maybe even your cowboy-sicko books could get on the hit list and guarantee a best seller."

"Worth a try."

So here's the try —

"The Ayatollah Ruhollah Khomeini sucks eggs. You can see the albumen dribbling down his chin. His children have congenital overbites and his mother entertains camels by the hour."

□

Tim Sandlin is the author of *Western Swing*, a provocative and occasionally insulting novel.

If everything...

(Continued from page 15)

achievement of efficiency by itself is meaningless, just as large power plants by themselves are meaningless. For example, if my own work contributed to a development pattern in which energy-efficient factories made napalm and throw-away aluminum beer cans, I would be disappointed at the evident neglect of the agenda of what's worth doing with energy.

Perhaps the easiest way to envision different development paths is to look at developing countries. It is often argued that energy efficiency is meaningless to developing countries; because they use so little energy, it is said, they have little to save. But that is wrong. A case study has shown that about 37 percent of India's evening peak load is used for lighting. That peak over stresses the grid and is often responsible for rotating blackouts which hamper economic output and competitiveness. Giving away efficient lightbulbs could make India a more efficient nation and be much less expensive than building new power plants and transmission grids.

More to the point, we should not fall into the trap of assuming that developing nations must follow our path to a reasonable standard of living (or even that we will follow our present path for very long). Mimicry of traditional development paths via normal industrialization ignores both industrialized countries' mistakes and developing countries' opportunities. Hong Kong and Singapore lack significant industry, but they have parlayed skilled, well-educated, hardworking people into a global economic force.

The technologies that can create wealth today generally need far less materials and far more information than when the developed countries built their infrastructure. No sensible country today, building a sanitary system from scratch, would copy Western-style sewers and sewage treatment plants. No sensible country would imitate Los Angeles' dependence on cars. Nor would a sensible country try to extend its electric grids into rural areas when photovoltaics and super-efficient appliances are already cheaper.

The very assumption that development requires large increments of certain basic materials is itself up for review. Does a nation which builds with local materials need many cement plants? Does one which jumps straight to advanced materials need much steel? Does one which goes electronic need much paper? Does one which commits to product longevity, recycling, re-use, scrap recovery, and limited packaging need very much of any kind of material to maintain its physical state?

What are the industrial underpinnings required for systematic eco-development on a national or regional scale? Nobody knows, but certainly the answer will be very different from what the United States requires today.

What does material prosperity depend on? In unpublished research to which I attach considerable importance, Royal Dutch/Shell's strategic group in London and the late London human-rights barrister Paul Sieghart have found three virtually perfect predictors of conventionally measured economic success across the entire range of developing countries: (1) the health and education of the people ten years earlier, (2) absence of subsidies to basic commodities, and (3) adherence to basic human rights.

This suggests that the basic-human-needs approach (as opposed to the trickle-down, capital-intensive, industrial approach) really works, and that in some sense social efficiency is advanced by functioning markets not only in goods but also in ideas.

The biggest evolution in my thinking over the 15 years since the first modern oil shock has been an increased respect for how well even very imperfect markets can work. Efficiency and renewables have swept the U.S. energy market despite a formidable array of officially erected obstacles meant to achieve the opposite result.

My main residual concern is that amidst the global shift toward market mechanisms, we not forget that markets are efficient, not fair. If markets do something good for whales or grandchildren, it is purely accidental.

In the days of *Limits to Growth* — a prescient work still maligned by those who haven't read it or missed its central message of the importance of adaptation — there were those whom my colleagues and I called "cornucopians." The cornucopians said we shouldn't worry about problems of population, resources and environment. Those would be solved, they said, by the intelligent application of advanced technology.

Some of us pointed out that technology was not omnipotent, and that it had costs and often side-effects. For this we were derided as "technological pessimists," as ignoramuses denying the reality of technological progress.

Today, however, it is we former technological pessimists who point out that new technologies have indeed proven far more powerful than anyone, including us, thought possible. Of course our technologies are of a more mundane kind than those envisioned by the cornucopians. Ours are insulation rather than coal-gasification plants and micro-



Stripmining coal

electronic motor controls rather than fusion reactors.

These relatively small, accessible and cheap technologies now seem powerful enough to solve the energy problem, the water problem, many strategic-minerals problems and probably a good many other thorny problems.

For saying this, we are berated by the former cornucopians, now turned technological pessimists, who successively assert that our proposed technological innovations don't exist, or won't work, or aren't cost effective, or won't sell or won't remain popular in the long run.

Thus, the role reversal is complete. But it reminds us born-again technological optimists not to overlook — as our partners in this debate long did — the limits of technical fixes, the restricted relevance of markets to achieving justice, the ever-shifting tapestry of social values, the importance of surprises and the inherent frailty of the human design.

□

Amory Lovins is a long-time researcher on energy conservation, the creator of the "soft-paths" concept and the author of numerous books, reports and articles. This article was adapted from a paper titled "Energy, People and Industrialization" which he presented to a Hoover Institution conference in January 1989. The full paper is available from The Rocky Mountain Institute, 1739 Snowmass Creek Rd., Snowmass, CO 81654.