



High Country News

75¢

Vol. 12 No. 21

Lander, Wyoming

Friday, October 31, 1980

In the News

RESERVATION POWER 4

Indians are sitting on the biggest unopened energy chest in the United States. To the consternation of eager corporations, some tribes are refusing to budge until they wrest the development reins from the federal government.

RAIL RANCOR 6

Chicago and North Western railroad thinks Powder River Basin coal will give it a new lease on life. Federal officials view its proposal sympathetically, hoping to increase coal-hauling competition in the area. But powerful forces, including its rival Burlington Northern, are fighting to keep the newcomer out.

WATER WAR 6

Who should get the Little Bighorn River's bounty? A group of water rights owners say it's a choice between power plants and slurry pipelines. They plan to try to convince the Wyoming legislature this year to go with the flow and give the nod to pipelines.

WHITE GHOSTS 8

Don't be surprised some wintry evening if you're jumped by a winged white ghost. It simply means the North's lemming supply is low, and the snowy owls have come down off their pingaluks for a visit.



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Photo by Sara Hunter-Wiles

Archeologists dig for points, paydirt

by Louisa Willcox

Chill breezes are heavy with the smell of sage. Early morning light etches wrinkles and furrows in the gray brow of Church Butte, a crumbling stack of silt and clay, named for a service held here by Mormons during their wanderings long ago.

Archeologist Ron Kainer stands before this shadowy monument, surveying the soundless desert expanse of the Green River Basin. About the time Brigham Young was thinking of pushing west, this was a thoroughfare for bands of Ute, Shoshone, Paiute, and Crow on horses. Before that, giant mammoths with teeth big as human feet — and their mysterious predators, who left little more than Clovis points, finely crafted arrowheads.

Now these shadowy undulating hills are cut by a power line running from Evanston to Rock Springs. It's mid-October, 1980, and Kainer has 90 miles of archeological test pits to dig along this swath before the snow flies. Kainer has learned to adjust his perspective like a zoom lens, shifting neatly from the distant past to present deadlines. Though cottonwoods still flank the Black Fork with green, snow could come any time now. Next spring backhoes will begin work on a natural gas

pipeline. Any sites he and his crew miss this fall will probably be backfill.

The rest of the crew unloads surveying equipment, shovels, and screens from the Land Rover. Tightening his bluejean jacket around his shoulders, Kainer starts along the corridor with a stride that has a visitor half-jogging to keep up. He says he hates the rush that has become as familiar a feature of Wyoming archeology as buffalo jumps.

"Hmmm — a hearth," he says, finally breaking his stride. Hidden in the rabbit brush is a heap of reddish broken rock. "That kind of fracturing doesn't happen naturally. Only by fire."

As we continue through the prickly pear cactus and knee-high sage, a rabbit pops up, and zigzags out of sight. "You ever try to hit one of those with a spear? Shoshone used to string up nets and drive the rabbits into them — a real family affair. Anything that hopped, wriggled, crawled or swam, we figure they'd eat," he says with a grin. As we walk, he scoops up an occasional chipping from an arrowhead or scraper, like a horse grazing on the move. Many look nondescript, but to him each tells a story, about butchering a ground squirrel, or shooting a flicker.

Kainer is looking for more subtle and possibly more important signs than these scattered surface finds, however.

He is after hummocks marking deep, stable sand drifts that could still anchor layered evidence of ancient human occupation.

He spots two likely-looking dunes on the leeward side of a small ridge. Perhaps this will not be just another day of painstaking digging under a brutal Indian summer sun. Perhaps these dunes will yield a whole tang knife, a rare piece of pottery, butchered bison bones: a site that will shed light on the way people adapted to the desert rhythms. If so, an annoyed energy company would have to reroute its pipeline.

"It's just crazy — five pipelines along this right-of-way already — and this will make it six," he mutters, half to himself. "To keep your sanity, you can't let yourself think about all the sites being overlooked every day — sometimes deliberately. You've got to ignore the fact that these gung-ho energy people treat you at times like you're just another pain-in-the-ass environmentalist trying to block progress. You've got to keep yourself focused on what you're preserving and learning about prehistoric people," he says, as we turn back toward Church Butte to get the picks, shovels, stakes and notebooks for recording the slow stripping of centimeters of dirt and sand.

(see next page)

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Dig...



(continued from page 1)

First: measure the perimeter of the trench with a transit — two-by-four meters exactly. Stake it out with string. Yank out stubborn sage and greasewood. Then, with one of the crew wielding a shovel and another the screen mesh, begin digging. Toss the dirt through a screen. Shake. Pull out flakes, insert in labeled bags. Dig down some more, down to hard pan, stop. Peel off the sweater, bury a water bottle in sand to keep it cool.

Then, clean the scarp with a trowel. Draw layers in a notebook. Fill in the pit. Start another. Today two trenches are finished: 70 flakes, one base of a blade, finely wrought with a notch on one side. No bones.

In a state which eight years ago maintained only one state-funded and a few academic archeologists, today Wyoming hosts 250 of the breed, most of whom, like Ron Kainer, are surveying proposed sites of coal mines, oil wells, and transmission lines. In the wake of the western energy boom, contract archeology has become big business. About \$5 million was spent last year on contract work in Wyoming alone, compared to a few thousand dollars spent

"These gung-ho energy people treat you at times like you're just another pain-in-the-ass environmentalist."

ten years ago.

Most of this work takes place on lands managed by the Bureau of Land Management and is financed by mineral and power companies, which are legally required to look for, and if possible, avoid significant archeological sites that may be eligible for inclusion in the National Register of Historic Places. (There are no requirements for archeological work on private lands.) Also, since the early '70s, the BLM and the Forest Service have hired staff archeologists to inventory and evaluate the cultural resources on public lands.

Jobs in the field are opening up faster than academic institutions such as the University of Wyoming can fill them. Notices of jobs available are plastered along one wall at the university's department of anthropology, which among its studies of man's origins and relationships, offers courses in archeology, the study of man's remains. Professor Chuck Reher says, "for the first time in the history of the profession, you can tell your students that with a bachelor's degree in anthropology, they will have no trouble finding jobs."

In the past, anthropology has tended to be either a hobby, the domain of dilettantes, or else the life work of university researchers. Now it has become a "fledgling business, emerging out of academic ideals into the realities of deadlines for drilling surveys," says Kainer.

The driving force behind this flurry of archeological activity is a body of new federal regulations. While the basic charge for the protection of antiquities on public lands was given to federal agencies by the Antiquities Act of 1906, in the tide of environmental legislation in the late '60s and '70s, federal agencies were ordered to seek out and preserve important archeological sites.

The National Environmental Policy Act of 1969 stipulated that archeological values, among others, must be considered before a major federal action is undertaken. The National Historic Preservation Act of 1966 establishes the National Register of Historic Places as a means of preserving cultural resources and educating the public about its cultural past. It also sets up historic preservation offices in each state to coordinate efforts. A 1971 executive order and the 1979 Archeological Protection Act added weight to these responsibilities, with mandates to inventory all cultural resources on federal lands, and powers to fine looters as much as \$100,000.

Despite this legal backing, many concerned with past cultures worry that pressures from energy development, a shortage of skilled professionals, and the growth of commercialized archeology is resulting in a "shoddy data collection process," helpless to answer the fundamental questions about the way peoples have adapted to their environment, gathered food, and developed social structures. In light of increasing destruction of archeological evidence of ancient peoples' lives, one archeologist compared the future of the profession to

"turning on the television when a show's half over and trying to figure out what happened."

"In 20 years, people may look back on the loss of our archeological heritage going on today as a terrible atrocity," says Reher. "With possibly 100 sites being lost every day in Wyoming alone, there could be huge gaps in our knowledge of ancient peoples we will never be able to fill. One of the reasons is that people are out there deciding whether sites live or die who aren't qualified to pick up a trowel."

Dr. George Frison, state archeologist and head of the university's department of anthropology, speaks gloomily about the future of the profession in states with high energy development. "Wyoming now is the model of archeology at its worst," he says. The problem, in his opinion, rests on an irreconcilable split between pure research and contract work. "One is based on science, the other on compliance — and money," he says. "Researchers try to tackle the 'why's' and the 'how's' of human behavior, based on the facts in the ground. Contractors try to figure out how to make a buck and still meet the federal regulations. Add to that a federal bureaucracy which doesn't give a damn about preserving cultural resources, and you've got nothing but disaster."

While other professionals do not see the two sides of archeology as mutually exclusive, many contractors like Ron Kainer agree that "it is difficult to conduct meaningful research when you've got bulldozers at your back."

Also the process of competitive bidding for some types of contracts works as an incentive to hire the "cheapest help available, sometimes deliberately overlook sites and do the bare

anthropology and one introductory course in American pre-history. The former Wyoming director of archeology had a bachelor's degree and had dug one Plains Indian tipi site when he took the job. Several past BLM employees, among others, say that the agency deliberately hired archeologists with the minimum of qualifications because "they were cheaper and they weren't as apt to cause trouble and make demands on the agency."

"It was a constant fight to get quality archeologists hired by the agency who were experienced in the high plains and basins," recalls Don Hutchinson, Wyoming's former head archeologist for the BLM. "And it's hard for a kid out of some bachelor's program in anthropology to critically evaluate the work of a contractor who may have 20 years of experience in an area and a Ph.D." Although Hutchinson says that the situation is now improving, the result has been, according to one professional contractor, that "you could slide almost any work by the BLM."

Currently positions for district archeologists in three of the four BLM districts in Wyoming are unfilled. "You can just take so much of a job when day after day, you have to fight with superiors to make them do the necessary inventories before projects begin," says Steve Chomko, former Rawlins district archeologist for the BLM. "It's not just that the agency doesn't understand what archeology's all about — they think it's a joke. If they spent the same amount of energy complying with the preservation laws as they do trying to avoid them, we'd be getting somewhere."

As an example of the agency's shirking responsibility to protect archeologi-



"Wyoming now is the model of archeology at its worst."

minimum data analysis and research in an effort to save time," according to one professional involved in contracting. "It's the slob who get a lot of the jobs, because they're willing to cut corners," said another. "Bidding competitively for archeological services as if they were plumbing fixtures has greatly downgraded the quality of archeology," says the university's Reher.

Currently, the 22 contracting companies in Wyoming are required to obtain permits from the BLM to do archeological work on the agency's lands. While these permits require the "principal investigator" to have a master's degree in archeology or anthropology, and some experience in the high plains, those who work under him or her need to have no such qualifications.

In large companies, the principal investigator depends upon and vouches for the work of the crew chiefs to conduct excavations and make recommendations of eligibility of sites for the National Register of Historic Places. Yet several crew chiefs of large archeological firms are dropouts from other professions, with a night class in archeology and a season's worth of surface surveys for transmission lines — work that involves no excavations. "It's like letting a paramedic do surgery," says Assistant State Archeologist Dave Eckels.

The hiring standard for BLM archeologists, whose responsibilities include monitoring and approving contract work, is 20 hours of college level

cal resources, Chomko points to a policy decision made by BLM's new Wyoming director Max Lieceurance forbidding an archeological inventory to be done for seismic exploration on BLM lands. While the 1966 preservation act requires the state Historic Preservation office to be consulted before such decisions are made, no consultation took place.

EMPIRE BUILDERS

Some archeologists say that contractors from surrounding states are flocking to Wyoming, because "anything goes." The BLM and state Review and Compliance Office, which oversee all contract work in the state, have rarely rejected work for poor quality. Currently the state Historic Preservation Office has no review and compliance officer. By comparison, Utah, Idaho and Colorado are known for their tough standards for archeological work.

Wyoming archeology was once an empire for George Frison, an ex-rancher from the Bighorn Basin who has "collected more old bison skulls, dug more sites, written more sage papers explaining the ways of past cultures, and butted heads with federal officials with more vigor than any other single archeologist alive in the state today," says a colleague.

Frison is still digging and doing research, but now Wyoming has attracted

High Country News

The independent natural resources biweekly of the Rockies

Published biweekly at 331 Main, Lander, Wyo. 82520. Telephone 307-332-4877. Second class postage paid at Lander. (USPS No. 087480) All rights to publication of articles herein are reserved.

Publisher Thomas A. Bell
Editor Geoffrey O'Gara
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Production Kathy Bogan
Photography Sara Hunter-Wiles
Circulation Will Murphy

Subscriptions \$18.00 per year.
Single copies 75 cents.

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ISSN: 0191-5657

a new kind of empire-builder, such as John Greer, whose Laramie-based company, Archeological Services, is one of the biggest contracting firms in the nation. Last summer Greer employed 150 archeologists in Wyoming alone. An ex-employee says that "quality work has certainly suffered there — he has been known to hire kids off the street, hand them a shovel, and say "dig."

According to another past employee Greer epitomizes one extreme in contract archeology. "He has no moral responsibility to Wyoming's antiquities — he's out for the money and that's it." This source recalls an incident where Greer's field archeologists recommended nominating a site for the National Register. But Greer, who "didn't know anything about archeology in this part of the state, wrote the site off, despite our strong views on the subject."

Stories of overlooked sites abound. Chuck Reher points to a recent discovery of several rare sites where manos and metates, stones for grinding roots and seeds, were still in place where they had been used. Reher said, "Because the crew didn't understand how unique a find it was, and since they didn't feel they were worth collecting and hauling into the pickup, they left them there."

Sometimes major finds are overlooked by a number of small, piecemeal surveys that conclude "not significant," and contain little description of what was found. Such a stamp of ineligibility for National Register status means that the federal agency can approve the proposed project without requiring the company to keep impacts on the site to a minimum. But in Reher's opinion,

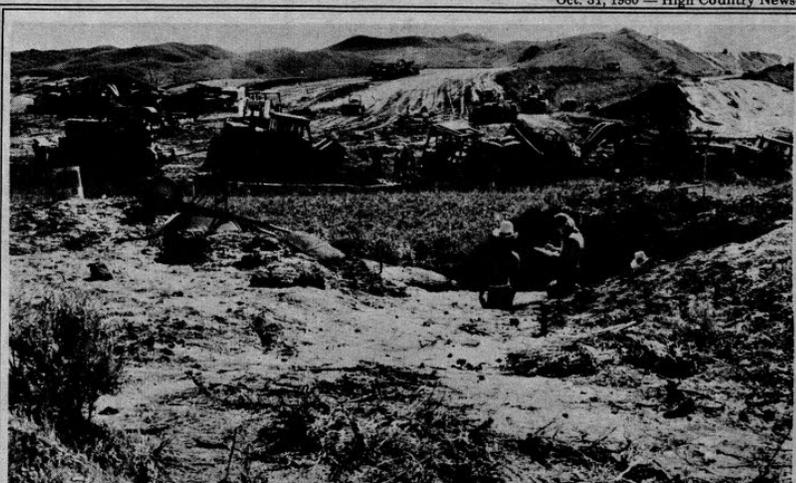


Photo by Charles Reher

BULLDOZERS AT THEIR BACKS, contract archeologists dig a Plains Indian tipi village in Campbell County, Wyo. A railroad spur to a coal mine will be built on the site.

Even sites which archeologists have found to be important enough to cause a pipeline or road to be rerouted may not be safe. Jogs in pipelines and National Register plaques can act as advertisements for pothunters. According to BLM state archeologist Ray Leicht, every major archeological site on BLM land has been looted by pothunters. Some, such as the famous Finley site, where bison were driven off a "jump

fund. This year, the agency has no money for policing sites in the state. Staff and district archeologists, swamped with contract reports to review, have little time to monitor archeological practices on the ground. "It's frustrating to be on the bottom of the agency totem pole, and to be a field archeologist who just stamps other people's reports," says ex-BLM archeologist Ann Johnson. A high turnover rate has become a pattern among archeologists in both federal agencies and the state Historic Preservation Office in Wyoming. This office is also underfunded and -staffed. "It doesn't take long to figure out where the big bucks are," says one archeologist who made the transition to private contracting.

BLM's chief archeologist for Wyoming, Ray Leicht, says he is committed to making quality archeology more of a priority in the agency, and to cracking down on contracting work. He has recently put one contracting firm "on probation," and is in the process of "yanking one company's permit for unacceptable work." This action is a first for the BLM in the state.

An organization of professional archeologists has recently formed to help upgrade the quality of work in Wyoming. Under the leadership of Charles Reher, the Wyoming Association of Professional Archeologists is working on developing standards and ethics for contract archeology, and pinpointing problems that need research. "We have to begin to synthesize the data we've already collected, and we have to start to police ourselves if the agencies do not." While this group can only make recommendations to the federal and state agencies, "we hope that being professionals, our advice will be taken seriously," says Reher. Almost all the professional archeologists in the state are members of the group.

The group is currently working to outlaw "snow monitoring" in the state, a practice of archeological surveying in winter using bulldozers. This technique, which has destroyed many sites, has already been banned in surrounding states. The ethics committee is also planning to chastise several contractors for unscrupulous behavior.

While the study of past cultures may

give us insights into human adaptations to desert environments that could help improve methods of food production on marginal soils, "the field is basically a luxury," says Kainer. "We are riding on the public's good will and natural curiosity about their ancestors — and a tenuous set of regulations. Though we gripe about the state of archeology today, it's amazing that anything is being done at all. But when the economic crunch gets bad enough, I predict the profession will dry up." "And we may find ourselves out here, scratching around with digging sticks," says one of Kainer's crew.

"The basic problem with archeology," says George Frison, "is that you can't trade arrowheads for groceries, or run your car on Clovis points."

"People are out there deciding whether sites live or die who aren't qualified to pick up a trowel."



small sites of just a few flakes can actually be more important for answering certain types of questions, such as how far were ancient peoples trading certain types of stone for tools.

"The problem is, archeological contractors are rushing around from well pad to well pad and there is no concerted effort to sit back and get the whole picture," says Reher. "Without synthesis of data and the proposal and correction of theories, archeology is mere inventory. If we continue just to collect data, we will never understand what is significant."

"Significant sites," says Ruthann Knudson, professor of Archeology at the University of Idaho, "just don't pop out at you in the high plains like they do in the Southwest. There, any mason could stumble on a pueblo or a pile of pottery and realize it's significant. Here significance could mean some tiny flake — whose source happens to be 1,000 miles away, or a pit at 9,000 feet which was used for roasting roots at the end of the last ice age. To make such evaluations requires a tremendously sophisticated understanding of geomorphology, animal behavior, soils science, hydrology, etc., which is sorely lacking, especially among a number of contractors." The vast number of sites compounds the problem of evaluating significance. Some 12,000 sites have been found on inventoried lands that amount to three percent of Wyoming.

9,000 years ago, looked like bombed battlegrounds. While the agency has a legal responsibility to protect these resources, little policing is done. "It's just not realistic to think that we can police every site out there, 24 hours a day," says Leicht.

"Pothunting is a common practice in Wyoming," says Reher. "Almost everybody has a shoebox full of arrowheads in their closet. Most of these people are nice folk out collecting a few arrowheads on Sundays. But some of them are pathological — the type that would kill their grandmother for a point."

While hunting arrowheads on the surface is now legal, fines range up to \$100,000 for vandalizing sites on federal land. But prosecuting pothunters is difficult. Several years ago, two BLM employees who were caught looting Indian rockshelters near Worland, Wyoming, were taken to court and let off with a \$100 fine for each and a three-day suspension. The agency has since spent \$15,000 trying to salvage the site and assess the damage done. Later BLM gave one man a Meritorious Service Award for his involvement in a fire program. It was worth several hundred dollars. "Penalizing pothunters is a joke in Wyoming," says Charles Love, professor of anthropology at Western Wyoming College.

Part of the problem is that the cultural resource management division of the BLM is understaffed and short of

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION NOTICE

- (Required by 39 U.S.C. 3685)
- 1. Title of publication, **High Country News**
- 2. Date of filing, **October 20, 1980.**
- 3. Frequency of issue, **biweekly.**
 - A. No. of issues published annually, **25.**
 - B. Annual subscription price, **\$15.00.**
- 4. Location of known office of publication, **331 Main St., Lander, Wyoming 82520.**
- 5. Location of headquarters of general business offices of the publishers, **331 Main St., Lander, Wyoming 82520.**
- 6. Names and addresses of publisher and managing editor, **Thomas A. Bell, RFD Box 80, Richland, Oregon 97870 (publisher), Geoffrey O'Gara, Box 236, Lander, Wyoming 82520 (managing editor).**
- 7. Owner: **High Country News, Box K, Lander, Wyoming 82520. Stockholder owning one percent or more of total amount of stock: Thomas A. Bell, RFD Box 80, Richland, OR 97870.**
- 8. Known bondholders, mortgagees, and other security holders owning or holding 1 (one) percent or more of total amount of bonds, mortgages or other securities: **None.**
- 9. Extent and nature of circulation:

	Actual No.	Average No.
	This Issue	Each Issue
A. Total No. copies printed	4500	4500
B. Paid circulation, 1. Sales		
— Dealers and counter sales	72	77
2. Mail subscriptions	3497	3711
C. Total paid circulation (B1 & B2)	3569	3788
D. Free distribution - samples	103	436
E. Total distribution (C & D)	3672	3891
F. Copies not distributed		
1. Office use, left over	784	237
2. Returns from news agents	444	39
G. Total (E & F)	4500	4500

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October 20, 1980 — Jazmyne McDonald

Tribes hold energy hostage in battle for control

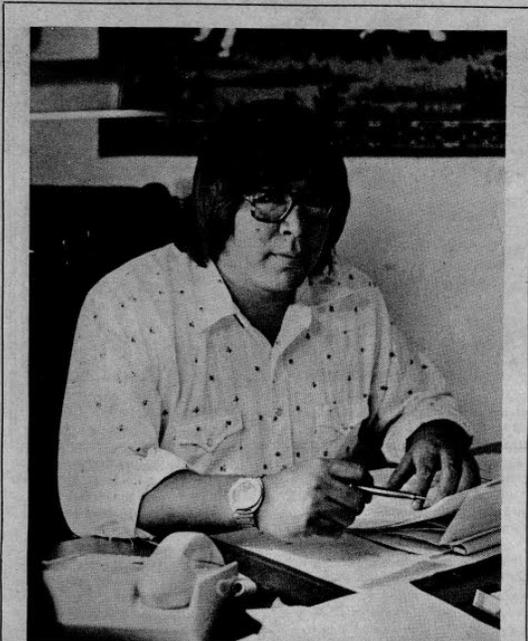


Photo by Marjane Ambler
HUGH BAKER resents the BIA enlarging its own staff when the tribal energy office is doing most of the work.

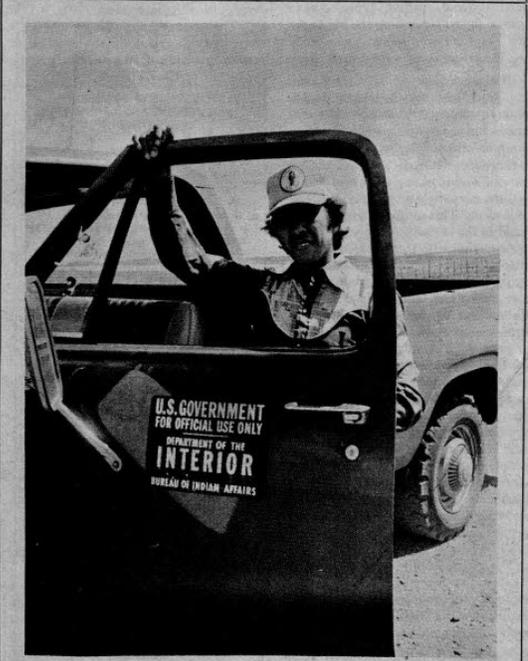


Photo by Nancy Gregory
MARVIN DRIVER supervises Indian guides for the tribal energy office and the BIA.

by Marjane Ambler

NEWTOWN, N.D.—When oil prices skyrocketed recently, exploration crews flocked here to the Fort Berthold Reservation. Members of the Three Affiliated Tribes (Arikara, Hidatsa and Mandan) saw them as a mixed blessing. With 40 percent unemployment, many Indians looked forward to the increase in jobs and royalties. However, the crews left dynamite lying around, cut fences and disrupted the lives of the people.

"They were running rampant over the reservation," according to the local Bureau of Indian Affairs superintendent, Harrison Fields (Pawnee). When the BIA didn't respond to complaints, some landowners resorted to guns to protect their land and livestock.

The tribes, frustrated by the BIA's lack of control, decided to take the matter into their own hands. They adopted seismic exploration regulations, began issuing permits and hired Indian geologists, who were paid by the oil developers, to accompany each exploration crew and make sure it followed the regulations.

The program is just one example of tribes' increasing sway over development of their energy resources. Comparisons between the Council of Energy Resource Tribes and OPEC (the Organization of Petroleum Exporting Countries) have focused public attention on tribal demands for more money, but the more critical issue to the tribes is control.

The issue is crucial to the country, for without control, the tribes don't plan to open their lands to further development. At stake is the biggest untapped energy bank in the United States: one-third of the West's low sulfur strippable coal; one-half of the nation's privately-owned uranium; as well as huge reserves of oil, gas, oil shale and other forms of fuel.

While most tribes with oil and gas have been pumping for years, only three tribes with uranium and three with coal are producing. The Navajo Tribe, the biggest private energy owner in the nation, has signed only one mineral contract in the past decade. Other major coal-owning tribes — the Crow, Northern Cheyenne and Three Affiliated Tribes — narrowly escaped inequitable coal contracts approved by the BIA in the early 1970s and imposed informal moratoriums on coal development. The moratorium has been lifted only by the Crows, who signed a coal contract with Shell Oil Co. last summer.

But 1980 begins a new era in Indian energy development policies. As Ken Fredericks (Mandan-Hidatsa), director of real estate for the BIA in Washington, D.C., said, "The tribes' degree of sophistication in business and their ability to cope with the blue-eyed world has increased tremendously in the last five years."

This sophistication is now being recognized by the energy companies, the Congress, and, grudgingly, by the BIA. As the tribes' abilities have grown, Congress and the courts have been acknowledging their jurisdiction in energy development matters.

One of the first decisions facing the next Congress will be a landmark bill composed jointly by CERT, the coal-owning tribes and the federal Office of Surface Mining. The result of a study mandated by Congress in 1977, it provides tribes the opportunity to assume full regulatory authority over coal on their land.

With billions of dollars, millions of acres and thousands of regulators' jobs at stake, this new era won't be without its problems. The 1980 battleground is already filled with skirmishes between the BIA and CERT, the tribes, and different factions within the tribes.

ONE RESERVATION'S STORY

At Fort Berthold, the gradual shift of control from the BIA to the tribes has created a wariness that sometimes interferes with cooperation.

BIA Superintendent Fields signs both the BIA and the tribal exploration permits, even though the tribal regulations and permit system have never been approved officially by the BIA. In fact, he doesn't expect some parts to be approved by Washington. His office also provides the program with a truck, gasoline and a salary for a field inspector.

Ultimately Fields believes regulation of energy development is the Bureau's responsibility, and he is seeking funds to hire staff to try to keep up. "But we don't have the staff or the resources to handle it right now so it's been a relief for us to have the tribes assisting the bureau," he said.

The director of the tribal Office of Natural Resources and Energy Development (ONRED), Hugh Baker (Mandan-Hidatsa), bristles when he hears Fields' remark about "assisting" the Bureau. He is proud of his young, dedicated staff, all of whom are from the area. He is also proud of the tribal exploration regulations, which are tougher than the Bureau's. He resents the BIA's attempt to enlarge its own office when his is handling much of the work.

Baker says that under the Indian Self-Determination Act of 1975 (Public Law 638), tribes can borrow federal employees, receive grants to carry out federal services, and direct the BIA to adhere to tribal priorities.

However, the BIA has often resisted tribal efforts in this direction. "They say they don't trust us, which is true, but they're also protecting their own jobs," Baker says. He is convinced that when the tribes get the mechanics in place, the Office of Natural Resources and Energy Development staff will be capable of taking over regulation of both exploration and development of the reservation's energy resources.

Fields supports the ONRED program — to a certain degree: "But no tribe can take over any facet of trust responsibility."

The definition of trust responsibility is now the subject of a raging nationwide battle. Even top level Interior Department officials don't agree. Can tribes market their own resources? Who has authority over individual Indians' lands? Can tribes write their own regulations if they are tougher than the



THE ONRED STAFF: (left to right) Carol Heisen, Barb Lindley, Connie Price, Hugh Baker, Marvin Driver, Delreen Bears Tail, Sherry Gillette, Laurie O'Berry. Seated is Terry Stevenson.



DAVID LESTER, director of the Administration for Native Americans, promotes tribal economic and social self-sufficiency.

federal government's? Who enforces the rules?

Barb Lindley, senior planner at ONRED, says the tribes have good reason for wresting control from the Bureau. She says that its overhead costs are extraordinary — the American Indian Policy Review Commission estimated that 78 to 90 percent of each dollar allocated for Indians is used to administer the BIA.

"But every time we ask for something, they say they're short-staffed," Lindley says. However, she doesn't want to abolish the Bureau, as some critics have suggested, because the Bureau is the only thing standing between the tribes and loss of their land,

then, the funds had been obligated elsewhere.

ONRED eventually succeeded in getting the money through another federal agency, the Administration for Native Americans, part of the Department of Health and Social Services. Whether or not one assumes the funding problem was deliberate, the incident illustrates the hazards of being dependent upon federal grants.

A PLANNING MAZE

But the BIA is not seen by the tribes as their only obstacle. Ken Deane (Arikara), tribal planner at Fort Berthold, says the tribal administration is a maze of different offices, named after

Administration for Native Americans, he designed a grant program that provides money for longer terms. Equally important, tribes must show that they are working for the longterm goal of self-sufficiency — programs will either be phased out or bring in the funds necessary to continue operation through taxes or fees.

A Three Tribes' proposal was one of the first accepted under the new program. Considered a model by CERT, the plan involves placing 25 different programs under three departments; each department head will outline objectives, and the tribal council will determine which objectives should be priorities.

As for financial independence, several of the ONRED staff members are already paid by fees from oil companies, and the office hopes to be 33 percent self-sufficient by December of next year.

Full tribal government self-sufficiency will be difficult if not impossible, however, largely because of a legacy left from earlier times. More than 150,000 acres of Fort Berthold, including the fertile river bottomland, is covered by the waters of Lake Sakakawea, which benefits primarily non-Indian farmers and industry. Most of the rest of the good farmland (45 percent of the reservation) is owned by non-Indians who homesteaded there when the federal government opened the reservation in the early 1900s.

The tribe owns only five percent of the oil mineral rights, so if more oil is found on the reservation, royalties will go primarily to individual Indian landowners or non-Indians. While the tribe owns 52 percent of the coal under the reservation, according to Baker, tribal leaders are hesitant to develop it because of the severe environmental and social impacts. Nor will they get any income or have any control over plans for a coal gasification plant that is to be built just outside the reservation boundaries.

Elsewhere across the country, energy-rich tribes are coping with similar challenges. The U.S. Supreme Court will rule soon on a corporate challenge of the Jicarilla Apache Tribe's severance tax on oil. The Jicarilla recently became the first tribe to take over some oil

wells on its reservation. Many tribes are considering seeking a Class I designation under the Clean Air Act, which helped the Northern Cheyenne Tribe force a nearby coal-fired power plant in Montana to use the latest cleanup technology. The Navajo Tribe has enacted several taxes, which are being challenged in court, to increase their return from reservation energy development.

Baker hopes the current movement toward Indian control over energy development continues, no matter which administration is in power. "It would be asinine for anyone to disagree with the trend in Indian energy development. Either there will be no development or orderly development, meaning a tribal government structure that assures regulation and monitoring, employment preference and proper return. You just don't walk over tribal governments anymore."

Marjane Ambler is a former managing editor of *High Country News*. She has received a grant from the Alicia Patterson Foundation to study Indian energy development.



"The tribes' ability to cope with the blue-eyed world has increased tremendously in the last five years."

the federal agencies that fund them: Housing and Urban Development, Community Action Program, Economic Development Administration, Environmental Protection Agency, Administration for Native Americans. The tribal council is responsible for 25 federal programs funded by 10 different federal agencies, each with its own budgeting and reporting requirements. None can plan beyond one year's funding, and no one coordinates them.

While the Three Tribes have been interested in comprehensive planning and management for years, Baker says, they had trouble until recently getting federal agencies to respond. If the BIA had fish and wildlife funds, for instance, they couldn't be used for a natural resources department that included more than just fish and wildlife functions.

However, one federal bureaucrat, David Lester (Creek), shared the Indians' concern about fragmented planning. When he became director of the

hunting and fishing rights, water rights and other treaty obligations.

First, the tribes must find the means to handle some of the Bureau's other functions, she says. They also would need to establish a financial base.

Unlike state or city governments, Indian tribes do not collect property or income taxes, and they cannot issue tax-free bonds. Consequently, they are almost entirely dependent upon federal funds to run their governments; educate their children; and provide housing, sewer and water facilities.

In fact, ONRED's very existence depends largely on federal money. Six months after the tribal agency's budget had been submitted to the local BIA for fiscal year 1980, Baker discovered that it had not reached the area office. The proposal was submitted again, but by

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Energy

Powder River's new rail track moves forward despite foes

by Geoffrey O'Gara

Chicago and North Western Transportation Corp. is inching its locomotives towards the coal fields of the Powder River Basin in Wyoming. But local ranchers, Wyoming's governor and the powerful Burlington Northern Railroad are all trying to keep it out.

C & NW is seeking federal loan guarantees from the Department of Transportation to help it buy into Burlington Northern's new rail spur to the coal fields and then build a 56-mile connecting line between Lusk, Wyo., and Joyce, Neb. This would allow C & NW to haul Powder River coal into the vast Union Pacific Railroad system at Joyce.

Chances look good for C & NW. Congress recently set deadlines for a decision by the Department of Transportation on the loan guarantees. And an administrative law judge for the Interstate Commerce Commission has ap-

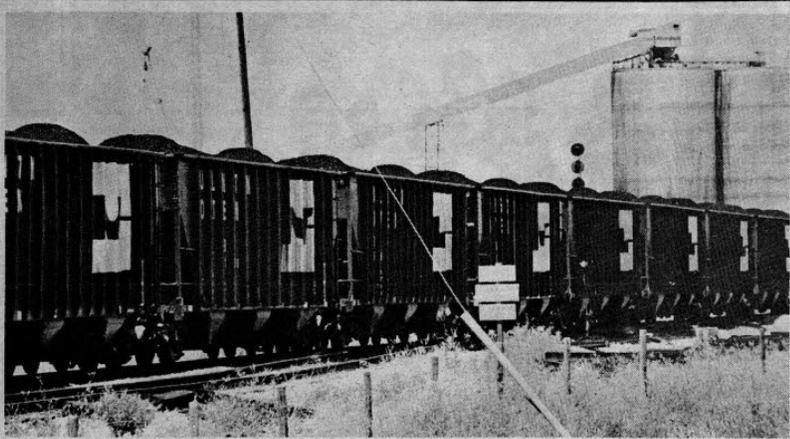


Photo by Michael McClure

BURLINGTON NORTHERN presently hauls all the coal from the Powder River Basin coal fields.

proved C & NW's proposal, though that decision has been appealed and now must be reviewed by the full commission.

The decision was appealed by BN and the Wyobraska Landowners Association, a group of about 60 ranchers

whose operations might be affected by the spur.

"We don't think it's possible to build a railroad through here without serious erosion and land and water problems," said Carl Franklin, a Torrington area rancher who heads the Wyobraska

group. Like BN, the ranchers question the need for the new line; but their main concern is that no detailed studies have been made of environmental impacts in a fragile region that supports agriculture.

But Franklin acknowledges that he

Backers of new rail route have their eyes on Powder River

by Dan Whipple

SHERIDAN, Wyo. — A group of water rights owners here is pushing again for legislative approval to allow their water to be exported in a coal slurry pipeline.

Slurry water export was approved by the legislature in 1979 but was vetoed by Wyoming Gov. Ed Herschler. Now the proposal is running up against the Basin Electric Power Cooperative, which has filed for junior water rights on some of the same water.

The Little Horn Water Group has filed for senior water rights on 20,000 to 25,000 acre-feet of water from the Little Bighorn River in Wyoming. If approved by the legislature, the water would be used to send about 25 million tons of coal, probably from Montana mines, through a pipeline, with Texas utilities

the most likely customers. Export of water is currently prohibited by Wyoming law, so special authorization is needed.

Basin Electric has filed for junior water rights on the same water. Basin is considering four sites in Wyoming and North Dakota for a coal-fired power plant that would use the water. Although no final decision has been made on the location, one of the first steps usually taken is to secure water at the prospective sites. If the slurry group doesn't get the water, the power company probably will.

John Jenkins, one of the partners in the Little Horn group, calls Basin's filings "a power play." He says, "We are not going to sit back and let them take our water."

In 1979, the state legislature ap-

proved a water export bill for a slurry pipeline proposed by Texas Eastern Corp. The proposal would have used the same water source that the Little Horn group holds, and most members of the Little Horn group were involved in the Texas Eastern proposal. The water rights holders formed the new group in order to disassociate themselves from Texas Eastern.

Texas Eastern is not actively involved in the new proposal, though Jenkins says it is still interested, along with some other companies, in building the pipeline. Most of the financing for the effort is coming from Chinook Resources, a small Wyoming energy firm. Chinook is a 20 percent partner in the group.

Herschler subsequently pocket vetoed the enabling legislation for the

Texas Eastern project in 1979. However, the legislature had passed the bill by nearly a two-thirds majority. Jenkins says he expects that majority to hold up in the 1981 session.

Passage of the legislation would not guarantee construction. Wyoming is signatory to the Yellowstone Compact, which requires the approval of Montana, North Dakota and Wyoming before any water can be exported out of the basin. Montana Gov. Tom Judge said in 1979 that his state would sue if Wyoming went ahead with the project. Rob Wallace, another member of the water group, says that Little Bighorn water is specifically exempted from the compact, but Montana state attorneys do not agree.

In addition, the Little Bighorn enters the Crow Indian reservation when it

Hot Line



UTAH COAL. The Bureau of Land Management has issued its third draft environmental impact statement prepared under the federal coal leasing system. The EIS covers the Uinta-Southwestern Utah coal production region. Eleven federal coal tracts are available for leasing in the areas. The EIS, in its "preferred alternative," says that seven of the tracts should be leased, resulting in a production of about 176 million tons of recoverable coal. The statement also considers a proposed coal exchange between BLM and Utah Power and Light Co. The ac-

tion would exchange federal leases on the Wasatch Plateau in exchange for preference right lease applications on the Kaiparowits Plateau now held by UP&L. Copies of the EIS may be obtained from the BLM offices in Salt Lake City, Moab, and Price. Comments are due by Dec. 9.

WORLD OIL. For anyone who's been dozing for the past few years, the congressional Office of Technology Assessment recently announced that there is a petroleum crunch. An OTA report entitled "World Petroleum Availability: 1980-2000" says there will most likely be little or no increase in world oil production from conventional sources over the rest of the century. Not only will the U.S. be unable to increase imports above current levels, but the country will face stiffer world competition for the decreasing supplies. The OTA study says that total world pro-

duction could be as low as 45 million barrels a day by 1980 and 40 million barrels a day by 2000. 1979 production averaged 52.4 million barrels daily.

STILL LIFE. The U.S. Department of Agriculture has approved \$341.6 million worth of federal loan guarantees for 15 fuel alcohol plants in 14 states. The money should enable the plants to produce an estimated 246 million gallons of ethanol a year. President Jimmy Carter has set a national goal of 500 million gallons of alcohol and methane by the end of 1981. In the West, projects were approved for Idaho (\$8.7 million) and Montana (\$2.8 million).

NEW MEXICO, COLORADO AND UTAH APPROVED. The regulatory program for surface coal mining and reclamation in the states of New Mexico and Colorado have been approved by Interior Secretary Cecil Andrus. The

agreement allows them to assume primary jurisdiction over the regulation of coal mining on non-federal, non-Indian lands. In addition, they can, if they choose, enter into a cooperative agreement with Interior to provide state regulation of mining on federal lands. Illinois and Utah were given partial approval of their program, while Pennsylvania was not approved.

SEVERANCE TAX AGAIN. Wyoming Gov. Ed Herschler (D) says he will ask the 1981 state legislature to approve a three percent increase in the severance tax on oil and natural gas, excluding wells producing 10 barrels a day or less. Herschler is asking for the increase in spite of estimates that the decontrol of petroleum prices will provide an additional \$200 million from severance taxes by 1985 even without any increase. Herschler said the predic-

Energy

is up against powerful forces. His group has made suggestions for alternatives — such as upgrading C & NW's existing lines across northern Nebraska — but lacks the funds to do necessary surveys and studies.

Among the powerful forces they face is a Congress intent on holding down prices for shipping Powder River coal. BN now has a virtual monopoly on shipping from the region, and rising rates to faraway coal-consumers like San Antonio, Tex., have enraged some congressmen. With deregulation of the railroad industry opening the door for faster and larger rate increases, congressmen are searching for ways to keep shipping prices down — competition, they think, is one way.

Another powerful force behind the C & NW proposal — and the object of BN's and the ranchers' ire — is the Union Pacific Railroad.

Union Pacific, which is investing \$60 million in the project, would haul the coal east across Nebraska from Joyce, near the Wyoming border, and either return it to C & NW for distribution to its Midwestern markets or take it further on its own lines to Kansas City.

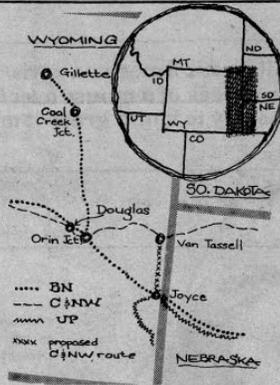
BN and the ranchers charge that giving C & NW loan guarantees to build a spur that would benefit financially-healthy Union Pacific is wrong. "The real beneficiary is Union Pacific," according to a Burlington Northern spokesman. "Duplication of facilities

(having two major rail services to Powder River) will ultimately be paid for by shippers and electrical consumers."

Union Pacific spokesmen say it's a distortion to claim that the arrangement would do more for their railroad than for C & NW. They point out that C & NW would haul the coal 200 miles from Powder River to Joyce, then Union Pacific would haul it 400 miles to Fremont, Neb., at which point it would be returned to C & NW to haul to its Midwest markets. They acknowledge, though, that some of the coal might also continue on Union Pacific lines to Kansas City.

As for C & NW, the financially weak railroad simply may be looking for a way to survive. Though C & NW has its own rail line running from Wyoming east across northern Nebraska, C & NW spokesmen say they cannot afford to upgrade it, despite a BN offer to allow C & NW free use of its Powder River rail route under such circumstances. Building the connector line to Union Pacific track is cheaper.

"We estimated years ago that rehabilitating that track would cost \$500 million, and it would be much higher



now," C & NW representative Tom Judge said.

If C & NW builds the connector line, BN will not give it free use of its Powder River track. To buy into BN's Powder River track would cost \$60 million, and another \$210 million or so would go into

fixing up 45 miles of existing line and building the 56 mile connector to Union Pacific's facility in Joyce.

C & NW is looking for over \$200 million in loan guarantees from the Federal Railroad Administration. Following publication of an environmental impact statement, expected in the next month, the FRA and Department of Transportation will have 75 days to act on the proposal. In addition, the ICC is expected to make a quick review of the challenges to their administrative law judge's approval of the route.

BN argues the "need" issue most strongly. The company completed its 106 miles of new track into the Powder River coal fields last year at a cost of over \$1 million per mile. Despite projections of increased coal production from the region, markets have been weak in recent years, and BN has the capacity to handle considerable increases. Presently the railroad has 36 idle unit trains (of about 100 cars each) "ready to roll" when the market expands.

In addition to BN's idle capacity, there is the possibility that coal slurry pipelines will begin hauling coal from the area in the next few years.

coal fields

crosses the Montana-Wyoming border. The Crow argue that they own all of the flow from the Little Bighorn under their water rights. Their claims would also have to be settled in court.

The re-emergence of coal slurry proposals is creating a dilemma for environmental groups in Wyoming. Most of them support the export of coal from the state, rather than the construction of plants that export electricity, gas or liquids converted from coal. However, they are reluctant to support water export. Both the Wyoming Outdoor Council and the Powder River Basin Resource Council are reviewing each proposal individually.

Both groups have members or former board members involved in the Little Horn group.

tions of dramatic increases are "overblown rhetoric" and "a flim-flam." Herschler said the revenue needs in the state are "staggering" and that more money will be needed for roads, municipalities, schools and health and social services. The severance tax increase is popular in the state, but the Republican-dominated legislature has been very reluctant to approve increases in the past.

BOILING IN OIL. The U.S. Department of Energy reports that its researchers have been able to free 1,000 barrels of thick, heavy oil from a deep Utah tar sands by injecting it with 465-degree pressurized steam. At those high temperatures, the oil trapped in sand — called bitumen — becomes thin enough to escape the sands and flow to production wells. DOE's Energy Technology Center is conducting further analysis on methods for freeing the oil.

Photo courtesy of the Colony Development Corporation

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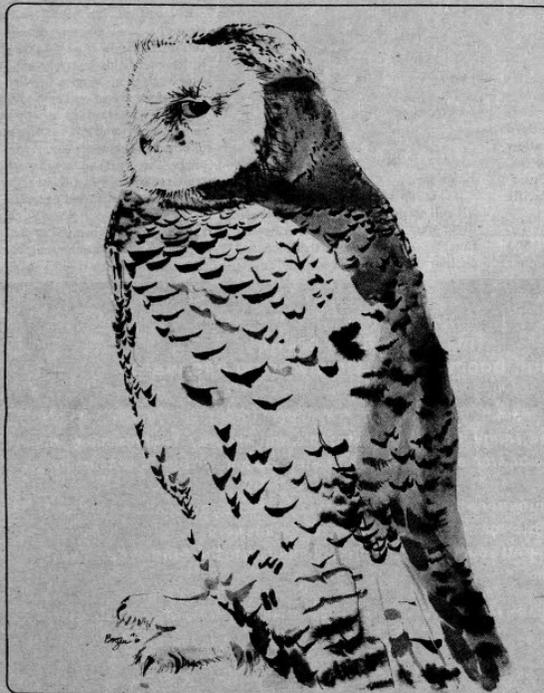
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The largest of all North American owls, the snowy can hear the squeak of a mouse over half a mile away and then fly to it and grasp it unerringly.



by Thomas M. Jenkins

The ritual sound of snowshoes and the incessant murmuring of the wind marked time on the winter evening. The man glanced behind as he marched and saw something move in a tree. He stopped. The eerie light and penetrating cold pressed upon him.

Suddenly, from across a clearing, a ghost emerged soundlessly from a branch of a fir tree. It glided on silent wings toward him, a white shadow. For a few moments, he couldn't move.

Then the creature floated upward and disappeared into the trees over his head. Moments later the man heard a thin cry from somewhere among the snowy trees, and he knew the talons of the winged ghost had found their mark. The spell was broken.

But the spook had made a lasting impression on the traveler. No wonder — the snowy owl is the largest and most luxurious in plumage of all the North American owls. In its home in the bleak arctic tundra, its welfare is linked to that of the lemmings, which propagate rapidly and eventually eat up their food supply. After thousands of lemmings die, the owls, in turn, are forced to leave their home territory, startling and delighting observers as far south as Louisiana. They are seen on city window ledges, haystacks, fence posts and the rigging of ships as far as 300 miles from land. A young owl from Cambridge Bay, Canada, flew 3,500 miles to Sakhalin in the Soviet Union. Sometimes one of them can be approached and even picked up, almost tame from not having ever seen a human. In some years so many owls descend into the United States that they create newspaper headlines.

Most of the time, this tundra ghost adapts to its cold environment, nesting on an outcrop, hillock or rise (called a pingaluk), sometimes completely in the open. There it lays its eggs on the cold snowy ground less than two feet above soil that has been frozen since the ice age. Few of the chicks survive the arctic foxes, skuas, glaucous gulls and jaegers. In addition, some fall out of the

The silent tundra ghost
at home on it

nest and off the pingaluk to die from exposure. Others are shot as game birds or as trophies.

Yet the snowy owl survives, partly because of its effective hunting techniques. With a wingspan of up to five feet, it flies silently, gracefully low over the ground, rising or falling with the contours of the land. Its broad wings, rounded at the tips, contain soft, downy feathers that deaden the swishing sound.

Suddenly it folds its wings and abruptly drops to pounce on a fleeing animal's back. If the powerful grip of its sharp, curved black talons doesn't kill the prey, the owl will break the animal's neck with a single bite of its beak.

The owl's patience is legendary. It will perch for hours on a pingaluk, leaning forward, motionless except for its swiveling head. Its partly lidded eyes give the bird a sleepy, stupid look. But underneath those lids its brilliant, startlingly lemon-yellow eyes miss nothing. It will wait endlessly for a mouse or lemming to move within range, then quickly reach out, skewer it with its talons and gulp it down. At night, the owl can hear the squeak of a mouse over a half mile away and then fly to it and grasp it unerringly.

At other times, it will attack and kill larger animals, including foxes caught in traps, full-grown chickens and

grouse or ptarmigan downed by a hunter's shot. It will also fish through holes in the ice and will eat carrion when available. One observer, David Robinson, tells of a snowy owl being pestered by a flock of crows in an Ohio field. "One crow learned the hard way that not all owls are dazzled by sunlight, as the pale stranger leaped into its path, drove needle-sharp talons deep into its flesh and flapped away to eat crow and like it."

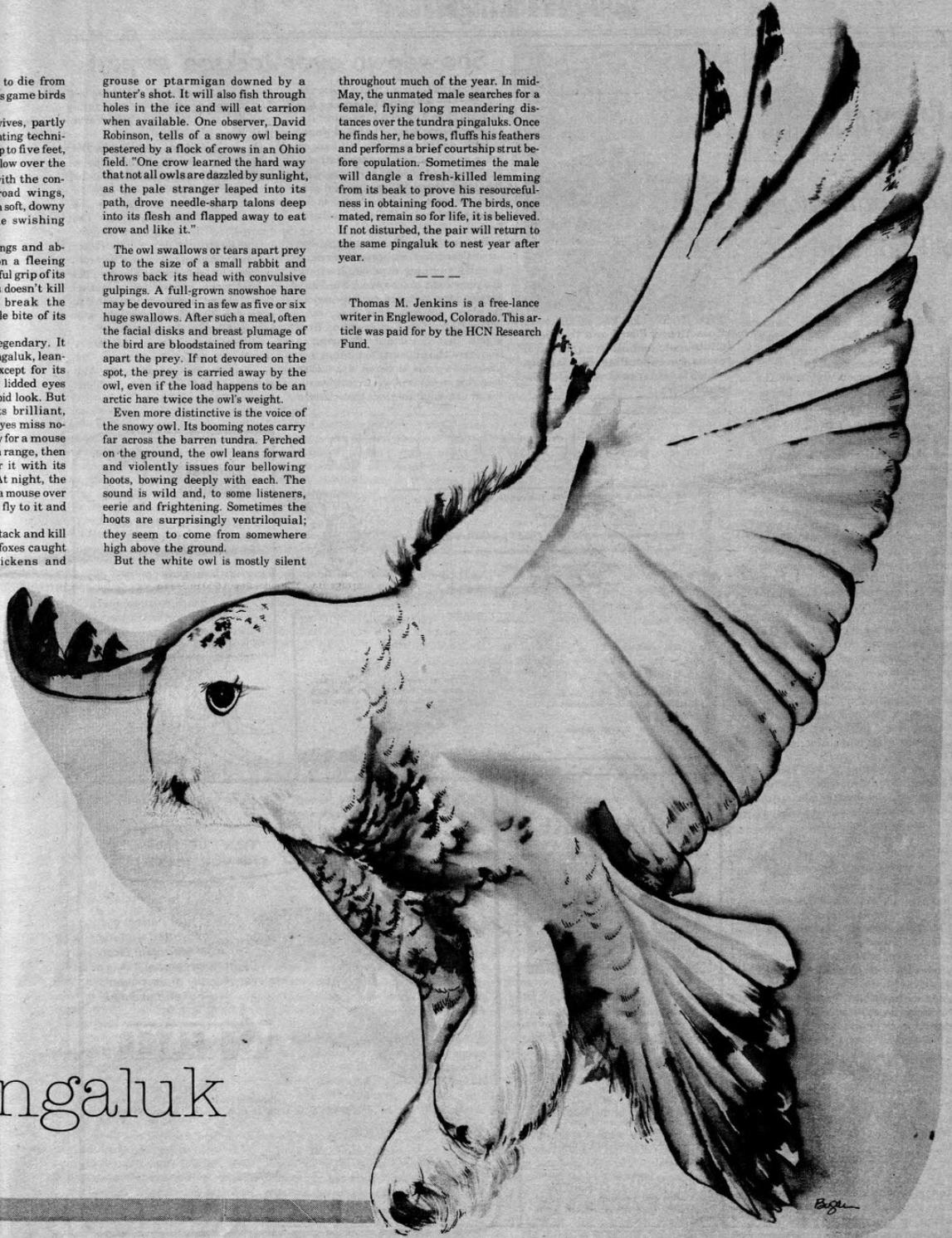
The owl swallows or tears apart prey up to the size of a small rabbit and throws back its head with convulsive gulps. A full-grown snowshoe hare may be devoured in as few as five or six huge swallows. After such a meal, often the facial disks and breast plumage of the bird are bloodstained from tearing apart the prey. If not devoured on the spot, the prey is carried away by the owl, even if the load happens to be an arctic hare twice the owl's weight.

Even more distinctive is the voice of the snowy owl. Its booming notes carry far across the barren tundra. Perched on the ground, the owl leans forward and violently issues four bellowing hoots, bowing deeply with each. The sound is wild and, to some listeners, eerie and frightening. Sometimes the hoots are surprisingly ventriloquial; they seem to come from somewhere high above the ground.

But the white owl is mostly silent

throughout much of the year. In mid-May, the unmated male searches for a female, flying long meandering distances over the tundra pingaluks. Once he finds her, he bows, fluffs his feathers and performs a brief courtship strut before copulation. Sometimes the male will dangle a fresh-killed lemming from its beak to prove his resourcefulness in obtaining food. The birds, once mated, remain so for life, it is believed. If not disturbed, the pair will return to the same pingaluk to nest year after year.

Thomas M. Jenkins is a free-lance writer in Englewood, Colorado. This article was paid for by the HCN Research Fund.



st
its pingaluk

Trackings

followups on previous stories



Irrigation reform bill bogs down

by Lonnie Rosenwald

WASHINGTON, D.C. — Legislation to reform the outmoded 1902 Reclamation Law has been sidetracked in the House Rules Committee.

Republican proponents blame the administration for the delay. Democrats say it's house opponents' fault.

The Reclamation Reform bill is a political hot potato for the administration, which earlier vowed to veto the House version. Such a veto in this election year could cost Carter some votes in the irrigated Western states.

The administration objects to the House bill's liberal acreage allowance. Under its proposal, a farmer could receive federally subsidized water for 960 acres of private land, plus up to 2,400 leased acres, rather than the maximum of 160 acres that could be leased under the 1902 law.

Carter also wants assurances that those who benefit from the water subsidy are legitimate farmers rather than real-estate investors. Although he has backed off from insisting farmers live within 50 miles of the land, he wants the House to restore a previous provision requiring landowners derive a "significant" part of their income from farming.

An aide to Rep. Steve Symms (R-Idaho), who is strongly supporting the House bill, accused the administration of maneuvering to tie the bill up in the House Rules Committee.

"I don't think they want Carter to have the choice of vetoing or not vetoing it. Those are important Western votes," the aide said.

But other observers said Rules Committee Chairman Richard Bolling (D-Mo.) and Rep. Morris Udall (D-Ariz.), who chairs the committee which first reported the bill, agreed to try to rewrite the bill in order to avoid a fight on the House floor.

An aide to Udall acknowledged the congressman's staff is "changing our strategy" in an effort to avoid the "rash of amendments" feared in a floor fight.

"Mo's been trying to figure out everybody's bottom line," he said. "The cotton growers are down to about 2,000 (acres of leased land allowed) and the liberals are up to about 1,000. But there's a long way in between," the aide said.

Lonnie Rosenwald, formerly a reporter for the Idaho Statesman, is now working for columnist Jack Anderson in Washington, D.C.



THE PARK SERVICE, Jackson Hole Airport Board and the Sierra Club are squabbling again over plans for expanding the facility, which is located in Grand Teton National Park.

Showdown over Jackson airport

The Sierra Club has filed a motion to intervene in a lawsuit brought by the Jackson Hole Airport Board against the Interior Department. The board wants to build additional ramps and hangar space at the airport, but the National Park Service denied the request, saying that it has the right to control new construction at the airport, which is located within Grand Teton National Park.

The airport board's suit says that the airport permit gives the board the right to build anything required for safety and proper use of the airport. The Park Service, says the board, can only review the plans, not deny them.

The Sierra Club's intervention first argues that the Interior Department does have the authority to rule against the board's plans. Moreover, if the court does rule in favor of the airport board, the Sierra Club contends that the use

permit was illegally issued because the Park Service does not have the lawful authority to give up its control over park land.

On a related front, the Interior Department has issued its final plan to limit noise from flight operations at the airport (HCN, June 13, 1980). The plan recommends that no Boeing 737 jets be permitted to land in the airport. The report says, "The Service is of the opinion that the inconvenience will not translate to an economic impact of any consequence in the Jackson Hole area...The public benefits from control and reduction of aircraft noise are considered to outweigh such inconvenience and economic factors that may occur."

Jackson Hole businessmen argue that the jet service is necessary to the area's resort economy will suffer. The plan also calls for a curfew on flights between 9 p.m. and 6 a.m.

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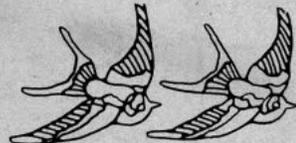


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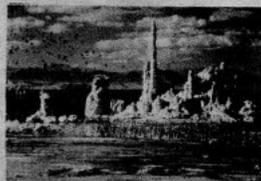
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Western Roundup

Ground squirrels can expect 1080 treatment in Montana

by Conrad Gilbert

Land Lindbergh, a rancher in Greenough, Mont., has ground squirrel problems. Last year, he says, the little rodents cost him more than \$10,000.

He has tried to control them with strychnine and has found it ineffective. One year he fired 50,000 rounds of ammunition on 500 acres of his land. Two years later the squirrel population was as high as before, he says.

Lindbergh is not alone in his predicament. The Montana Department of Livestock estimates that Columbian ground squirrels cost ranchers in 19 western Montana counties as much as \$1.4 million last year. According to Lindbergh, the squirrels not only eat crops but also chew electrical wires and irrigation hoses, create mounds in the middle of fields and undermine buildings with their burrows. Some ranchers have reported losses of up to one-third of their hay crop.

Next year many ranchers may try an old but controversial remedy — poison Compound 1080. A presidential ban in 1973 restricted its use to rat control in cities and limited rodent control in California, Colorado and Montana. Recently, the Montana Department of Livestock received approval from the U.S. Environmental Protection Agency to use the poison to kill ground squirrels in western Montana in 1981.

Bart O'Gara, head of the Montana Wildlife Research Unit, said he dislikes poisons of any kind but that some ranchers "almost have to have 1080."

In ground squirrel control 1080 is mixed with grains such as oats or barley and is spread at the mouths of the squirrels' burrows. O'Gara said that the

squirrels will die in about six to 20 hours after eating the poison.

O'Gara said that there are some alternatives to 1080 but that none of them seem practical. Strychnine, the most often mentioned, does not always work because ground squirrels often get sick from it before they have eaten enough to kill them. Also raptors are more susceptible to strychnine than to 1080. Both poisons are passed on to birds if they eat poisoned rodents, but O'Gara said, "I've fed 1080 to eagles and you can hardly kill them."

On the other hand, 1080 is highly toxic to canines. The poison will kill wolves, foxes, coyotes and dogs if they eat poisoned carcasses. Also directly affected are non-target rodents such as chipmunks, mice, voles and prairie dogs.

Another alternative is zinc phosphide, which also has problems. O'Gara said that it is very strong-tasting, so many rodents will avoid eating it. While 1080 produces a 99 percent kill zinc phosphide will get only 41 percent. The cost of applying zinc phosphide is also prohibitive for many ranchers. O'Gara said that it was more than five times as expensive to apply as 1080, costing approximately \$8.50 per acre compared with \$1.25 for 1080. However, zinc phosphide is not passed along to carnivores.

Environmentalists say their greatest concern about 1080 is its effect on non-target species. Hank Fischer, the Montana representative for the national organization, the Defenders of Wildlife, said, "Not enough is known."

Fischer said that one problem in the ground squirrel situation is that many people just don't care. "People don't



Photo by Dick Randall, Defenders of Wildlife

GROUND SQUIRRELS eat crops, undermine buildings and chew electrical wires, according to western Montana ranchers. They'll try to control the squirrels next year with the controversial poison 1080.

tend to get very excited about ground squirrels," Fischer said. "They're not majestic, they're not very fast, they don't have horns, nobody names their football team after them so people don't think they're very valuable. But they are the food base for many animals."

Fischer said that the Defenders of Wildlife does not think that large-scale use of poisons is a good land management policy but it does concede that some ranchers have a serious problem. "1080 has a pretty dark history," Fischer said. "It is a history of misuse and a lot of destroyed wildlife. If it's going to be used we want to see it used in the most environmentally sound manner."

In Montana it is difficult to find staunch opponents to the use of 1080. Many environmentalists seem to have accepted the situation. Some ranchers are interested in the studies on non-target species but in the meantime will continue to use 1080.

If the 1981 program is successful the use of 1080 is likely to grow in Montana.

In South Dakota, however, the EPA denied a request that appeared to be similar to Montana's. There was one important difference: South Dakota was out to get prairie dogs, which share habitat with black-footed ferrets. The carnivorous ferrets, which are protected by the federal government as an endangered species, would be very susceptible to 1080 if they fed on a poisoned prairie dog carcass. Researchers are looking at zinc phosphide to solve ranchers' problems in South Dakota.

Conrad Gilbert is a journalism student at the University of Montana and a reporter for KUFM, a public radio station in Missoula, Mont. Research for this article was paid for by the HCN Research Fund.

Giardia: waterborne parasite causes misery in the mountains

by Louisa Willcox and Ben Toland

One of the age-old pleasures of backpacking is sipping water from high mountain lakes and streams. But as use of these areas has increased, so have problems with waterborne disease causing organisms. In the past few years, the protozoan *Giardia lamblia* has spread rapidly through small Rocky Mountain towns as well as wilderness areas.

The diarrhea it causes has occurred epidemic proportions in resort towns such as Aspen and Vail, Colo., and others around the country. It has incapacitated entire trail crews in Olympic National Park, geologists in Alaska's interior, and climbers in Colorado, Wyoming and Utah.

Since 1978, *Giardia* has earned distinction as the most common parasite which causes intestinal disease in the United States. It appears to be more prevalent in the western part of the country, particularly Colorado, which over the past few years has had about 900 cases reported annually. According to the Colorado Department of Health, most of these cases have been contracted from backcountry water sources

"Beaver fever," as *giardia* is sometimes called, can be carried by humans as well as animals. The most common carriers are beavers, ground squirrels, marmots, fox, coyotes and cattle. These carriers may or may not be affected by the disease, which they pass on as tiny cysts through their feces. These cysts are then washed into streams and lakes that frequently look pure, and may be in no other way contaminated. The cysts are tough enough to survive hot dry or cold wet conditions for weeks and sometimes months after they are excreted. One or two cysts picked up simply through wetting a toothbrush, are all that is needed to infect a person.

After being ingested, the organism hatches and attaches itself to the upper part of the small intestine, where after about nine days it causes diarrhea, sulphuric or "rotten egg" belches, foul flatus, loss of appetite, weakness, nausea, and sometimes abdominal cramps. If untreated, the symptoms may last indefinitely, go through periods of remission, or they may subside permanently. Studies show that *giardia* predisposes people to ulcers and gallbladder disease.

Quinacrine (atabrine), a quinine

ment for the disease. Doctors also prescribe metronidazole (flagyl) and the antibiotic furazolidone (uruxone) which are somewhat less effective and can cause serious side effects.

Scientists have a lot to learn about this mysterious organism. Already they've found that it frequently eludes detection in water, is difficult to diagnose, and is not treatable by traditional backcountry chemical purification methods. Until recently, the complexity and size of filtering equipment has thwarted attempts to figure out what watersheds are home to these parasites. The diagnostic requirements of three fresh stool samples have resulted in numerous cases where the parasite has been overlooked.

Neither iodine solutions nor chlorination with Halazone consistently kill *giardia*. According to the Center for Disease Control in Atlanta, Ga., these chemicals can be effective, but their ability to kill *giardia* changes drastically according to the acidity, temperature, and turbidity of the water to be treated. While experts argue about the best way to treat suspect water, boiling vigorously for three to five minutes is, at this time, the recommended method.

From carrier animals or humans near a drinking source should clue a backpacker to the possible presence of *giardia*. Should a person develop symptoms of the disease in the backcountry, he or she should be given fluids and if possible electrolyte replacements, such as Gatorade or E.R.G. (Electrolyte Replacement with Glucose), to make up for fluid loss from diarrhea. Cleanliness is critical to avoid contaminating other individuals.

Even water above 12,000 feet has been found to be contaminated. One reason is that too often backcountry users camp and defecate closer than 100 to 200 feet from a water source. response to finding diapers and human feces in lakes and streams, one *giardia* expert dubbed the Maroon Bells wilderness "one of the world's largest open air toilets."

Most community outbreaks have been the result of breakdowns in municipal treatment systems for water that is derived from surface sources. But, according to Dr. Bruce Weninger of the Center for Disease Control, some of the chlorination systems in small communities have been found to be inadequate to kill *giardia*, even if work-

12-High Country News — Oct. 31, 1980

STATE OF WYOMING

Financial Statements of Insurance Companies which are Authorized to do business in Wyoming.

Published in High Country News
Aug. 22; Sept. 5, 19; Oct. 3, 17, 31,
1980

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National Aviation Underwriters, Inc.,
Attorney-in-Fact for
National Insurance Underwriters
10534 Natural Bridge Road, St. Louis, Mis-
souri 63134

Lambert Field, P.O. Box 10155, St. Louis,
Missouri 63145
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

GROSS PREMIUMS RECEIVED	\$288,656
Losses Paid Deducting Salvage	622,116
Losses Incurred	1,110,334
Total Admitted Assets	11,388,675
Liabilities	9,366,240
Capital Stock Paid Up	-
Surplus	2,022,435
Income during year ending December 31, 1979	3,170,092
Expenditures for year ending December 31, 1979	3,402,796

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

THE NATIONAL INVESTORS LIFE INSURANCE
COMPANY
Home Office: Second and Broadway Streets,
Little Rock, Arkansas 72201

Mailing Address: Post Office Box 3668, Little
Rock, Arkansas 72203
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$-0-
Gross Premiums Received	51,903
Direct Benefits and Losses Paid	14,887
Direct Benefits and Losses Incurred	2,488
Total Admitted Assets	167,684,963
Liabilities	156,630,838
Capital Stock Paid Up	2,000,000
Surplus	9,054,124
Income during year ending December 31, 1979	57,133,721
Expenditures for year ending December 31, 1979	53,761,707

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

NATIONAL OLD LINE INSURANCE
COMPANY

(Mail) P.O. Box 2900; Little Rock, Arkansas
(Home) Capitol 9 Woodlane, Little Rock, Ar-
kansas 72201
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$7,111,000
Gross Premiums Received	236,542.65
Direct Benefits and Losses Paid	109,130.56
Direct Benefits and Losses Incurred	114,526.90
Total Admitted Assets	232,945,629
Liabilities	205,075,151
Capital Stock Paid Up	5,691,449
Surplus	22,179,028
Income during year ending December 31, 1979	61,187,888
Expenditures for year ending December 31, 1979	62,480,149

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National Fidelity Life Insurance Company
1002 Walnut Street, Kansas City, Missouri
64102
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$44,648,633
Gross Premiums Received	1,641,979
Direct Benefits and Losses Paid	296,380
Direct Benefits and Losses Incurred	304,614
Total Admitted Assets	227,332,226
Liabilities	206,619,101
Capital Stock Paid Up	3,128,000
Surplus	17,588,125
Income during year ending December 31, 1979	82,209,959
Expenditures for year ending December 31, 1979	76,961,549

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National Guardian Life Insurance Company
2 East Gilman Street, Madison, WI 53703
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$111,164
Gross Premiums Received	9,327
Direct Benefits and Losses Paid	2,862
Direct Benefits and Losses Incurred	0
Total Admitted Assets	294,243,117
Liabilities	190,840,383
Capital Stock Paid Up	NONE
Surplus	13,402,734
Income during year ending December 31, 1979	42,150,146
Expenditures for year ending December 31, 1979	40,554,145

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National General Insurance Company
P.O. Box 10155 Lambert Field, St. Louis,
Missouri 63145

10534 Natural Bridge Road, St. Louis, Mis-
souri 63134
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

GROSS PREMIUMS RECEIVED	\$145,319
Losses Paid Deducting Salvage	158,343
Losses Incurred	160,962
Total Admitted Assets	21,375,313
Liabilities	15,513,070
Capital Stock Paid Up	1,512,000
Surplus	4,350,243
Income during year ending December 31, 1979	18,364,325
Expenditures for year ending December 31, 1979	17,016,501

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National Fire Insurance Company of
Hartford

Mail — CNA Plaza — Chicago Illinois 60685
Home — 270 Farmington Avenue,
Farmington, Connecticut 06032
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

GROSS PREMIUMS RECEIVED	\$90,829
Losses Paid Deducting Salvage	4,305
Losses Incurred	24,232
Total Admitted Assets	614,756,945
Liabilities	493,569,556
Capital Stock Paid Up	5,000,000
Surplus	116,187,389
Income during year ending December 31, 1979	231,928,242
Expenditures for year ending December 31, 1979	219,294,424

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National Liberty Life Ins. Co.
MAIL: Valley Forge, PA 19493
HOME: Liberty Park, Frazer, PA 19355
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$-0-
Gross Premiums Received	29,198
Direct Benefits and Losses Paid	15,076
Direct Benefits and Losses Incurred	14,528
Total Admitted Assets	71,952,290
Liabilities	53,791,636
Capital Stock Paid Up	1,500,000
Surplus	16,660,653
Income during year ending December 31, 1979	56,206,886
Expenditures for year ending December 31, 1979	46,787,902

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

NATIONAL INDEMNITY COMPANY
3024 Harney Street, Omaha, Nebraska
68131

BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Gross Premiums Received	\$241,977.00
Losses Paid Deducting Salvage	140,922.00
Losses Incurred	108,298.00
Total Admitted Assets	409,798,815
Liabilities	192,035,504
Capital Stock Paid Up	5,500,000
Surplus	212,263,311
Income during year ending December 31, 1979	125,636,554
Expenditures for year ending December 31, 1979	105,664,354

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National Independence Life Insurance Co.
Room 810 Illinois Building Springfield, ILL.
62701

Liberty Park, Frazer, PA
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$230
Gross Premiums Received	1,062
Direct Benefits and Losses Paid	-0-
Direct Benefits and Losses Incurred	-0-
Total Admitted Assets	13,160,374
Liabilities	9,203,636
Capital Stock Paid Up	1,504,000
Surplus	2,452,737
Income during year ending December 31, 1979	8,994,946
Expenditures for year ending December 31, 1979	10,345,298

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

The National Life Assurance Company of
Canada

522 University Avenue, Toronto, Ontario,
Canada M5G 1Y7
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$-
Gross Premiums Received	27,015
Direct Benefits and Losses Paid	16,715
Direct Benefits and Losses Incurred	14,156
Total Admitted Assets	44,828,838
Liabilities	41,070,839
Statutory Deposit	600,000
Surplus	3,158,000
Income during year ending December 31, 1979	19,825,913
Expenditures for year ending December 31, 1979	20,780,133

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National Home Life Assurance Company
Valley Forge, Pennsylvania 19493
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$992,149
Gross Premiums Received	411,862
Direct Benefits and Losses Paid	164,822
Direct Benefits and Losses Incurred	166,417
Total Admitted Assets	205,575,514
Liabilities	174,152,216
Capital Stock Paid Up	1,111,000
Surplus	30,301,297
Income during year ending December 31, 1979	238,994,505
Expenditures for year ending December 31, 1979	234,946,473

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

NATIONAL PRODUCERS LIFE INSURANCE
COMPANY
Mail: P.O. Box 16294 Phoenix, Arizona 85011
Home: 244 W. Osborn Phoenix, Arizona 85013

BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$-0-
Gross Premiums Received	12,573
Direct Benefits and Losses Paid	2,184
Direct Benefits and Losses Incurred	1,768
Total Admitted Assets	30,814,007
Liabilities	27,173,817
Capital Stock Paid Up	1,291,273
Surplus	2,248,916
Income during year ending December 31, 1979	3,687,479
Expenditures for year ending December 31, 1979	3,471,737

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

National Liberty Life Ins. Co. of America
Liberty Park, Frazer, Pennsylvania 19355
BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

No Direct Business in 1979	
Insurance Written	None
Gross Premiums Received	None
Direct Benefits and Losses Paid	None
Direct Benefits and Losses Incurred	None
Total Admitted Assets	\$3,000,583
Liabilities	136,412
Capital Stock Paid Up	1,500,000
Surplus	1,364,170
Income during year ending December 31, 1979	335,754
Expenditures for year ending December 31, 1979	141,754

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

DEPARTMENT OF INSURANCE
STATE OF WYOMING

NATIONAL LIFE INSURANCE COM-
PANY
National Life Drive, Montpelier, Vermont
05602

BUSINESS IN WYOMING FOR THE YEAR
ENDING DECEMBER 31, 1979

Insurance Written	\$838,722
Gross Premiums Received	102,084
Direct Benefits and Losses Paid	7,234
Direct Benefits and Losses Incurred	2,787
Total Admitted Assets	2,330,369,946
Liabilities	2,179,975,873
Capital Stock Paid Up	None
Surplus	150,394,073
Income during year ending December 31, 1979	411,960,871
Expenditures for year ending December 31, 1979	388,467,108

Pursuant to Section 26-3-129 (b), Wyoming
Insurance Code, I certify that to the best of my
knowledge and belief, the insurer above
named is in all respects in compliance with
the laws of this State relating to insurance,
and it is duly authorized to transact the busi-
ness of insurance in the State of Wyoming.
Dated Aug. 21, 1980
s. John T. Langdon
Insurance Commissioner

Bulletin Board



DEAR ABBEY

Author Edward Abbey will appear at a benefit for the Utah Wilderness Association on Nov. 14, 1980. Along with Abbey will appear the "Deseret String Band" and "Adrift." Copies of Abbey's new book, *Good News*, will be sold and the proceeds donated to the association. The UWA reports that it is "dangerously low on operating funds." Tickets are \$5. The benefit party will be held at 7:30 p.m. at the South High School Auditorium, 1575 South State Street, Salt Lake City. For further information contact the Utah Wilderness Association, 523 Judge Bldg., Salt Lake City, Utah 84111.

YET ANOTHER COAL MINE

The Office of Surface Mining is holding a public hearing on Nov. 5 in Gillette, Wyo., to receive comments on a draft environmental impact statement on the proposed Rojo Caballos mine in Campbell County, Wyo. The mine will be owned and operated by Mobil Oil Corp. and will remove about 317 million tons of coal over a period of 24 years. Copies of the EIS are available at the Campbell County Courthouse in Gillette and from OSM, Brooks Towers, 1020 15th St., Denver Colo. 80202. Written comments should be sent to OSM at the same address by 4:30 p.m. on Nov. 19. For further information contact Robert Schueneman or Florence Munter-Schaller at (303) 837-8666.

ENERGY ACTIVISTS

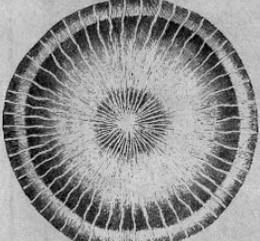
The Boulder Energy Conservation Center is holding a Community Energy Planning Conference in Boulder, Colo., on Saturday, Nov. 8. The program is designed for those working toward better use of their community energy resources. Contact Suzanne Gripman, BECC, 929 Pearl Street, Boulder, Colo. 80302 or call (303) 443-8942. The conference is one of three to be held in the West this year and is open to residents of Montana, Wyoming, Colorado and Utah only.

SOLAR RETROFIT

The Energy Extension Service of Northeastern Colorado is sponsoring a conference on solar retrofitting of residences, Sept. 20-21. Conference topics will range from add-on collectors to tax incentives to insulation. A free products trade fair will be open to the public. The conference is set for the Lincoln Community Center in Fort Collins, Colo. For more information, contact the Energy Extension Service of Northeastern Colorado, 425 N. 15th Ave., Greeley, Colo. 80631.

COMMUNITY ENERGY IDEAS

What Your Community Can Do About Energy, a 28-page booklet prepared by DOE's Solar Energy Research Institute, describes existing community projects and tells how to start similar ones elsewhere. For a free copy, write: Document Distribution Service, Solar Energy Research Institute, 1617 Cole Blvd., Golden, Colo. 80401.



COLORADO SOLAR CONFERENCE

The Energy Extension Service of Northeastern Colorado is holding its third Northern Colorado Passive Solar Workshop on Nov. 22 at the Ramada Inn in Ft. Collins. The workshop is designed for builders, realtors, bankers and anyone else interested in building a passive solar home. Registration is \$40. For further information contact EES-NCC, 425 N. 15th Ave., Greeley, Colo. 80631.

PHOTOVOLTAICS CONFERENCE

The Solar Energy Research Institute is holding a three-day meeting to present an overview of the advanced research and development programs in photovoltaic solar technology, to provide the opportunity for the attendees to receive the most current and significant research information in photovoltaics, and provide a forum for interaction and critical discussion. The registration fee is \$60. The conference will be held Nov. 18-20 in the Four Seasons Motor Inn in Colorado Springs, Colo. For further information, or to pre-register, contact SERI at 1617 Cole Blvd., Golden, Colo. 80401 or call (303) 231-7361. Space is limited at the meeting.

STAKING HOMESTAKE

The Colorado Department of Health is holding a hearing to consider evidence concerning the necessary licenses for Homestake Mining Company's uranium mill site and uranium tailings disposal site in Saguache County, Colo. Anyone who wishes to participate formally in the hearing, with the right to cross-examine witnesses, must apply for party status by Nov. 12. To do so, contact Dr. Robert Arnott, Colorado Department of Health, 4210 E. 11th Ave., Denver, Colo. 80220. After 9:00 a.m. on Nov. 7, the public may review a copy of the draft summary of the radioactive materials license at the same address. The hearing will be held at 9:00 a.m., Dec. 10, at the Gunnison County Bldg., 200 E. Virginia Ave. in Gunnison, and will continue on Dec. 11 and 12 if necessary.

COAL LEASE SALE

The weak coal market is not deterring the Interior Department from offering 11 coal lease tracts that will yield 18 million tons of annual production by 1987 in the Green River-Ham's Fork region of northwestern Colorado and southern Wyoming. The sale will be held in three stages, beginning on January 14, 1981, with additional sales in April and October on days yet to be determined. The sale will be held specifically for small and disadvantaged business interests. For further information contact the Interior Department, 18th and C Sts. N.W., Washington, D.C. 20240.



A WINDMILL? WHERE?

Siting can make or break a wind generating system. A 76-page booklet by the Department of Energy's Pacific Northwest Laboratory tells you how to decide where to put your machine. "A Siting Handbook for Small Wind Energy Conversion Systems" (PNL 2521 Revision No. 1) is available from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, Va. 22151.

DUMB FARMER RULES?

Agriculture Secretary Bob Bergland says that farmers should send him lists of rules that they consider onerous, unwarranted or just plain dumb. He says, "If a regulation doesn't make sense, we'll junk it." Dumb regulations should be sent to Bergland, USDA, 1400 Independence Ave. S.W., Washington, D.C. 20250.

RESOURCE-CONSTRAINED ECONOMIES

The economies of North America have developed in a climate of ample natural resources. Now that the resources that made these economies successful are running low, what adjustments need to be made? The Soil Conservation Society of America has published a book that discusses the question: *Resource-Constrained Economies: The North American Dilemma*. It is available from SCSA, 7515 Northeast Ankeny Rd., Ankeny, Iowa 50021 for \$8.50 per copy.

WYOMING WATER WORKSHOP

The Wyoming Outdoor Council is sponsoring a workshop on the future uses of Wyoming water. Organized under a grant from the Environmental Protection Agency, topics covered will include water for mining and exploration, synthetic fuels, power plants, slurry pipelines and transbasin diversions. It will be held Nov. 15, 9 a.m. to 3 p.m. at the Natrona County Library in Casper. For further information write Water, Box 28, Lander, Wyo. 82520.

GRAZING RULES

Persons grazing livestock on public land have until Nov. 28 to comment on proposed revisions in federal grazing regulations. The rules would increase from three to five years the time livestock operators may take to comply with grazing regulations. The rules also provide for increased consultation between local Bureau of Land Management officials, livestock operators, state officials and local wildlife and conservation interests before adjustment decisions become final. Other provisions would allow swifter reductions of use under certain circumstances. Copies of the proposed regulations will be available at BLM offices in each state. Comments should be mailed to the Director, BLM (650), Washington, D.C. 20240.



AWA POW-WOW

The American Wilderness Alliance is sponsoring the first annual Western Wilderness and Rivers Conference to be held in Denver Nov. 21 and 22. The subject is energy development and wildland resource protection in the West. The keynote speech on Nov. 22 will be delivered by Interior Secretary Cecil Andrus. For further information contact Jerry Mallett or Sally Ranney, AWA, 4260 East Evans Ave., Suite 8, Denver, Colo. 80222 or call (303) 758-6018. The conference will be at Trinity United Methodist Church. Registration is \$37.

HCN Holiday Bonus

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14-High Country News — Oct. 31, 1980

Opinion



THE HONEYCOMB BUTTES, in the Wyoming Basin.

Photo by Michael McClure

Wyoming Basin furor masks a worthwhile, crippled program

It's fashionable to look at Washington these days as a gaping purse, and our representatives as eager string-tighteners. Most recently, the Wyoming delegation was outraged to discover that the National Park Service was studying the Wyoming Basin for "park potential."

This is the same Park Service that may have to close Yellowstone next winter for lack of funds, the same agency that can't even maintain existing buildings in Glacier National Park. "I find it incredible," said Rep. Richard Cheney (R), "that at a time when the Park Service can't take decent care of the extensive lands and resources it already has, the agency is busy looking at more land."

A month later, Sen. Malcolm Wallop (R) announced proudly that the Senate Appropriations Committee had cut the Park Service's funding for investigating new areas from a requested \$1 million to \$100,000, with half of that designated for an Ohio study. He also expressed relief that the Park Service would no longer be compelled to "deliver 12 new park proposals to Congress each year."

That would seem to be the end of it — another dollar-wasting venture exposed and exorcised by the pious budget-cutters. Indeed, it probably is the end of any Wyoming Basin study — Park Service officials in Washington, D.C., say it's practically dead. Before it's buried, though, we should look more closely at the corpse, and the crippled program as a whole.

First of all, the Park Service does not throw away money scrounging around for 12 new parks to bring to Congress each year; it simply presents annually a list of 12 possible park areas, some newly studied, some old. This year, for example, only three new possibilities were held up for Congress' review — the others have been on the list for years, and several are nearing approval by Congress. What's more, this list serves an important purpose — it ranks highest those areas whose special qualities are most immediately threatened. How else would Congress know?

Second, the search for new areas with park characteristics can actually save federal funds. The reconnaissance survey done on the Wyoming Basin cost about \$4,000. Such preliminary reviews may save us the expense of wasteful, full-scale study projects that Congress sometimes initiates, usually for areas that lie in the backyard of some powerful legislator. Areas that show good potential in the

reconnaissance survey are then studied to see if less costly alternatives to park designation would protect the area's special features. In a total of 10 such alternative studies completed last year, the Park Service **eliminated** seven areas from further park consideration. If park designation still seems worth pursuing, an area then goes on the list of 12 forwarded to Congress. Congress alone makes the final decision on new parks.

But the Wyoming Basin study never got nearly that far. While the state's congressional delegation gasped loudly about a 22 million-acre study area, the Park Service — again, at a cost of only \$4,000 — was narrowing its attention to areas that represented only a small fraction of the whole Basin. Those areas contain some fascinating geologic features that genuinely might make a good park, in a natural region that presently is not represented in the Park system.

Now none of this will be considered. And the public comes away with the impression that all of the Wyoming Basin's potential energy resources were nearly locked up (wrong), that the whole area was one step away from becoming a park (wrong), and that money needed elsewhere was diverted into pointless, expensive studies (wrong).

The Wyoming delegation is right in saying that the Park Service is underfunded in other areas. But that problem — which involves deteriorating park facilities, understaffing and weak scientific programs — is a matter of billions of dollars. The study of potential new areas, which nationwide cost only about \$300,000 last year, is a smart way to keep valuable potential parks from being destroyed simply because nobody noticed. That doesn't mean they'll become parks if Congress doesn't want them to, only that we'll know where they are for future consideration, and be kept abreast of what pressures assail them.

It also offers a professional, rather than political, approach to building a truly representative park system, without imposing an immediate financial burden during this budget-balancing period. Amid the sound and fury raised by the Wyoming delegation, that reasonable investment for future generations has been all but forgotten.

—GOG



DEFENDING CITIZENS

Dear HCN,

Although I haven't decided what choice I'll make in the voting booth Nov. 4, I'd like to defend Barry Commoner and the Citizens' Party (HCN Editorial, 10-17-80).

I heard Commoner speak here last week, and found his informative talk a refreshing respite from the usual drivel. Sure, the Citizens' Party is guilty of sporting some political rhetoric, and I agree that its message is long on criticism and short on solutions. But what party isn't?

At least the Citizens' Party has correctly identified the cause of some of the critical problems facing our economy and social systems, and is trying to educate the general public in an effort to restore popular control. The Republicans and Democrats, furiously engaged in their game of "get thee to the left of me," seem content to march forward (or stumble forward, as the case may be), looking neither left nor right (in a non-political sense), until doomsday.

The Citizens' Party won't save us; anyone who looks to a political party for that purpose will invariably be disappointed. But compared to the competition, I think the Citizens' Party platform merits support for what it does offer, rather than criticism for the lack of solutions that may not be there for anyone.

Sarah Gorin Jones
Madison, WI



**WILDERNESS:
DILUTE THE MASSES**

Dear HCN,

I offer the following comments in relation to Louisa Willcox's article "Budding Bureaucracy Copes With Crowds, Confusion and Conflicts" (HCN, 9-19-80).

Nobody in the wilderness movement likes the thought of increased regulation on their favorite outdoor activity — hiking the wild country. However, all of us would probably accept this — even welcome it — as an alternative to de-

velopment now threatening many potential wilderness areas. The easiest answer to overcrowding of the wilderness is, of course, designating more wilderness to dilute the masses. That may be a short-term solution, but it certainly seems attractive compared to our present predicament — too few designated wildernesses and too many people out to enjoy them.

I find the recent Forest Service T.V. ads depicting the tremendous damage hikers do to the wilderness quite humorous. An over-used campground can surely recover in one or two years, but after listening to these ads one could think this was a major threat to the national forests. At the same time, the Forest Service readily approves or sometimes even promotes all kinds of permanent destruction to potential wilderness. The drilling rigs presently working away in the middle of the Cabinet Mountains Wilderness (western Montana) and the recent proposal to explore with tons of explosives throughout the Bob Marshall Wilderness come to mind. I wonder if we will see this on T.V. in ads brought to us by the Forest Service?

Bill Schneider, Editor
Wild America



WHAT'S THAT TICKING?

Dear HCN,

Sometimes I wonder if it's really the worldwide time bomb ticking so loudly or the "lub-dub" of my own anxious heart obscuring my reason and causing me to believe in those forebodings of doom. (I just finished "Gloom and doom: the prognosis biz broods and deludes" (HCN 9-5-80).

In this crazy world, in which strength and patriotism are equated with over-equipped arsenals of nuclear and chemical weapons, it seems frighteningly likely that WW III could mean the end of us all. The sad thing is that the Holocaust could happen not because of mankind's planning, but in spite of it. We've created too many monsters and have developed (at least some of us) a mentality capable of thinking someone could actually "win" a nuclear war.

Out here in Nevada, with the spectre of the MX Missile looming on the horizon, it's hard to be too optimistic about the future. Even though vocal conservationists are scarce out here in Sagebrush Rebellion Country, the environment itself is well worth conserving.

Reading HCN makes me misty-eyed for Wyoming. Thanks for a little perspective on the state of the world.

Marta Adams
Reno, Nev.

BOOK BEARLY RECOGNIZED

Dear HCN,

Though usually it isn't a good idea to respond to a book review, I feel compelled to comment on the review of my book *The Bears of Yellowstone* that Geoffrey O'Gara wrote for HCN (9-18-80). The review is bewildering. It is so inaccurate that I hardly recognize the book he describes as mine. He says that the book is "only slightly more

substantial than the dull little park pamphlets you pick up at the ranger station." By contrast, HCN readers might like to know that A. Starker Leopold, in his foreword to the book, describes my discussion of bear natural history (both black and grizzly) as "probably the most complete and comprehensive summaries yet assembled." The material is, at least, substantial.

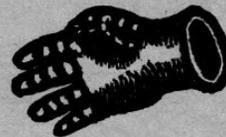
Mr. O'Gara also disapproves of my analysis of the grizzly management controversy, dismissing it as a public relations effort on behalf of the Park Service. This just isn't true. Neither the Park Service nor the Craigheads are portrayed as heroes or villains in the book, and I take considerable pains to describe the bleak future the bear faces in the Yellowstone ecosystem. More importantly, my book provides the public with an alternative interpretation of the controversy, one that deals in historical precedent and research information rather than in the prevailing fashions of environmental journalism. It confronts a number of issues that have been neglected by popular journalists, and does so in a balanced manner.

Mr. O'Gara further wishes that the book contained more lore. Part III of the book, entitled "The Bears of Yellowstone: An American Romance," contains at least 32 distinct stories gathered from the rich literature of Yellowstone bears, from the 1860s to the present.

Perhaps Mr. O'Gara found the book so unsatisfactory because it was not the book he wanted it to be. It is aimed at the general Yellowstone visitor audience. It is not a scientific treatise, or an exhaustive analysis of the controversy. Either would take many hundreds of pages. It is, however, a thorough introductory survey of the bears of Yellowstone, their world, and what they have meant to us.

Prior to writing this letter, Mr. O'Gara and I have had a nice correspondence, debating such deathless and imponderable issues as whether a 60,000-word book is short, medium, or long, and why it seems that anybody who disagrees with the Park Service is automatically assumed to be a supporter of the Craigheads. We haven't settled much, but it's been kind of fun. And though my objections to the review are perhaps more politely worded than they were when we first corresponded, they are just as strong. Whatever kind of review the book deserved, it was certainly entitled to a more careful reading than it got from Mr. O'Gara.

Paul Schullery
Manchester, Vermont



HA HANDED CAPTION

Dear HCN,

Thanks much for printing Bill Schneider's guest editorial "Who Are the Real Extremists" (HCN, 10-17-80).

Bill Schneider is editor of our quarterly magazine, *Wild America*. He also is a wildlife biologist by academic background and work experience.

I thought that the Oct. 17 issue was especially good, with excellent coverage of the western political outlook from an environmental standpoint.

However, the beautiful high mountain lake scene on Page 4, regarding the proposed Lee Metcalf Wilderness article, is incorrectly captioned. The body of water is Ha Hand Lake, not Ha-Nana Lake, as you have called it. It sits under Hilgari Peak in the background, the highest peak in the Madison Range. As a native Montanan, I have camped near the lake many times and have numerous photographs of the scene.

Clifton R. Merritt
Executive Director
American Wilderness Alliance

(Ed. note: The Forest Service gave us the Ha-Nana Lake photo, and so named it. This wouldn't be the first time Cliff Merritt and the Service have seen things differently.)

BURROS TAKE OVER

Dear HCN,

Re: George Leighton's letter about Grand Canyon burros (HCN 9-19-80).

Sorry, but the canyon burros have not adapted to the desert. Burros chase other animals away from the water sources, and when their own thirst is appeased they foul the leftover water so that no one — hikers included — can use it. Bighorn sheep, a true desert dweller, will graze by nibbling at a bush here, a bush there, and leaving most for later. A burro eats the plants right down to and often including the roots. The small canyon animals — squirrels, mice, kangaroo rats — are being pushed out of the ecosystem. They simply cannot compete with the newcomers.

An animal adapts by fitting into an ecosystem, not by destroying the other animals in it. The canyon ecosystem was upset by the intrusion of the burro, an exotic species, and the elimination of the predators, the mountain lions. Man must turn to predator status to restore the balance as much as it can be done.

There are more than four trails in the Grand Canyon. Though admittedly most foot traffic and all mule traffic is confined to three trails. I have hiked more than 2,500 miles in the canyon. Believe me, burros do a hell of a lot more damage to the backcountry areas of the Park, as opposed to the Bright Angel-Kaibab complex, than do the hikers or rangers.

Slim Woodruff
Phoenix, Ariz. 85021

Books



The Energy and Environment Checklist

Prepared by Betty Warren

Friends of the Earth

prepared by Betty Warren, Friends of the Earth, San Francisco, 1980, 228 pages, paperback, \$5.95.

Review by Geoffrey O'Gara

Betty Warren must have a mind of steel. She has compiled in this book over 1,600 listings of books, publica-

tions, organizations and even audiovisual materials that might be useful to explorers in the wilderness of energy and environmental problems and issues. I imagine Warren is now in a state of jelly-like collapse, blind and deaf, assailed by alphabet demons.

She has produced a useful guidebook, and one that may startle even those immersed in the field: There is simply a tremendous amount of literature on these subjects, from highfalutin' theory to practical fix-it manuals. You will find here brief notes on such subjects: you-never-asked-about as Energy Policy for New Zealand (by Denis Hocking, Friends of the Earth) or The Energy Efficient Church (by Douglas Hoffman, Total Environmental Action).

It's a busy field, so busy that Warren had scarcely a chance of keeping her checklist current. In whatever field you've recently been reading, you will probably find some deficiencies, either because of space limitations or the constant flow of new publications. On the subject of low energy use housing, for instance, she misses some key volumes: William Shurcliff's Superinsulated Houses and Double Envelope Houses and Tom Smith and Lee Porter's Energy Producing House: Handbook Case Study of a Passive Solar House.

In a way, though, that's quibbling. In an area where one is already immersed, such gaps can be found; but if you just getting started, this reference work gives you plenty of leads, and you will eventually find your way to the most current sources.

The organization of the book is somewhat confusing. It's broken into

sections such as "Energy and the Environment," "Appropriate Technology" "Geothermal Energy" and the like, with subheadings in several sections. You might miss pertinent material by looking in the wrong places. For instance, the National Academy of Science's Energy for Rural Development; Renewable Resources and Alternative Technologies, is listed under "Energy Conservation — Appropriate Technology in the Third World." But it might also have been under "Alternative Sources of Energy" or "Energy and the Environment — International Development." Inevitably, subject areas overlap; cross-referencing could have been better.

One other thing — the book bills itself as an "opinionated guide." I wish it had been more opinionated. Many books in the energy field are slow reads, dull and sometimes unrewarding. Warren has been very restrained in her comments on these resources. When she does let her adjectives get the better of her (for instance, when she calls Warren Johnson's Muddling Toward Frugality a "hopeful — even humorous — book") she's done readers a big favor.

We are warned from the start that it's impossible to keep up with the changes in publications, dates, and prices, but we worry about a lack of reasonably near-term updating in at least one entry. High Country News raised its subscription price almost a year ago from \$12 to \$15 annually. The Checklist has us down for \$10 a year; a rate we haven't offered since 1977. Is this an attempt to sabotage our circulation department, or is the Checklist trying to tell us something?



by Louisa Willcox

The afternoon hangs balanced between last week's flirtation with snow and a full-blown winter affair headed here tomorrow. The warm air feels lazy, but already hovering over the mountains are cirrus clouds, their thin shapes bent by high winds. They herald storms from the West. But we're bolstered for winter, with three cords of wood stacked outside and dried fruit in jars on shelves in the kitchen.

There's gold still on the willow, though, and red hips on the wild rose. I'm checking old haunts before they're tucked in for the season. Up the trout-clear Popo Agie River, pants rolled, hopscotching on granite boulders, smooth as tortoise backs. The next trip

this way will be on skis most likely. To my right, the south-facing canyon slopes are grizzled with tufts of sage, like so many unshaven chins. To the left, the hills are dark with lodgepole, except for occasional patches of snow. Far below the waterfall, I can still hear it throwing its ventriloquist voice on the wind.

I drop down into a damp gorge, a wrinkle so deep that the sun rarely warms it. Above white foam falls over a jumbled heap of granite — not in one neat sheet, but in fingers that poke through odd gaps in the rock. Some of the spouts are half-frozen. Some are shaped like wild boar's tusks, others like a girl's long tresses hung before her head to wash.

Below each spout lies a dark, saucer-like pool, rimmed with ice frozen in crowfoot designs. If you look closely at these sheets, air bubbles can be seen underneath, squirming like cells under a microscope.

Out of range of water, I scramble up to the second tier of the falls, on polished pinkish rock. Up these snow-jammed cracks, climbing means kicking, wedging slippery sneakers, then hauling your weight with your hands. But after a few more snows, melts, and

freezes, this rock will be glazed thick with ice, and the game will be ice-climbing. Front pointing on crampons — schunk, schink with ice ax and hammer. Then I will be able to pick my own route, unconfined by rock cracks and holds.

On the landing above the first set of falls, are shallow basins that catch the spill rolling down the rock. Some water flows out into a troll-sized cave where it makes a hollow sound against the roof.

Suddenly a small brown trout darts into the cave. He must have flopped down the upper falls somehow. The way he's headed will lead him down a dark underground path to the pools below. I wonder if he'll die in the falls or freeze if he does not take the drop.

Perhaps he's tough enough to survive an icy winter in the pool's sandy bottom. I do not see him come out of the cave again.

The sun sinks low, tinging the hills with sorrel. Heading home, I am overtaken by two hunters on horses. The pack horses behind them are trotting head down, deer carcasses lashed on their backs. Dark deer legs stick up on either side of the horse's bellies, swaying to the rhythm of the trot. They have been cut off at the hock.

Classifieds

Classified ads cost 10 cents a word. They must be prepaid.

JOE BAKER'S BOOKS: HORSES, HITCHES & ROCKY TRAILS, "the packer's bible" — how to pack anything possible on horse or mule. 52 illustrations \$8.75 postpaid. MOOCHING MOOSE & MUMBLING MEN, and THE SUCKER'S TEETH — two books of mountain fiction, with many pen-and-ink drawings. \$4.25 each postpaid. Joe Back, Box 827, Dubois, WY 82513.

JOB OPENING: Executive Director, Southeast Alaska Conservation Council (a regional, non-profit coalition of conservation organizations throughout Southeast Alaska). Headquarters in Juneau; supervise 2 to 3 staff. Salary negotiable. Contact Connie Barlow, Chairman Staff Selection Committee, 811 Basin, Juneau, AK 99801. (907) 586-3930. Apply by November 17.

IDAHO FOREST RESEARCHER. The Idaho Conservation League is hiring a researcher-coordinator for a 33-month forest management project. Research, writing, and administrative skills needed; forest issue background desirable. Salary begins at \$800 per month. Resumes by November 11; beginning date December 1. Job description available from Pat Ford, ICL, Box 844, Boise ID 83701 (208-345-6933).

IDAHO FOREST ORGANIZERS. The Idaho Conservation League is hiring two field organizers for a 33-month forest management project. Organizing experience, writing and publicity skills needed; forest issue background helpful. Salary begins at \$800 per month. Resumes by November 11; starting date December 1. Job description available from Pat Ford, ICL, Box 844, Boise ID 83701 (208-345-6933).

SOLAR CONSUMER SPECIALIST

The Solar Energy Research Institute has an opening for a Senior Consumer Specialist. This position is responsible for all consumer-oriented activities at the Institute. An expanded program is being planned that will address consumer questions raised by the use of solar-conservation systems in centralized and decentralized applications.

The position requires an individual with a broad understanding of solar technologies and how consumers use them, of marketing techniques, and consumer protection experience. Candidates should have significant policy level experience preferably at the state or federal level, and a demonstrated management background. An undergraduate degree in a relevant area is required. An advanced degree is preferred.

Qualified applicants should send their resume, including salary history and professional references (no phone calls) to SOLAR ENERGY RESEARCH INSTITUTE, Dept. 744, Personnel Services, 1617 Cole Boulevard, Golden, CO 80401. We are an equal opportunity employer. A DOE Contractor. A Division of the Midwest Research Institute.

