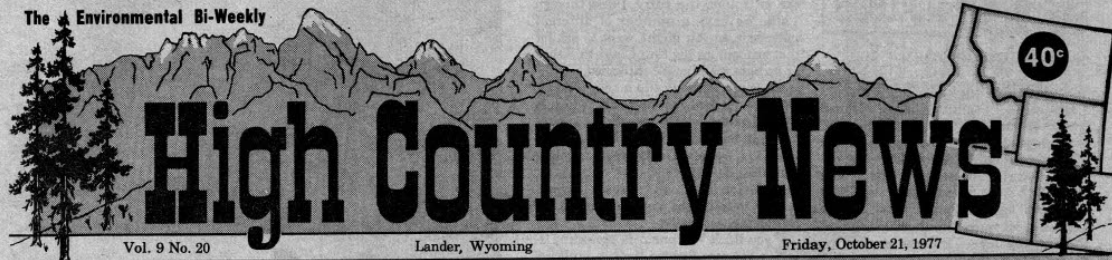


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The Environmental Bi-Weekly



Vol. 9 No. 20

Lander, Wyoming

Friday, October 21, 1977

# Grizzlies roam where sheep graze Destined for conflict — or destruction



Montana Fish and Game photo by Craig Sharpe

by Bill Schneider

(Editor's note: This article was adapted from Bill Schneider's recent book, *Where the Grizzly Walks*, Mountain Press, Missoula, 1977.)

The sheep industry wants Americans to eat lamb. But when Old Ephraim, the grizzly bear, tries a tasty lamb chop, it often turns out to be his last supper.

True, the grizzly is the mightiest carnivore in the Rocky Mountain West. But despite his size, strength, great intelligence, and fierce tenacity for life, the beleaguered bear can't, without help, hold back the tide of civilization.

The issue is clear. If America expects to preserve its big bear, certain public land use policies must change. And there is no better example than the custom of allowing thousands of domestic sheep to graze the last remnants of grizzly habitat around Yellowstone National Park.

Domestic livestock grazing on public land is hardly uncommon. In fact, most public land with grazing potential is indeed grazed. When properly regulated, grazing is a perfectly justifiable use of public land. However, around Yellowstone Park this policy has run directly counter to another public objective — preservation of the threatened grizzly bear.

Although domestic sheep also forage on federal land on the park's fringes in Montana and Wyoming, the conflict between livestock and bears seems most intense in

**SCAPEGOAT.** The beleaguered sheep industry, fighting a poor market, a potential rise in grazing fees, and high labor prices, often blames predators for its problems.

Idaho's Targhee National Forest. Here, about 16,300 sheep crowd the southern and western boundaries, an area also frequented by grizzlies.

The conflict comes from a long-established antagonism of the livestock industry toward big predators, and this attitude has carried over into modern times under "The only good grizzly is a dead grizzly" rationale. With some exceptions, Old Ephraim gets blown away every time a sheepherder gets the opportunity.

The Idaho Fish and Game Department has records of at least 24 grizzlies killed

between 1970 and 1974. But game department officials suspected that this estimate was "conservative."

In 1975, Arthur Allen and Carole Jorgensen confirmed this suspicion while studying grizzly bear mortality on the Targhee National Forest. In what appears to be a more comprehensive analysis, they found that 32 grizzlies were killed in the same five-year period.

Predictably, Allen and Jorgensen discovered that the livestock industry accounted for most mortality. "Of the 32

(continued on page 4)



Idaho Department of Commerce photo

## In situ gas from coal: bane or boon?

by Dan Whipple

In mid-November of this year, U.S. Energy Research and Development Administration (ERDA) scientists will ignite a 30-foot coal seam that lies 300 feet below the surface near Hanna, Wyo. Air will be forced into a narrow intake shaft, chasing before it gas from the burning coal. The gas will reach the surface through another shaft nearby. Since the project is only a test, the escaping gas will be ignited and will resemble the flame from the afterburner of a jet engine.

The Hanna burn will be the latest in a series of tests that the government is conducting to determine the feasibility of making burnable gas from coal while the coal is still in the ground — in situ gasification. Proponents claim that the process offers environmental benefits by eliminating the problems of surface disturbance, air

pollution, and high water use associated with large-scale coal development. But, it also raises the specter of extensive development of power plants or gas upgrading facilities at gasification sites throughout the West.

### NEW PROCESS

In situ coal gasification is a relatively new technology, but the scientists experimenting with it are enthusiastic about its future. ERDA scientists on the Hanna project say that the process is developing more rapidly than they originally anticipated.

This type of gasification is being

pioneered in the West primarily by the federal government at ERDA's Laramie Energy Research Center (LERC) in Wyoming, which is conducting the Hanna tests, and the ERDA-sponsored Lawrence Livermore Laboratory experiments at Hoe Creek near Gillette, Wyo. According to LERC's project director Charles Brandenburg, "Underground gasification looks most economical out West where there is lower rank coal (subbituminous and lignite)." Certain characteristics of these coals make it more suitable for gasifying than Eastern bituminous or anthracite,

(continued on page 6)

**An LERC scientist says that, under a low-Btu in situ gas technology, "there is no alternative to a lot of power plants in the West."**

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**HCN**  
**Letters**

**CORRECTION**

Dear HCN,

Regarding your article on the Natural Resources Defense Council (NRDC) and ranchers jointly protesting Bureau of Land Management (BLM) delays on grazing environmental impact statements (HCN 10-7-77), I wish to correct the statement that "until each EIS is completed, BLM is curtailing all range improvements, including building fences and adding watering holes."

Range improvements have never been curtailed on those BLM lands included in an Allotment Management Plan (AMP) implemented prior to the suit filed by NRDC. Range improvements including boundary fences, cattle guards, highway fences, rebuilding of existing water developments, and maintenance of existing projects are still allowed on custodial (those lands not covered by an AMP) tracts. An Environmental Assessment Record (EAR) is prepared prior to any one of these actions.

Peter Karp  
Billings, Mont.

**(Editors' note: We appreciate your qualification of our original statement. But we should point out that lands that have completed AMPs or that are custodially managed constitute a small percentage of the federal grazing acreage. In 1975 when the court agreement was signed, only 12% of BLM's grazing allotments had completed AMPs and only 5% were under custodial management. On the rest of the public grazing lands, our statement holds.)**

**SAY 'NO' TO URANIUM MINING**

Dear Friends,

Your High Country News contains several articles about uranium and uranium mining.

We in Wisconsin have a stake in what happens with uranium. The reason is that we are finding continual readings of Iodine 131, Strontium 90, and Cesium 137 in our milk. If it is in our milk, it is in other dairy products made from it. Cheese can contain up to seven times as much radioactivity as the milk it was made from.

Iodine is attracted to the thyroid, Strontium 90 to the bones as it is similar to calcium, Cesium 137 to the muscle. Once

we build these radioactive materials into our bodies, they are there to irradiate us continually every minute of every hour of every day.

You may send to the State Department of Health, Radiation Protection Section, Madison, Wisc., and secure computer printouts of readings for radioactivity in our milk from the early 1960s through 1976. We have a number of different milksheds, so you might want to ask for that printout for the Eau Claire milkshed or perhaps the Wausau milkshed.

We cannot afford to add a known cancer agent to our food in Wisconsin (which is shipped nationwide) in greater and greater amounts from accidental and routine releases of radioactivity from nuclear facilities.

Radioactivity can cause cancer, leukemia, stillbirths, genetic damage, life shortening.

If you think Wisconsin is protecting itself — you may feel we have a conflict of interest when you discover the Radiation Protection Council in Wisconsin is chaired by a former Vice President and lobbyist for Wisconsin Electric Power Company, a utility wanting to build a series of six 900 megawatt reactors in Wisconsin in conjunction with other utilities.

In Australia, citizens are calling for a 5-year moratorium on the exporting of uranium until waste control methods have been developed for nuclear materials. The unions are in the forefront of this movement.

High Country residents would be doing a service to the entire nation and world to say, "No" to uranium mining, not only because of radioactivity creeping daily into our food chain, but because of weapons proliferation.

(Mrs.) Naomi Jacobson  
Co-Chairman & Director  
LAND, Inc.  
League Against Nuclear Dangers  
Route 1  
Rudolph, Wisc. 54475



**CORPORATE PARANOIA**

Dear HCN,

Fear and loathing in the mining industry is highlighted in at least three articles plus a letter to the editor in the Sept. 23rd High Country News. It is high time that responsible leadership in this country recognize that there is a genuine corporate paranoia epidemic spreading out from the spoil piles and tailings. The statement of



Photo courtesy of the Idaho Fish and Game

John Garr of the Utah Coal Operators Association that "it's time to protect the mining industry from some sections of this society" must be treated seriously.

Let me propose several solutions. Foremost would be the protective mechanism that has been used for more than 100 years in the West with such fantastic success: reservations. The good-hearted pioneers responded to the requests from the Indians for protection from certain sections of society by placing the Indians on reservations. Well established locations such as Butte, Mont.; Kellogg, Idaho; Hardin County in Kentucky; and the open pit copper mines in Arizona could be set aside as mining reservations rather like the National Disaster Area once proposed by air quality specialists for Los Angeles. The reservations would be for all the miners to dig, strip, and smoke without restriction.

The industry would have to give up its 1872 treaty rights to roam freely over all the public land. Those who protected the Indians recognized that a certain amount of freedom must be sacrificed to achieve security. The United States cavalry could be resurrected to be stationed around the reservations to protect the miners from hostile sections of society by confinement within reservation boundaries.

If the reservation system seems too drastic, then other types of protection should be considered. Coal mining could be limited to

underground operations. This would eliminate the exposure of strippers to dust, wind, and cold weather as well as other dangers such as angry ranchers driven to drink and overt hostility by disappearing rangeland. The industry could be protected from exploring and operating in hostile territories such as Alaska where they are now exposed to Eskimos, grizzlies, and federal inspectors — and from established wilderness where irate backpackers and hunters have been known to beat their bare fists upon an innocent bulldozer just scraping along looking for ore.

Finally, mining corporations should have their stock taken off the exchanges for their own protection. Mining issues are usually vulnerable to bears, bulls, speculators, plungers, puffers, and boiler room promotions. As a stock promoter once told the judge who was sentencing him for securities law violations, "You just can't sell mining stock with a Bible under your arm." The only way to save the promoters from exposure to the deadly sins of greed and avarice is to deliver them from temptation.

Let us join together to protect the miners for their own good and the good of all us.

Scott W. Reed  
Coeur d'Alene, Idaho

western disguise

**Coal Bin**

If the West were going to a Halloween party it could go as a coal bin or a strip mine or a boom town or a small, threatened wilderness. It could not attend as a well planned, something-for-everyone exercise in development. Maybe next year we'll be able to report some better costumes for the West.

In the meantime, why not subscribe to High Country News and keep abreast of the rapid changes occurring in the developing West. Send \$12 for 25 issues.

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**Spare change?**

It's not easy trying to decide where dollars for donations should go. (It's not easy finding the spare change to begin with.)

In some cases, you may never know how the money was spent. But, you can see direct results when you give to the High Country News Research Fund.

Fund monies could pay for everything in the paper except opinion pieces. For example, the fund paid for the photographs for the golden eaglets centerspread on pages eight and nine of this issue. A donation of \$100 could pay for all the photographs printed in two issues of HCN.

If you would like to provide monies for fine art and photos for HCN, give to the fund. Contributions are tax deductible. Please make out checks to Wyoming Environmental Institute — HCN Research Fund, and send it to WEI, Box 2497, Jackson, Wyoming 83001. Thank you.



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HCN editorial

# Research and development: how much is enough?

Oct. 21, 1977 — High Country News-3

By some bureaucratic sleight of hand, the newly-formed Department of Energy has given about \$43 million to Occidental Petroleum to assist the company in the development of its federally-leased oil shale tract in Colorado. The money is intended to speed the development of an "energy technology" — in situ, or underground, processing of shale to extract oil.

Oil shale development is a technology, we are told, that will produce enough oil to float Saudi Arabia. In our eagerness to remove ourselves from the oily clutches of the Arabs, this quantity of a domestic resource is attractive indeed.

The current state of national Arabophobia has produced an abundance of other highly acclaimed technologies. DOE has recently approved a third in situ coal gasification project — accompanying those at Laramie and Gillette, Wyo. — to be conducted in either Colorado or Wyoming. All three projects are federally funded. Elsewhere on the synthetic-fuel-from-coal front, a surface synfuels project has been underway for about a year in Illinois, also with government support. The potential for synthetic fuels from coal is "infinite," according to the experts.

Congress, not to be outdone in the largesse department, is willing, even eager, to fund the Tennessee Valley Authority's Clinch River breeder reactor, despite the fact that the project has attracted Presidential disfavor and public controversy. Nuclear energy, particularly that supplied by breeder reactors, will keep Manhattan's lights lit until the next ice age, supporters say.

Now, even the natural gas industry is making a comeback. After years of complaining about the depletion of the resource, the American Gas Association has launched a massive magazine advertising campaign, starring Hugh Downs of all people, to tell us that we have carloads of natural gas, but of course we'll have to pay more for it. Then there is offshore oil and gas drilling, tar sands, tight gas formation, and all manner of exotic liquid, gaseous, and solid fuels.

The nation does not need all of this technological baggage. It may need some of it, but it doesn't need all of it. If the potential from coal, oil shale, gas, and nuclear power is as limitless as proponents claim, why can't the country just settle on one, or a respectable mix, and have done with it?

The reason is, of course, that our leaders are refusing to make choices. It is becoming increasingly clear that the de facto energy policy of the United States is to develop every mineral that companies with lots of money can make more on. With massive government subsidies forthcoming on all sides, costs of technology have become all but meaningless in any real sense. So far, few companies have embarked on any of these complex, capital-intensive fossil fuel technologies with their own money. In fact, several, including Panhandle Eastern Pipeline and Texaco, have abandoned their synthetic fuel plans because of the expense.

The current "progress" in the nation's energy development serves to prove one assertion of Amory Lovins' book, *Soft Energy Paths: Toward a Durable Peace*, to wit: "Technologies that are complex, glamorous, and backed by powerful constituencies, are given lavish subsidies, subventions, bailouts, and exemptions from paying their own environmental and social costs." On the other hand, Lovins maintains, technologies that are simple and relatively inexpensive, are largely ignored.

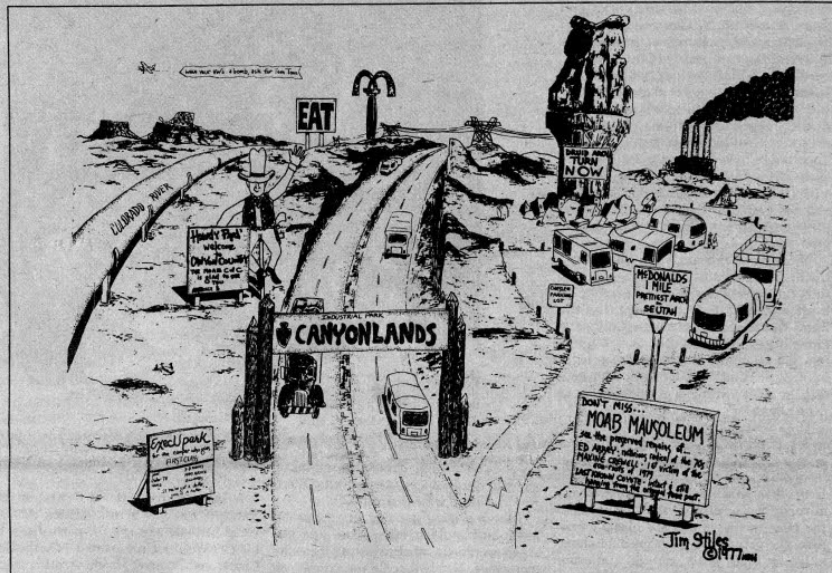
Energy companies are fond of railing at

environmentalists for raising their costs through the roof. The fact is, however, that with or without environmentalists, none of these fossil technologies would be undertaken without government money behind them, and none of them are as inexpensive as Arab oil.

As Lovins points out, we don't really know that any of these technologies will work. We do know that if they do work, we

can use the fuels that are produced in the existing energy infrastructure. We aren't changing our fuel base, we are merely making it more expensive, in both resource and money terms, to get. This benefits no one but the controllers of the technology, who, coincidentally, are the same people who have been managing the "easy-to-get, cheap energy resources" that we are running out of now.

—DSW



## Park Service needs support on Canyonlands plan

by Jim Martin, Doug Hulmes, & Jim Stiles  
Canyon Country Council

Only a few places can claim to represent the incredible diversity and appeal of the Colorado Plateau. Canyonlands National Park lies at the heart of that country; it is a slickrock wilderness, carved by the parent Green and Colorado Rivers. Innumerable other rivers, streams, and washes have contributed to that vast system of canyons. One can wander for weeks, or for years, through the joints, grabens, meadows, and mesas and never lose that ineffable sense of wonder. The mystery of the place — its quiet immensity, its great age, overwhelm and invite one to stay. Indeed, Canyonlands might be the very soul and spirit of the remaining Southwest.

The destiny of this place is about to be decided. The National Park Service (NPS) has released its draft General Management Plan after a year of study and preparation. The NPS held workshops in seven cities in three states. They distributed workbooks to any person who was interested. The result is a progressive and positive document that has infuriated the local and state politicians and the business communities near the park.

If one feature of the plan focuses the debate, it is the proposal's rejection of plans to construct a \$13 million road to the Confluence Overlook, bridging a canyon along the way. Locally, that is perceived as a loss of

revenue, resulting from a lack of popular appeal implicit in a wilderness park. From another perspective, the decision reaffirms the integrity of the park. From the overlook, there are no physical barriers to developing access to all the other well-known features of the area. The road would be devastating. It is unnecessary and would directly cause unavoidable and excessive damage to the environment. The very character of the canyon country would be affected. As it is, several areas on the periphery of the park have paved access roads, electrical hook-ups, and the like. Another overlook would not only seriously impact the environment but would be redundant.

The plan is not without its bad points. In promoting access to the high mesa called the Island in the Sky, the plan proposes a new road along the rim. A road to the Island and to the major overlooks already exists and is utilized. Developing an entirely new road, through a tremendously fragile ecosystem, seems pointless. Further, the park service maintains the option of paving that road, if an experiment with a stabilizing surface does not meet road quality standards. We hope the NPS sees the implications of that degree of development.

As it is now, the Island confers a unique experience. In few other places can one drive a dirt road through an isolated (in

time as well as space) and beautiful mesa, to emerge on the very edge of the canyons. Beyond, the rivers have laid bare networks upon networks of canyons. It is a visit to another era. To sit above the canyons, unbothered by paved roads, buildings, and guard rails is a rare opportunity. If you feel the need, you can watch the shadows move across the canyons, lighting walls of rock, altering the tone from one moment to the next. The cumulus may gather above the nearby mountains and sweep across the canyons, perhaps even shedding sheets of rain. Rare, indeed.

Input on the part of citizens is crucially important if this plan is to be improved and accepted. Political pressures are intensifying. Save the Canyons and write to the Superintendent of Canyonlands National Park, in Moab, Utah (84532). Comments will be accepted until Nov. 7. Send a copy to Secretary of Interior Cecil Andrus, C St. between 18th and 19th, N.W., Washington, D.C. 20240. Copies of the proposal can be obtained from the Moab office of the Park Service. Canyon Country Council's address is P.O. Box 1273, Moab, Utah 84532.

(Ed. Note: For more information about the plan, see story, page 13.)

Guest opinions printed in High Country News do not necessarily represent the opinions of the editors.

4-High Country News — Oct. 21, 1977

## Grizzly . . .

(continued from page 1)

bears killed on (the) Targhee National Forest," they wrote in their 1975 report, "28 died as a result of livestock conflicts." The U.S. Interior Department estimates Idaho's total grizzly population at about 10, aptly expressing the significance of the bear-livestock conflict.

For years, Frank DeShon, regional game biologist for the Idaho Fish and Game Department, has been trying, with little success, to do something about this conflict. "The first few years, it was easy to get information," he recalls. "Then, (the sheepmen) found out what we were doing, and they clammed up." ("What we were doing," he adds, was trying to stop the needless killing of the rare grizzly bear.)

"What it boils down to is that they shoot bears wherever they see them — even if they are 10 miles from their sheep," DeShon charges. "Under Idaho law, there isn't much we can do about it."

Grizzlies have been protected in Idaho since 1946, he explains. "But the law also says the shepherd can protect his property. So we have to be right there to prove otherwise. Enforcement is next to impossible.

"We have had bears which kill sheep," the biologist admits. "There's no denying that. But the effect of the law is to make all bears a target. It seems strange that the Fund for Animals (a national citizens' group organized specifically to stop hunting and trapping) is trying to stop legal hunting in Montana, but this shooting goes on year after year without anything being done about it."

The amount of grizzly predation on livestock has probably been exaggerated. For instance, grizzlies may feed on stock that have died from eating poisonous plants or from other causes. When a stockman sees a silvertip dining on dead stock, he assumes the bear is the culprit and blasts away. Also, the grizzly may be blamed for sheep killed by black bears, coyotes, and other predators.

In their report, Allen and Jorgensen also addressed the controversial question of how extensive the predation actually is. . .

It is difficult to accept the consistent high losses attributed only to predators as reported by some permittees (woolgrowers holding U.S. Forest Service grazing permits)," they wrote. "Some permittees consistently report losses of eight to ten per cent and more, all to predators with no losses in other categories." In their opinion, this inconsistency between permittees and outdated methods of reporting losses "leaves doubt as to the credibility the records may have."

As an example of archaic methods of reporting losses, Jorgensen wrote: "An old time method of assessing losses was to assume all ewes bore two healthy lambs and that any difference between the expected tally for total survival and the actual count represented animals lost to predators. In some cases, this method may still be in practice." In other words, sheep that died from eating poisonous plants, of natural causes, or for any other reason went down as losses to predators.

### UNOBTAINABLE DATA

DeShon says sheepmen weren't worried about public reaction to their shooting grizzlies until Drs. Frank and John Craighead, who conducted a controversial 12-year study of the grizzly in and around Yellowstone Park, started making a fuss about the bear becoming extinct. The woolgrowers then saw national sentiment turning to preserving grizzlies at the expense of eliminating a few grazing allot-

ments. So information on grizzly mortalities suddenly became unobtainable.

E. Lynn Mitchell, district ranger for the Targhee National Forest, acknowledges the problem, calling the killings "well-founded speculation." However, he feels that the attitudes of the permittees are changing from bitter hatred to consideration for the grizzly's plight.

In addition, Mitchell issued an ultimatum to the sheepmen to stop killing grizzlies or lose their grazing privileges. "We laid the law down to the herders," Mitchell explains. "If we even hear a rumor

about the livestock industry, as the agency did for decades. But from what he knows about the situation, DeShon doubts anything keeps sheepmen from killing every bear they see.

Other wildlife professionals in the Targhee region echo DeShon's opinion, but because of political ramifications — the livestock industry wields a big club in Idaho — they were reluctant to talk openly about the bear-livestock problem. For instance, another experienced wildlife professional from the area (who asked not to be named) says bluntly, "These sheepherders kill

under the Endangered Species Act of 1973 is offered protection by federal law."

### TRANSFER THE SHEEP

Years of continued frustration trying to correct this injustice prompt DeShon to declare, "The only solution is transferring these sheep to another area. As long as there are sheep in there, there will be conflicts." He feels the economic impact on ranchers would be minimal if the grazing allotments could gradually be moved to



Montana Fish and Game photo by Mike Sample

**THE GRIZZLY needs lots of room to roam, and his territory is diminishing.**

about their killing grizzly bears, we're going to start reducing the permits. There won't be any predator control."

Since removing grazing privileges for public land would, in effect, close down the sheep operations by eliminating the summer range, Mitchell feels the permittees will respond to his order, and thus the grazing can continue. But some wildlife authorities disagree.

DeShon says flatly that the woolgrowers will "definitely not" develop new attitudes toward grizzlies. Instead, he feels that sheepmen have simply covered up the bear

every predator they see — and especially grizzly bears."

A later study by David Griffel on the Targhee National Forest verifies this adverse attitude among some permittees. In his 1976 report, Griffel stated: "On the Dog Creek and Squirrel Meadows allotments, the sheepmen insist on control of all bear stemming from the idea that all bear, regardless, are sheep killers. The methods of control practiced are trapping by both a government trapper and the sheepherders and destroying by shooting and killing all free ranging bear seen on the forest. Both of

other ranges instead of being immediately terminated.

"I'm tired of being nice," he blasts. "Getting the goddamn sheep out is the only answer. There ought to be one place in Idaho where a grizzly could be safe from sheep grazing. Right now, there isn't. The grizzly needs more help than any other animal on the Targhee."

The Idaho game department has support in this effort. The National Academy of Sciences (NAS), other professional wildlife managers, and most conservation organizations familiar with the grizzly situation have also recommended moving the sheep out. Although the NAS recommended in 1975 that the Forest Service be encouraged to phase out whatever sheep grazing permits may still remain in the Yellowstone ecosystem as rapidly as possible, there has still been no cutback.

"These agencies have been run by the livestock interests for years," DeShon charges. "It's going to take a lot to overcome that. We can't do much unless pressure comes from the national level."

Apparently, a handful of woolgrowers have somehow mustered enough political clout to resist every effort to phase out the grazing permits. So the sheep stay in the Targhee as they do in other public ranges around Yellowstone. Because many local people side with the stockmen, the conflict won't be resolved without a national drive to pressure the federal government into action.

The conflict over grazing permits seems similar to the debate over classifying the grizzly as a threatened species. In the latter case, national pressure for the status countered local opposition to it. So the same sort of national movement may "get the goddamn sheep out."

Predictably, sheep ranchers in the area see it differently than DeShon does.

**"I'm tired of being nice," says an Idaho game biologist, "Getting the goddamn sheep out is the only answer. There ought to be a place in Idaho where a grizzly could be safe from sheep grazing."**

killings to avoid a national controversy. (In other areas, such undercover conduct has been called "The Three 'S' Club" — shoot, shovel, and shut up.)

DeShon agrees the "no predator control" policy sounds constructive, but he doesn't believe it works because sheepmen still kill

these methods of control were observed being practiced during the course of this year's field season. Free ranging bear were destroyed when possible, at times when sheep were not in the same area as bear. Comments were received from some permittees that bear seen would be destroyed,

**One Idaho sheep rancher says, "I don't care whether it's a coyote, dog, or bear, — if it's jeopardizing my livestock, I won't live with it. If a grizzly bear gets into my livestock, I tell my sheepherder to kill it."**

grizzlies. Perhaps it has stopped the practice of broadcast predator control — killing or poisoning most predators before taking stock into the area. Certainly, the federal government — through the U.S. Fish and Wildlife Service's Animal Control Section — now rarely kills or poisons bears on pub-

even after sheep were removed from the allotments and forest. We are not trying to prove that bear do not kill sheep because they do, but this type of action makes all bear vulnerable to the protection efforts of the livestock owner regardless of guilt. This action is dangerous to the grizzly who



"Everybody has to eat — even the environmentalists back East," Dave Phillips, one of the permittees, notes. "Environmentalists want to save the grizzly bear, but we have to live."

Phillips frankly says: "I don't care whether it's a coyote, dog, or bear — if it's jeopardizing my livestock, I won't live with it. If a grizzly bear gets into my livestock, I tell my shepherd to kill it."

This is, in his opinion, "the best answer" to the bear-sheep conflict. But he insists, "We aren't killing all the bears."

"Once grizzly bears taste lamb, they won't stop until you kill them," Phillips explains. "Any bear would rather have a nice lamb instead of some old worms out of a log. They aren't dumb."

"We're going to have some endangered species, and maybe that's the way it should be, because man is the most important animal. The world was built for people, not animals. What's more important — man or bears?"

However, all ranchers running sheep on the Targhee don't have such strong feelings. Ross Davis, for example, sees a different solution. "Snare the bear and move it someplace that is at least a 100 miles from livestock."

He acknowledges that there aren't many places in the West that are 100 miles from domestic stock. Nonetheless, he feels it can be done and is preferable to killing the bear.

Davis, who ranches just south of the park, says he hasn't killed a grizzly bear in seven or eight years. In fact, he tells of how he recently helped snare a grizzly that was killing his sheep. Then, he called researchers from the Interagency Study Team who came and moved the bear to another area.

Although the Targhee sheep problem typifies the conflict occurring whenever domestic livestock graze grizzly country, other areas have similar situations. John Cada, Montana game biologist, also had



Maps from WHERE THE GRIZZLY WALKS by Bill Schneider

bad experiences with woolgrowers. In July, 1974, a shepherd bragged to his bar-room buddies that he had just blasted a grizzly. Before long, the Department of Fish and Game caught wind of the story, and asked Cada to check it out.

Cada soon learned the full story. The herder was watering his horses when a bear came out of the timber and headed in the direction of a flock of sheep which was still about a half mile away, Cada recalls. "Even though the sheep were out of sight and had a shepherd with them, he felt the bear would get into them, so he shot him. The first shot struck the grizzly broadside, causing him to turn and charge. The sheepman kept shooting, breaking the bear's hind leg," the biologist notes. "Then, he ran out of shells, so he jumped on his horse and got out of there. He and his companions back at the shepherd's camp decided not to go back and finish off the bear because it was too dangerous." (When the time came for the sheepman to tell his story to the Forest Service, he changed the facts, saying he had shot the bear in self-defense when it charged right into camp.)

Later, Cada checked Buck Creek, where the incident had occurred, and found bloody beds where the bear had rested temporarily. "Some people saw a grizzly with a dragging hind leg about a month

after that," he remembers. "So I suppose the bear could have made it through the winter."

"He's a typical shepherd," Cada charges. "And that's the typical unhappy ending when you have sheep and grizzlies on the same tract of public land. Montana law says ranchers can dispose of predators that are a threat to their stock. But the way sheepherders think — if it's a bear, it's a threat. This guy figured if he let the bear go, it would get his sheep sooner or later. Even if the bear is in the same valley, it's a threat."

CENTENNIAL MOUNTAINS

Another hotbed of the sheep vs. grizzly conflict is the Centennial Mountains region, just west of Yellowstone Park on the Idaho-Montana border. Here, the Agricultural Research Service (ARS), an experimenting arm of the U.S. Department of Agriculture (USDA), runs about 3,000 sheep on public land supporting a struggling grizzly population.

"Grizzly bears and wolves are not compatible with sheep production," Clarence Hulet, director of the experimental sheep station, angrily reacts when asked about the problem. "What do you think grizzlies eat?"

"There are lots of places in the country where there are grizzly bears," Hulet charges, "but this is the only experimental sheep station. The public needs food and fiber. In these times of food shortages and starvation, which do we need more — grizzlies or sheep?"

Local conservationists and wildlife people generally agree with Hulet — grizzlies and sheep aren't compatible. However, they disagree on the solution. Predictably, Hulet and the USDA want the grizzlies to be controlled and the sheep to stay. Conversely, bear supporters want the sheep out.

The Bureau of Land Management (BLM) administered almost all of the Centennial Mountains until 1922, when 15,836 acres were withdrawn from the public domain for "experimental sheep grazing." Today, the BLM administers the land around the station and still maintains some authority over the ARS lands.

It's an unusual arrangement, to say the least. The University of Idaho (the State of Idaho) owns the sheep and receives income and subsidies from them, but the ARS watches the flocks on what apparently is still BLM land. ARS officials won't say exactly how many of the sheep are actually involved in any research. But the sheep station critics believe it's a small fraction of the total.

Nobody knew much about this sheep station until 1974, when the BLM decided to make the Centennial Mountains a primitive area. In a briefing document on the proposed Centennial Mountains Primitive Area, the federal agency made a strong plea to preserve rare wildlife. "The pristine qualities of the area are exemplified by several threatened wildlife species, including Montana grayling, grizzly bear, wolf, and native cutthroat trout," the briefing document noted. "These fish and mammals are living in an extremely fragile envi-

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ronment completely at the mercy of man. The slightest adverse effect by management could easily tilt the scales and plunge the threatened species into extinction. It is therefore very important we protect their ever-decreasing undisturbed environment. The Centennial Mountains are a rare and isolated area where we have a second chance to refute the philosophy that 'the only thing history teaches is that history teaches us nothing.' Let us make the Centennial Mountains the exception."

Edward Zaidlicz, Montana director for the BLM, followed this plea up in an inter-department recommendation. "The most urgent action for the Bureau (of Land Management) and the Department (of the Interior) to take on behalf of endangered species is to designate the Centennial Primitive Area and revoke the Agricultural Research Service withdrawal and thus eliminate domestic sheep grazing. This would provide protection for the wolf and possibly the grizzly bear."

Unfortunately, dedication on the part of Zaidlicz and other BLM officials wasn't enough, as inter-government politics stymied these sincere efforts on behalf of threatened wildlife.

The BLM wanted the sheep out of the Centennial Primitive Area and went all the way to the top of the Interior Department requesting the revocation of the ARS withdrawal. But the ARS also went all the way to the head desk in the USDA, prompting a high-level bureaucratic shoot-out between Interior and Agriculture. Unfortunately for the grizzly, Interior backed off.

"Of the 32 bears killed on the Targhee National Forest," a report says, "28 died as a result of livestock conflicts."

Battered from its bureaucratic battle, the BLM retreated and classified the land around the withdrawal as a primitive area, even though they had previously stated that the ARS lands were essential to the establishment of the primitive area. The agency had also termed the ARS lands the "gruts" of the total proposal.

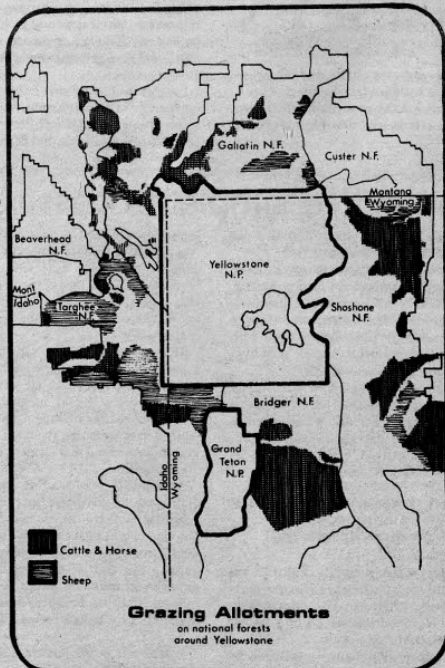
So the sheep stay, and the conflict over grizzlies goes on unabated. Although the BLM received considerable support during its drive to help the grizzly, apparently it wasn't enough to change long-established use of this public land, regardless of how the grazing affected the threatened grizzly.

Only 150 years ago, the grizzly ranged from Mexico to the Arctic Circle and from the Mississippi to the Pacific Ocean. Today, this vast habitat has been whittled down to a few slivers of security south of Canada. Grizzly numbers have shrunk from a 100,000 or more to less than 1,000. However, the remaining population, albeit small, would seem secure since it exists mostly on federal land, and nationally, Americans seem to want threatened wildlife protected.

Unfortunately, as the grizzly-sheep conflict displays, this protection is not always forthcoming. The big bear continues to get a low priority in relation to livestock.

The livestock industry was probably the most significant force in exterminating Old Ephraim from 90% of his range south of Canada.

However, this time it's different — the remaining bear habitat is publicly owned. So if the public demands that the grizzly get a front seat to traditional consumptive uses of public lands such as livestock grazing in a few vital areas that have remained wild enough to allow the grizzly room to live, the conflict would be resolved.



REPEATED PROTESTS from the scientific community, conservation groups, and wildlife managers haven't changed the federal government's grazing policies on public lands near Yellowstone National Park.

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## In situ gas. . .

(continued from page 1)

Brandenburg says. However, nearly anywhere in the West is suitable for in situ gasification, because so much of the land is underlain with coal.

Despite the environmental benefits that are claimed for the technology, there is a serious drawback. If the process produces low-Btu (British thermal unit, a measure of heat content) gas, the only use for it is on-site power generation. If the medium-Btu gas is produced, a "hydrogenation" plant must be built at the site to upgrade the gas to pipeline quality. Either facility could potentially create many of the same socioeconomic and environmental problems associated with conventional coal-fired power plants or above ground gasification plants.

However, gasification can offer increased energy production potential per acre of surface area disturbed. For example, some strip mine sites could also be used as gasification sites to reach coal that lies at greater depths and cannot be reached by conventional mining methods.

Unlike strip mining, the conditions for tapping a coal seam with in situ gasification do not require that the coal lie close to the surface. LERC's Brandenburg says that coal in the Powder River Basin could be more fully exploited because, while strip mining can occur only at the outcroppings, in situ gasification can tap coal at great depth. Technically, there appears to be no depth too great to gasify underground, but economic constraints may eventually be the limiting factor. The LERC test site at Hanna, for example has several coal seams under it, down to about 1,900 feet. The center is now conducting its tests at the 300 foot level, but, theoretically at least, coal from any or all of these deeper seams could be gasified.

In situ gasification can produce two types of gas — low Btu and medium-Btu gas. Low-Btu gas has a heat value of 150 Btu per cubic foot, while medium-Btu gas has a value of about 350 Btu per cubic foot. Pipeline quality gas has a heat value of about 950 Btu per cubic foot.

To date, the only successful tests of in situ gasification have produced low-Btu fuel. These tests have been successful enough that Brandenburg says, "We could be producing electricity by 1985." Low-Btu gas cannot be sent through a pipeline economically, which is why the only alternative for its use is on-site power generation. So, the gas would be converted to electricity at the gasification site and sent via power lines. Or, industry might relocate in the West to take advantage of the abundant gas and power.

### LESS IMPACT MORE PLANTS

A power plant fueled with synthetic gas would be quite different from a coal-fired plant, Brandenburg says. "One of the advantages is the flexibility of the fuel," he says. "These plants could be built in increments of 50 to 60 megawatts. And, you are looking at gas turbines, not boilers, so one DC-10 jet engine could produce 55 megawatts. It wouldn't be as bad as a Jim Bridger plant."

Brandenburg says that, because of the flexibility of gas as a power plant fuel, it would be as economical to build small plants as large ones, so development could be spread more evenly throughout the region, rather than concentrated in a large unit in one area. Or, large plants could be built to generate 1,000 megawatts or more of power.

A gas-fired 1,000 megawatt plant would require about 150 employees to operate it, Brandenburg says. In addition, the actual

size of the structure would be smaller than a 1,000 mw coal-fired plant. Land would not be needed for coal storage and handling facilities. Building the plant would require a smaller construction force, reducing the potential for major social impact problems.

Also, the gasification process removes the sulfur from the gas, so it would be a clean-burning fuel, without the pollution problems associated with burning coal.

Despite these benefits, the technology may mean many more electric power plants in the West. The power production potential from in situ gas is "virtually infinite," Brandenburg says, because of the vast amount of deep, unminable coal in the region. So, under a low-Btu in situ gas technology, "there is no alternative to a lot of power plants in the West."

Brandenburg says LERC currently estimates that electricity can be produced from low-Btu coal gas at 20 to 25 mills per kilowatt hour, virtually identical to the cost of producing electricity in coal-fired plants. And, he says, the process could be commercially practical relatively soon — around 1985 to 1987. This cost and com-

mercialization information has already attracted the interest of several companies, including Pacific Power and Light, Gulf Oil, and Seattle City Light.

Because of its potential, the technology could have a significant cumulative impact on the region. A scientist with the Lawrence Livermore Laboratory Hoe Creek experiments, Douglas Stephens, estimates that by 1990 there will be 5 to 10 power plants in the region using gas from in situ processes.

Brandenburg says that in situ production of gas will not replace strip mining, but rather complement it. Strip mining would still be the most economical method for mining coal seams near the surface, while deeper seams could be tapped by in situ gasification. "One possibility is to strip mine and not reclaim immediately," he says. "Leave the land the way it is and then gasify the deeper seams that are under the strip mined one. So, there is more coal per dollar of reclamation cost."

The alternative to producing low-Btu synthetic gas and generating power on-site is to produce a medium Btu gas and up-

grade it to pipeline quality high-Btu synthetic gas. The process is essentially the same except that in producing low-Btu gas, air is injected into the intake wells. To produce a medium-Btu product, a combination of steam and oxygen is injected into the coal seam. Neither this recovery process nor the upgrading process have been proven, however.

Lawrence Livermore Laboratory has been working on the technology for the production of the medium-Btu gas. LLL scientist Stephens says that the process is about a year behind the low-Btu technology. The Livermore Hoe Creek 2 test will spend three days injecting steam and oxygen to try to produce the higher quality gas.

However, upgrading this gas to a high-Btu product requires an above ground hydrogenation plant. This, too, will bring socioeconomic impact to the communities that are near the sites of the development. But, the impact will be less than that associated with an equivalent-sized above ground coal gasification facility. The above ground facility gasifies mined coal in a pressurized vessel, rather than gasifying it in situ.

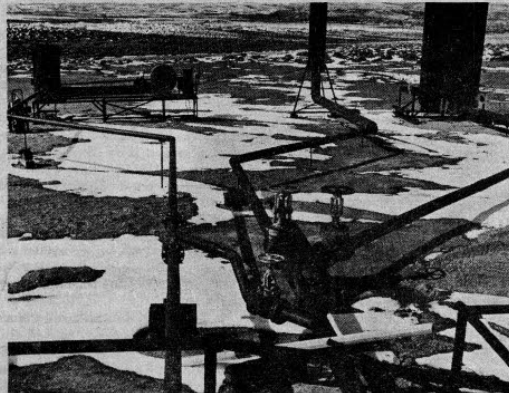
Stephens says that the upgrading facility would require only about 60% as many workers as an above-ground gasification plant. This figure translates into about 1,000 permanent employees for a hydrogenation facility producing 250 million cubic feet of gas daily. More would be required during the construction phase.

In situ gasification for high quality synthetic gas would also require less water than an above-ground gasification facility. Stephens says that the process would require about 3,000 gallons of water per minute, compared with 5,000 gallons per minute in an above-ground plant.

### ENVIRONMENTAL PROBLEMS

With the in situ process for producing either low or medium Btu gas, there are still several environmental problems to be worked out. The two major ones are subsidence and the pollution and disruption of groundwater.

Lawrence Livermore Laboratory has conducted tests to determine the extent of these problems at the Gillette site. Few specifics are available, but Stephens says,



**IN SITU GASIFICATION SITE.** One of the advantages often cited by proponents of in situ coal gasification is that there is little surface disturbance. A few wells and pumps are all that are required for the process itself. However, power plants may eventually rise on the site as a result of the technology.

## Coal gasification in five simple processes

Coal gasification is not a new technology. Underground gasification is still in the pilot stages, but several methods for gasifying coal above ground have existed for years and are used on a widespread basis in Europe. The most advanced processes are: Lurgi, Hygas, Kellogg, and combined gas-steam turbine electric systems.

Any above-ground gasification process is actually a sequence of at least five subprocesses. The need for the first two stages is eliminated by gasifying the coal underground. These two stages are cleaning and pretreatment of coal that has been mined and, the dirtiest of all the steps, the actual gasification of the coal. The final three stages are similar, whether the gas has been produced by an in situ or an above-ground plant.

In the gasification stage, a series of reactions takes place to yield a low-Btu gas (about 150 Btu per cubic foot). In above-ground gasification, this takes place in a pressurized vessel, while in situ gasification utilizes fire and forced air in the coal seam to gasify. If steam and oxygen, rather than air, are injected underground a

medium-Btu gas (about 350 Btu per cubic foot) is generated.

At this point, the in situ gas must be brought above ground for upgrading, if it is to be made into a pipeline quality product. The hydrogen content is upgraded by treating the gas with steam. Next, carbon dioxide and hydrogen sulfide are removed.

Finally, the gas goes through a methanation stage. This is the final upgrading and creates a high quality synthetic natural gas (SNG). The process creates heat, which must be removed from the methanator.

### POLLUTANTS — IN THE GROUND OR OUT THE STACKS?

Most of the potential pollutants are left in the ground when the gas is removed, while, in the completely above-ground process, pollutants are emitted from the plant.

Approximate figures published by the Energy Research and Development Administration estimate that "typical" surface commercial-scale gasification plant, producing 250 mill-

ion cubic feet of SNG per day, will emit into the atmosphere annually: 530 tons of particulates, 2,500 tons of sulfur dioxide, 7,500 tons of nitrogen oxides, 170 tons of hydrocarbons, 560 tons of carbon monoxide and 2.8 tons of aldehydes.

ERDA also predicts significant emissions of lead, arsenic, cadmium, mercury, and selenium, all of which naturally occur in coal. In addition, a number of cancer-causing agents are created in the process, though it is unknown how many will escape into the atmosphere.

An above ground gasification plant of this size, in addition to air pollution potential, will use 20,000 tons of coal per day, or about six million tons annually, and consume 30 to 40 million gallons per day of non-recoverable process and make-up water.

Some of these problems would be eliminated by in situ processing.

Research for this article was provided by Randall T. Cox. Some of the information was taken from a consulting study on coal gasification done by A. D. Watt Consultants.



"Environmental consequences appear to be minimal for the in situ process."

The gasification experiments done by both LERC and LLL are too small to accurately measure the impact of subsidence. Brandenburg says that the fifth test at LERC's Hanna site will be large enough to measure subsidence dangers. An LLL report prepared on the technology warns, "Ground subsidence has been found to be a very significant physical phenomenon that must be dealt with in the design of an underground coal gasification process."

Since one of the objectives of the process is to utilize all of the coal in a seam, there is none left to support the overlying material. Consequently, the roof will collapse into the space left by the burnt-out coal. However, the LLL report says that in a Russian system of in situ gasification, subsidence in even the most intense area of gasification was relatively small and occurred in "a regular, continuous manner as the gasification was carried out. This is in contrast to a catastrophic subsidence one might expect from the sudden collapse of a large cavern."

The second environmental concern is water quality. LLL's Stephens says, "The coal in the Powder River Basin acts as an aquifer. The pollutants released by the process are confined to the formation. The coal appears to absorb the pollutants as the water flows through the seam." Consequently, Stephens doesn't think that the water quality question is serious.

Very little testing of the water quality effects has been done, however. The LERC Hanna tests have had only one small short-term test that made what Brandenburg called a "controlled mess" underground. LERC is just now getting results from the experiment.

The Livermore group published a report on the ground water quality effects of their experiments. They found concentrations of some pollutants, above water quality limits, outside of the immediate burn area. But these pollutants, primarily phenolic materials — strong, corrosive poisons — decreased as they got further from the area of the burn.

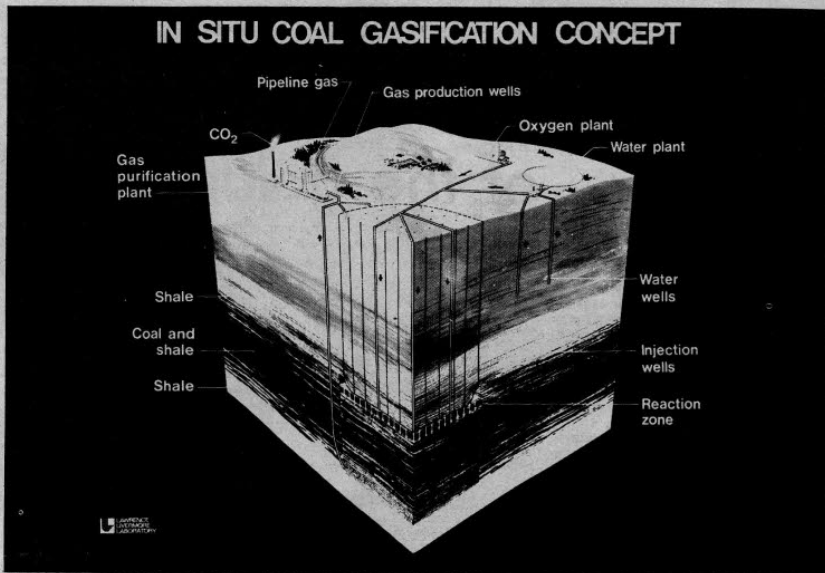
Since no large tests have been conducted yet, it is still not known what the effect of large-scale subsidence would be on groundwater flows. It is possible that underground water could be diverted, affecting deep wells and aquifers downstream.

Another unanswered question concerns air quality impacts of in situ gasification. LLL's Stephens says, "There are no air quality effects." However, tests of surface gasification of coal have found that the process may release a number of cancer-causing agents (carcinogens). Some of these compounds are formed during the underground gasification process as well, but whether they escape into the atmosphere during in situ processing is not known. Stephens says that the initial results from their tests are cause for optimism, however. He says, "We've not found any carcinogens. We've tried to find them, but even with sensitive analysis, there has been no indication that they escape."

LERC's Brandenburg says, "We still don't know the full story on air pollution. In underground gasification, very little of the ash reaches the surface, though tars are released. However, the air pollution from gasification is less than that from a direct coal burn. The sulfur released is hydrogen sulfide, which is easier to clean. Sulfur oxide requires large investments for scrubbers."

**THE FUTURE**

Despite the potential problems from the process, Sierra Club's Northern Plains representative Bruce Hamilton says, "It looks like a promising technology. But people have to look at where this is suitable, instead of looking at it in the abstract. For



**MEDIUM-BTU GASIFICATION** is illustrated in this drawing. Both steam and oxygen are injected into the coal seam. This eliminates nitrogen from the gas and

produces a 350-Btu product. The gas can then either be used as a feedstock in fertilizer production or upgraded to pipeline quality in an above ground plant.

example, the Four Corners area may be a good site for in situ gasification, because it has poor reclamation potential, air quality problems, a good local market for gas, and water is at a premium." The in situ technology may have less impact on this type of area, Hamilton says, than strip mining or some other extractive method.

Sherman Janke, head of the synthetic fuels subcommittee of the Sierra Club's National Energy Committee, says that he doesn't think coal should be gasified for power generation because of the inefficiency of that use of the resource. Janke says, "Looking at coal gas of any sort, taking the ratio of the energy content of the

product versus the theoretical energy content of the coal, you might end up with 50% of the chemical energy that's available in the coal. When the gas is burned in a power plant, you might get 30% generating efficiency. Multiplying those together, you only get 15% of the potential energy from the coal."

However, the scientists working on the in situ processes argue that, while the energy recovery may be less efficient than a direct coal burn, they are tapping a resource that couldn't be obtained any other way.

Several technical and environmental problems still need to be solved, before in

situ gasification becomes an important energy source in the U.S. However, even environmentalists are cautiously optimistic. Hamilton says, "It will be interesting to see if this will be a better technology for developing some resources. I'd like to see them pursue it."

The scientists are convinced that the problems are solvable, and that the resource is needed. LLL's Stephens says, "Natural gas is cheaper at the moment than gasified coal, but the production curve is declining. People will want more natural gas, so the question then is 'What's the cheapest alternative?' If this technology is available, they may build these."

**Where the Grizzly Walks**

The land is nearly untouched by man. The waterways remain fresh, and the quiet is seldom broken by any but nature's sounds. Here, nature works in polished harmony.

But will it always be?

Lewis and Clark formally introduced the grizzly bear to the world, and from that time on, the great bear has been feared, misunderstood, crowded, and hunted.

For over 150 years, man has forced confrontations with Old Ephraim, the grizzly bear. In his fight to conquer the western wilderness, man has steadily encroached upon the grizzly, drastically altering the bear's habitat.

Existing land use policies and the inability of wildlife experts and government agencies to agree on management threaten the grizzly with extinction.

**Where the Grizzly Walks** by Bill Schneider is a history of the big bear's struggle for existence. The author reveals who is to blame for the silvertip's plight and outlines a strategy for the bear's salvation.

The book is more than a story about bears; it concerns people, their life styles, their government, their land, and their dreams.

Bill Schneider has written extensively on conservation in dozens of periodicals. His writing focuses on protecting wildlife habitat and wilderness. He has been the editor of *Montana Outdoors*, the official magazine of the Montana Department of Fish and Game, for eight years.

Mountain Press publishing company of Missoula, Mont. is sharing the profits on sales of this book with HCN. To order, send \$9.95 to HCN, Box K, Lander, Wyo. 82520. Price includes postage. An excerpt of this book appears elsewhere in this issue of HCN.

256 pages, illustrated, clothbound



National Park Service Photo

## The perilous first months of the golden eaglet

by Sarah Doll

Golden eagles in the Midwest and the Rocky Mountain area lay their eggs in early spring, usually in March. A cliff-side ledge is the choice nesting site, although trees also serve. The eggs — two, on the average — are incubated by both the female and the male. Hatching occurs near the end of April, with occasionally several days between chicks.

The hatchlings are entirely dependent on the parent birds. They are not totally naked at birth, like some songbirds, but their down covering doesn't keep their body temperatures from fluctuating with the surrounding air temperature. Unlike ducks and geese, which walk to the water and begin swimming during their first day of life, nestling, or eyas, golden eagles are too uncoordinated to allow much locomotion.

Eagles are tender, careful parents and excellent providers for their young. Feeding starts the first day, with the parent bird choosing the most tender parts of its kill to feed the chick.

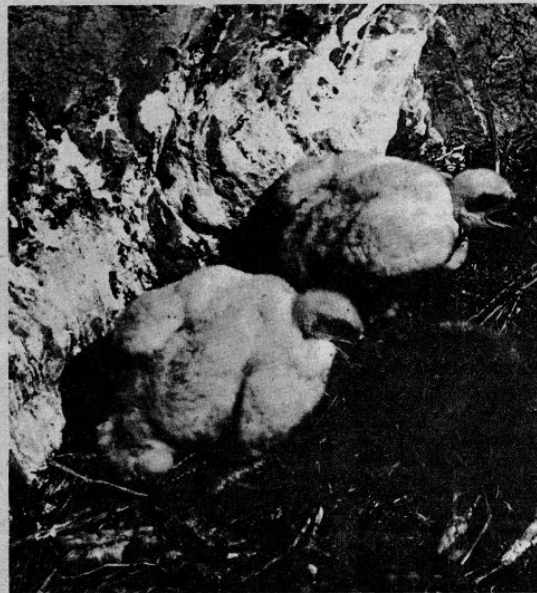
At two weeks of age, the eyases will weigh two pounds, eight to ten times their weight at hatching. After three weeks, they are too large to be brooded, and must withstand storms or extreme heat without the parents' protection.

Occasionally, if one egg hatches several days before the other, the older eyas will kill the younger. Even if fratricide does not occur, the parent tends to feed most often the beak that is pushed up the highest, and the younger bird's development is retarded. The prey species of the golden eagle, however, is usually large, such as a rabbit or pheasant, and the older eaglet will be unable to eat it all. The runt can finish off the meal. With luck, the younger eyas can catch up in development after the older one has fledged and left the nest free of competition.

At about four weeks of age, an eaglet will start to try to tear its own meat up, rather than be fed by its parent. It develops curiosity about the world outside the nest, and, as its eyesight develops, starts to sit up and stare at its surroundings.

If an eyas survives the hazards of the first two months, such as temperature extremes, storms, and insect parasites, it prepares for fledging. It flaps its wings, at first holding firmly to the nest with its feet, but gradually jumping into the air as it gains strength and control over its wings. As with most birds, the week after fledging is the most dangerous one of its life. It is extremely vulnerable to attack from ground predators. However, the parents retain their roles as providers for several months after fledging occurs. The juveniles spend this time learning to catch and kill their own food, and by late fall are prepared for independence.

Material for this article was drawn from *Golden Eagle Country*, by Richard R. Olendorff.



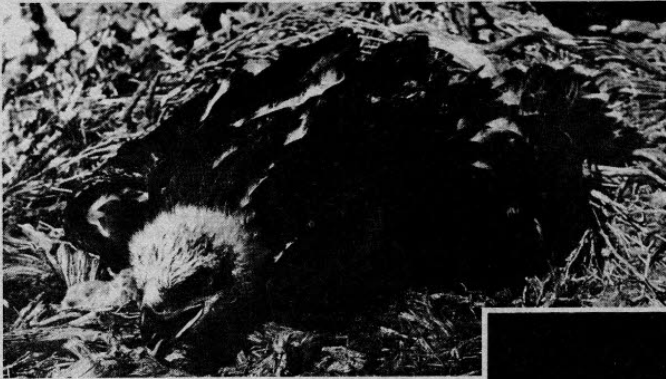
At two and a half weeks old, most eaglets weigh about two pounds, or eight to ten times their weight at hatching.



The four to five week old eaglets show curiosity about their surroundings, and start to tear up their own meat.



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The hot sun is a chief enemy of eagle chicks in exposed nests. Shown here at seven weeks old, the eaglet is panting from the heat.

Young eaglets are often victims of storms, insect parasites, or their own brothers before they ever leave the comparative safety of their nests. The week after fledging is the most dangerous one of their lives, however.



This close-up of the fledgling eagle shows the downy feathers still clinging.



About ten weeks old, this fledgling is ready to leave the nest.

Pictures on these pages were all taken by Bob Hilgenfeld in the spring of 1977. The nest is located on a cliff overlooking the Green River in southwestern Wyoming.

# DOE helps finance Occidental oil shale project

The U.S. Department of Energy has agreed to finance \$43 million of the \$60.5 million estimated cost of developing in situ — or underground — processing of oil shale. The money is being provided as research and development funds under authorization of a non-nuclear energy research and development act passed last year.

The funding comes at a time when the oil shale controversy is again heating up. Occidental has announced that it intends to

go ahead with the commercial development of oil shale on its Colorado C-b tract. The Rio Blanco oil shale project has also announced its intentions to produce oil from shale on a commercial scale.

Congress has twice refused to provide large loan guarantees for commercial oil shale operations. A staff member at the energy subcommittee of the House Science and Technology Committee says, however, that the disapproval of the loan guarantees by some members of Congress does not

imply that these members don't want to authorize research and development funds. He says, "Loan guarantees is a separate issue. Several members who opposed loan guarantees voted for the R&D authorization."

The U.S. Energy Research and Development Administration has been considering the cooperative financing for about a year, according to a DOE spokesman. When ERDA was absorbed by the DOE structure, DOE simply proceeded to approve the funding.

Kevin Markey, friends of the Earth representative in Colorado, says permit requirements will delay Occidental "from one to several months" in its plans. Markey says that, so far, the company has refused to apply for any of the permits that the state and federal governments require for

the beginning of operations.

Markey says that Occidental has refused to submit a federal air quality application. The company contends that it doesn't need an air permit until mining is actually underway. The Environmental Protection Agency (EPA) was originally convinced of this argument, Markey says, but environmental groups have since persuaded them otherwise. EPA will reportedly require the permit.

In addition, Occidental has not filed an application with the Colorado Mined Land Reclamation Board. The lessees claim that they only need a prospecting notice, not a mining permit, for the initial excavation phase.

Rio Blanco has applied for the permits as required. However, EPA sources indicate that its air quality permit application may be inadequate.



Photo by Hubert Burke

PICEANCE BASIN in Colorado is the country's richest oil shale area. The picture above was taken near the C-a tract held by the Rio Blanco project.

## State still reluctant to okay desert mine

A revised application by Minerals Exploration Co. to strip mine for uranium ore in Wyoming's Red Desert has again come under fire by the Wyoming Department of Environmental Quality (DEQ) for failing to demonstrate a viable plan for the reclamation of a greasewood playa MEC would flood during the mine life. This time the plan may also be criticized for interfering with oil and gas operations.

On July 19, 1977, the DEQ Land Quality Division rejected the mining and reclamation plan for the Sweetwater Uranium Project 40 miles northwest of Rawlins (see HCN, July 15 and July 29, 1977). Only 35 days later, MEC paid another \$2,000 filing fee and presented a revised plan which it hoped would eliminate DEQ objections.

However, DEQ's plant ecologist, Robert Dorn, in a memorandum of September 8

noted deficiencies in the mine de-watering system similar to those cited in the original rejection. Dorn said that MEC had not demonstrated that revegetation is possible on Battle Springs Flat, that the vegetation data in the application are insufficient, that some final slopes would be much greater than those of the surrounding area, and that the reseeding program does not return enough sagebrush to disturbed lands in the 15,500-acre permit area.

In addition, the Land Quality Division has received a letter from U.S. Geological Survey District Engineer John A. Fraher in Rock Springs requesting information on MEC's proposed 3,600-acre evaporation pond. Fraher said it appears that "this large pond would interfere with oil and gas operations in this area."

## Tribes' plea for UN assistance endorsed

A United Nations committee is being asked to further investigate charges of "multinational corporations plundering and exploiting native lands, resources, and peoples of the Americas." This recommendation follows a meeting last month in Geneva, Switzerland, where 100 Indian delegates from the Western Hemisphere, including two from the Northern Cheyenne reservation in Montana, testified.

Herman Bearcomesout of the Northern Cheyenne tribal council said the delegates told of exploitation of tribal resources such as oil, coal, water, and land and the U.S. government's history of abdicating its trust responsibilities to protect these resources. The Northern Cheyenne tribe, for example, has been involved in several lawsuits to protect its air, water, and coal. The other Northern Cheyenne delegate was Marie Sanchez, a tribal judge.

While the testimony varied somewhat from country to country and was delivered in many different tongues, Bearcomesout says it was basically the same from native peoples in Canada, the U.S. and Central and South America. "We spoke in one, big, united voice," he says, obviously impressed by the solidarity.

In addition to the exploitation by commercial interests, the delegates discussed genocide and ethnocide. They believe that by denying self-determination to the Indian nations, the U.S. government has been destroying their traditional value systems and their culture.

The United States was given two different opportunities to submit the charges

Bearcomesout says, but no one did.

Before their testimony, the 100 Indian delegates had marched into the U.N. meeting room in a long procession, wearing their native clothes and preceded by their medicine men.

Bearcomesout says the conference, the International Non-Governmental Organizations Conference on Discrimination against Indigenous Populations, seemed



"very receptive" to the natives' message. Members recommended that in appropriate cases, aid should be provided to assist indigenous people in acquiring the land they require and that legal services should also be made available. Members also recommended that a U.N. committee further investigate the situation.

### Energy at any price?

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Critical Mass Journal  
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**IDAHO TAKES SUGGESTIONS.** About 15 citizens, consumer groups, and government agencies have suggested alternatives to a proposed coal-fired generating plant, according to the *Idaho Statesman*. However, the newspaper says that none of the suggestions could replace a 500 megawatt plant. Among the suggestions were small hydroelectric dams, increased energy conservation, a solar powered generating plant to offset summer power demands, and nuclear power plants. The person who suggested the nuclear plant wrote, "I would prefer a nuclear plant, in that, if I must be a victim of the energy crisis, I would prefer to go out with a bang rather than a whimper."

**CROW COAL LEASES.** The U.S. Interior Department has told the four companies holding rights to Crow tribal coal to either reach agreement with the tribe or face the cancellation of their leases. On October 4, the companies were notified that "if within 60 days... sufficient progress has not been made in dealing with the tribe to indicate clearly that the parties will arrive at an agreement in the near future, it is our intention to initiate steps toward cancellation of the lease." The *Billings Gazette* says that Amax Coal is closest to a deal with the tribe, followed by Shell. Peabody and Gulf have coal permits, not leases, and are not considered serious contenders, the *Gazette* says.

**COLORADO-UTE CUTBACK.** The state of Colorado has asked the Routt County District Attorney to order the Colorado-Ute Electric Association's Hayden Unit 2 to stop violating the state's Air Pollution Control Act. The utility initially defied an air pollution control commission order to cut back its power production from 282 megawatts to 200 megawatts. Colorado-Ute appealed that order, saying that the plant must run at full capacity to test and improve the air pollution control equipment on the plant. The state's request to Routt County will probably force the matter into court.

**SOLAR POWER DATA.** The state of Montana has obtained a grant from the U.S. Energy Research and Development Administration to inventory solar development in the state, publish a directory, and conduct workshops. Randy Moy, of the state's energy office, says that they hope to have a coordinated plan developed by March 31, 1978. Moy says, "The purpose of the plan is to get solar power into the hands of the people so they can see it work, so it won't be foreign to them — so they'll be willing to invest in solar products."

**UTES EYE COAL.** The Southern Ute tribe in Colorado are now preparing a prospectus to send to energy companies that might be interested in the tribe's coal, according to the *Denver Post*. A recent survey shows there are 300 million tons of economically strippable coal on the reservation. The tribe hopes to provide an income for tribal members and improve the area's economy, but tribal leaders say they will emphasize reclamation. In fact, the tribe's natural resources director says reclamation guarantees may be more important than the monetary returns from the coal.



## Reckoning from Washington

by Kay Coates

Wyoming is beginning to emerge as the major building block of Rep. John Moss's (D-Calif.) push for horizontal divestiture of major oil and natural gas companies.

Horizontal divestiture would mean a company that produces oil would not be allowed to get involved in other energy-related products — i.e. coal, uranium, etc.

Last week several Wyoming residents testified to the House Commerce Committee's Subcommittee on Oversight and Investigations. They told of widespread abuses of federal mining laws allowing oil companies to "sit" on major uranium claims staked out on public lands in the West without developing them. (Such "holding" action raises prices for uranium, so federal regulations require some steps to be taken toward developing the resource. — ed.)

John W. MacGuire, president of Natrona Service, Inc. of Casper, Wyo., and Natrona County Attorney Dan Burke were flown to Washington by the subcommittee to testify about fraudulent uranium claims which are tying up millions of acres of public lands and contributing to escalating uranium prices.

MacGuire told Moss's subcommittee that major oil companies, including Gulf Oil and Exxon, have perhaps unwittingly become accomplices in the scheme.

Testifying before the subcommittee, MacGuire said that his company staked

over a million acres in the state as uranium claims. MacGuire acknowledged that speculators do not perform the necessary work to meet federal standards for validating claims. The uranium claims were then sold to energy giants such as Gulf and Exxon, he said.

"Individuals who have improperly staked large tracts of public lands are holding these claims by filing false affidavits attesting that \$100 of improvements or labor have been performed per claim. Their objective is to sell an interest in the claims — such as a lease or option to explore — to a major company involved in uranium exploration, frequently a major oil company," MacGuire told the subcommittee.

MacGuire described one instance in which he learned that despite a certificate on file in county courthouse records saying that Gulf Oil had done the required validation drilling of 50 feet per claim on 247 claims (each about 20 acres) in the Medicine Bow National Forest, "no validation drilling had in fact been performed as of the recording date."

A spokesman for Exxon told the *Wall Street Journal*, "we strongly reject any inference that Exxon is or was less diligent in pursuing prudent indications of good title in our land dealings. Of course, we aren't investigators and like other prudent businessmen we have to rely on what the record shows as our principle guide in such matters."



Photo by Jeff Clack

**SEVERANCE TAX CHALLENGE.** An oil company is challenging Wyoming's severance tax in court. A decision in its favor could result in the refunding of about \$6 million to oil, uranium, and coal companies operating in the state. Belco Petroleum, which brought the suit, says that Wyoming's method of collecting the tax is illegal because it is retroactive. The Wyoming severance tax has been raised by the state legislature during each of the last three legislative sessions. The tax, including the increase, is collected based upon the total of the previous year's production. For example, during calendar year 1976, the effective severance tax on coal was 13%. The tax was raised to about 16.5% early in 1977, then applied to 1976 production. Belco claims that this "retroactive" taxation is illegal. The case is currently before the Laramie County District Court and a decision is expected soon. Photo of

## Colstrip 3, 4 shut down

# Montana Power, EPA dispute blame for layoffs

More than a hundred construction workers have become pawns in the battle between the Environmental Protection Agency (EPA) and the utilities building two coal-fired power plant units in Montana. EPA has shut down construction on Colstrip units 3 and 4 because Montana Power Co. and the other utilities don't have two permits required by federal and state laws.

Montana Power Co. officials say they're optimistic they will be able to resume construction in mid-November. However, an EPA attorney, Cab Baldwin, says, "There is no guarantee the two units will ever be able to start up again."

Baldwin's statement is based upon the need for a permit certifying that the power plant will not violate Class I air quality on the nearby Northern Cheyenne reservation. EPA questions whether the utilities can limit the emissions as much as necessary to meet the Class I requirements.

On Sept. 30, EPA sent Montana Power a letter saying it must meet the requirements (part of the Prevention of Significant Deterioration regulations — PSD). An agency review of the new Clean Air Act amendments, passed by Congress in August, indicates the two Colstrip units are subject to these requirements. A U.S. District Court had ruled that the units were not subject to the requirements under the language of the old amendments.

Montana Power President Joe Eelwain still says, however, that the company believes it does not have to comply with the PSD requirements.

The utilities must also have a construction permit from the Montana Department of Health and Environmental Sciences. That permit is expected to be issued by mid-November. The lack of that permit prompted the actual shut-down decision by

EPA, which company officials point out put 120 workers off the job.

The workers protested the work shut down by picketing the federal building in Billings. The president of the state council of laborers, Bill McColley, says the workers are not comfortable supporting the power companies against the EPA, according to the *Billings Gazette*. They battled Montana Power over the state's coal tax and clean air bills in the legislature. "But the workers don't care about any other issue when they're not working," McColley says.

EPA's Baldwin says, "I have sympathy for the plight of those workmen." However, he adds angrily that, "The reason they are in dire straits now is specifically because of the actions of the company for the last two years."

Baldwin explains that Montana Power was told to get the construction permit in May 1975 and repeatedly since then. The utilities had agreed to comply with all the state requirements. After construction started on the two units in June 1977 without the permit, both the state and the EPA instructed the utilities to get the construction permit. On Sept. 9, EPA offered Montana Power the opportunity to choose when construction could be halted, and they said "never," according to Baldwin, who subsequently determined that Oct. 10 would be the best date.

McElwain of Montana Power says that after 142 days of hearings, the company assumed the construction permit was included in the Board of Natural Resources order approving the two units. "We were of the opinion that we could proceed."

Asked about Baldwin's statement of concern for the workers, he said, "EPA is being unfair to the workingman by taking this position, by trying to flaunt the district court opinion that allowed us to proceed. It's a travesty of the workingman — by the government."



The **HCN**  
Hot Line

energy news from across the country

**ALCAN COST MAY DOUBLE.** An independent study says that the Alcan Pipeline Company's cost estimate of \$10 million for an Alaskan gas pipeline may be about half of the actual cost by the time the project is completed. The study noted that the Trans-Alaska Pipeline has a cost override of 325%, and 12 major construction projects built in the last 20 years averaged 121% cost overruns. The American Enterprise Institute for Public Policy's study says, however, that the project could sustain an overrun of 121% and "still yield significant economic benefits to the nation."

**1872 MINING LAW REFORM.** The Carter Administration's attempts to replace the 1872 Mining Law with a leasing-royalty system are getting some support from key Senate Energy Committee members, according to *Public Lands News*.

Metcalf D-Mont.) are reportedly in basic agreement with the goals of the Administration's bill. Rep. Morris Udall (D-Ariz.) is supporting a competing location-patent system to replace the 1872 law. Despite the disincentive of having two different bills, a committee staff member told *Public Lands News*, "No one has given up on it here this Congress." A reform could be passed some time next year.

**ENERGY CRISIS.** The installation of the newly-formed Department of Energy (DOE) in its plush Washington, D.C., headquarters is not spreading good cheer throughout the city, according to the *Washington Post*. The 5,000 DOE employees are displacing an equal number of Department of Defense employees, who are being sent to less desirable quarters. The move is creating quite a bit of inter-bureaucracy bitterness, and charges are even afloat that Energy Secretary James Schlesinger is installing a bedroom in his office. The American Federation of Government Employees (AFGE) may file a lawsuit protesting the shuffle. The AFGE suit would be based on the fact that the government failed to prepare an environmental impact statement on the relocation. One energy department official told the *Post*, "If the Department of Defense had dug in as tenaciously in Vietnam, we'd

12-High Country News — Oct. 21, 1977

## Plans for Glen Canyon enrage environmentalists

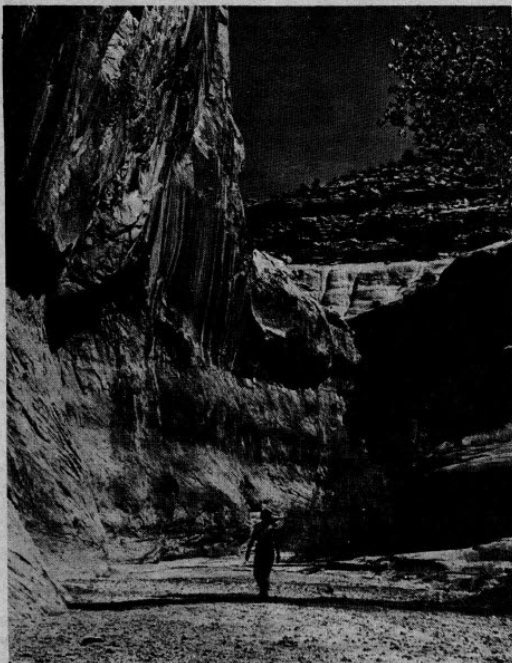


Photo by Jack McLellan

**TO BE PROTECTED AS WILDERNESS?** The Escalante River drainage is included in a wilderness proposal submitted by the National Park Service for the Glen Canyon National Recreation Area. Conservationists were pleased with that — and the agency's decision not to push for a paved road from Wahweap to Bullfrog Basin. They were upset by the overall thrust of the proposal, however, which would designate 42% of the recreation area as wilderness, instead of the 82% designation conservationists had been pushing for. Above is Silver Falls Creek, a tributary to the Escalante.

"Nobody's happy" with the National Park Service's plans for Glen Canyon National Recreation Area. "So perhaps on the bureaucratic tape measure we haven't done too badly," says Temple Reynolds, superintendent of the area.

Conservationists were pushing a proposal that would have put 82% of the southern Utah and northern Arizona plateau and canyon country in the Wilderness Preservation System. The state of Utah wanted 13% designated as wilderness. Predictably, the park service proposal fell somewhere in between, recommending that 42% of the recreation area be protected as wilderness. The remaining federal acreage would be open to oil and gas, uranium, coal, and recreational development.

Reynolds says that Glen Canyon National Recreation Area (NRA) is unique in the park system for the commercial uses it supports. Some 50% of all the mining claims in the national park system lie within the Glen Canyon NRA. More livestock grazing is authorized in the NRA than in the rest of the national park system put together. The law that created the NRA in 1972 states that both of these activities within the NRA shall be managed by another federal agency — the Bureau of Land Management.

When environmentalists criticize the park service for allowing too much commercial development in the NRA, Reynolds says they must understand, "It's not clear cut. We don't have full and complete control over the lands that we manage."

Nevertheless, in an article in the mid-October issue of *Not Man Apart*, the publication of Friends of the Earth, Gordon Anderson charges that the park service's proposal violates the intent of the 1972 enabling legislation. In that law, Congress directed the park service to "permit removal . . . of minerals." However, in the plans published by the agency at the end of August, entitled "General Management Plan, Wilderness Proposal, Road Study Alternatives, and Draft Environmental Impact Statement," the park service proposes

to go farther than that — to "encourage mineral use."

Reynolds says that while he hasn't heard much from the mining industry about the plan, both conservationists and Utah state officials seem upset about it.

Anderson is also critical of the four-level classification system that was used by the park service to evaluate the scenic values within the recreation area. He says that deep canyons are rated Class I, while what the park service calls "unremarkable mesa tops, pinyon-juniper forests, and badlands" are Class IV.

This approach "fails to recognize the value of diversity and integrity in unaltered natural landscapes," says Anderson. "It does, however, fit quite well into the energy companies' plans for the Glen Canyon NRA."

The Orange Cliffs area, partly within the NRA, is said to contain tar sands with as much potential as the oil reserves in Prudhoe Bay in Alaska, although the technology for removing the oil from the sands is unproven.

The Kaiparowits Plateau region within the NRA contains an estimated 10 million tons of coal reserves, while the plateau as a whole contains about 10 billion tons of reserves.

While the park service proposal generally supports increased development of recreational facilities, the agency pleased conservationists by offering no support for a paved road proposal backed by the state of Utah. The 133-mile, \$100 million federally funded highway would cross the proposed wilderness area in Escalante Canyon, linking Wahweap and Bullfrog marinas.

The deadline for comments on the general management plan and draft environmental impact statement is Nov. 15. A final impact statement, which will take public criticism into consideration, is expected by next summer, according to Reynolds.

For more information or to make comments write to the Superintendent, Glen Canyon National Recreation Area, P.O. Box 1507, Page, Ariz. 86040. Gordon Anderson, Colorado Plateau Representative of Friends of the Earth, can be reached at Box 820, Moab, Utah 84532.

## Crow tribe, AMAX protest N. Cheyenne clean air ruling

AMAX Coal Co., the Crow tribe, and Thermo Resources have joined the Nance Ranch in asking for a review of the Environmental Protection Agency's (EPA) decision granting the Northern Cheyenne tribe Class I air protection for its reservation.

The latest petitions are apparently motivated by a provision of the new Clean Air Act amendments that would limit air pollution from strip mines, known as "fugitive dust," under the Prevention of Significant Deterioration (PSD) regulations. When the Cheyenne tribe conducted its study to get Class I air, several people

regulations, and there is a possibility that some mines would not be allowed if their dust would threaten the reservation's clean air.

AMAX is negotiating with the Crow tribe for a strip mine on that reservation, which is adjacent to the Northern Cheyenne reservation. Coal has been leased on the Nance Ranch, which is also adjacent to the Northern Cheyenne land. EPA could not identify Thermo Resources or the reason for its interest in the situation.

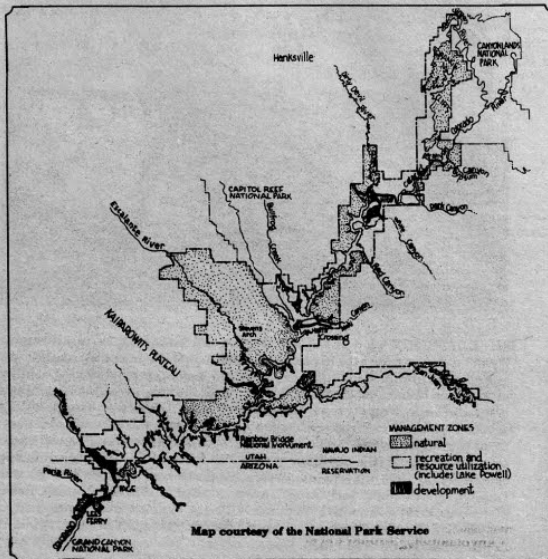
In addition, Westmoreland Resources and the utilities that are building Colstrip 3 and 4, led by Montana Power Co., have intervened in the case. Westmoreland presently is strip mining Crow coal near the Northern Cheyenne reservation.

Montana Power Co.'s interest in the case is the most immediate. EPA has halted construction of Colstrip 3 and 4, partially because of the Northern Cheyenne clean air designation (see separate story).

EPA attorney Gene Megysey says that until the 9th Circuit Court of Appeals makes a decision on the petition for review, the Class I designation holds. He estimates that the court won't make a decision in less than a year.

asked whether or not strip mines would be affected. Under the old PSD regulations, EPA said the Class I designation would not prevent strip mines on or near the reservation. The tribe itself still has not decided whether to mine the coal lying under its reservation.

Now, however, mines are covered by the





# WESTERN WILDLIFE

## Wildlife group won't drop Grayrocks suit

After months of haggling and attempting to juggle water, the Missouri Basin Power Project (MBPP) building the power plant at Wheatland, Wyo., doesn't seem to be satisfying anyone.

Even if Nebraska drops a lawsuit it filed, the Nebraska Wildlife Federation has voted to continue legal action. The state of Nebraska filed the suit, contending the project was going to use too much water from a Platte River tributary, thus diminishing flows into Nebraska below a level acceptable to the state.

Now the state is getting pressure from both sides. The Lincoln Electric System, located in the Nebraska capital city, has intervened on the side of the power plant, saying it needs the extra power. But some organizations of water users in the western part of the state have told the Nebraska governor they'd rather have water than power.

As a further complication, Nebraska discovered MBPP was offering water to the state that had already been promised to a Wyoming irrigation project, the Corn Creek Irrigation District. Nebraska Attorney General Paul Douglas told MBPP that water releases guaranteed for Nebraska

must be in addition to commitments MBPP makes with Corn Creek.

MBPP officials were irate. "I cannot believe that you and I are interpreting your words . . . the same way. . . . If we were to agree to this requirement, . . . the necessary cooling water would not be available for the Laramie River Station," MBPP representative Kenneth Holm said in a letter to Douglas.

The Nebraska Wildlife Federation suggests that to solve the dilemma, MBPP could reduce the size of the power plant from 1,500 megawatts or use a different type of cooling system that would require less water.

The U.S. Fish and Wildlife Service had formerly protested the reservoir but withdrew its objections when MBPP agreed to several stipulations for protecting wildlife habitat. The Nebraska Wildlife Federation, a private organization not affiliated with the federal wildlife agency, says, however, that the stipulations protect only Wyoming habitat. Under the agreement, there would still be a sharp drop in the water flowing into Nebraska in the spring when the sandhill cranes from throughout the West migrate through Nebraska.

## Canyonlands plan angers local foes

A proposed paved road to the confluence of the Green and Colorado Rivers has sparked opposition in Southern Utah to the National Park Service's draft management plan for Canyonlands National Park.

In the latest draft plan, the Park Service decided not to pave an eight mile stretch of road from Squaw Flat to the rivers' confluence. The nine miles of the road leading to Squaw Flat have already been paved.

Moab business interests are known to oppose the plan, because they believe the road would boost the tourist trade.

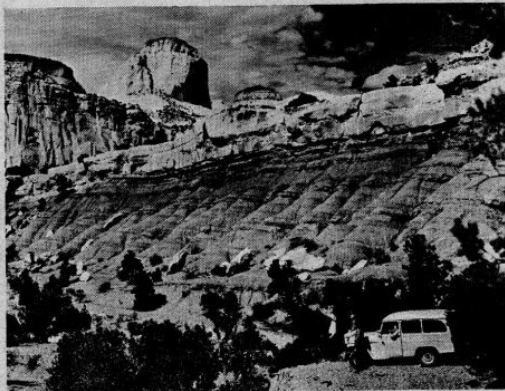
June Vivant of the Sierra Club told the *Deseret News* that "it was a mistake to have even started the road." Now that it's there she recommends building a foot trail from there to the confluence.

Sam Taylor, editor of the *Moab Times-Independent*, says the Park Service's latest plan "stinks" and shows that the agency's national officials are totally in-

fluenced by the Sierra Club. Park Service Utah director James L. Isenogle says that, to the contrary, "The basis for the general plan is a series of workshops that were conducted over a year ago in Moab, Salt Lake City, Denver, and other locations. The result of the workshops was an almost unanimous consensus not to complete the confluence road." (A four-wheel-drive road to the confluence already exists.)

The Park Service draft plan calls for spending \$13,436,100 on park development over the next 15 years. The proposal recommends improving the main access road to the Island-in-the-Sky District, stabilizing a two-wheel-drive road from Dead Horse State Park to Monument Basin Overlook, building new parking areas, new employee housing, and new visitor facilities.

Conservationists have been generally supportive of the Park Service plan.



Utah Travel Council photo

WHERE ROADS should or shouldn't go is a major point of controversy in discussions over the National Park Service's latest management plan for Canyonlands National Park.

## Funds sought to enlarge hawk haven



Idaho Department of Commerce photo

PRAIRIE FALCONS are numerous in the Snake River Birds of Prey area in Idaho. Interior Secretary Cecil Andrus is behind a fund raising effort to expand the size of the refuge.

Secretary of the Interior Cecil D. Andrus has launched a \$350,000 national fund raising campaign to save critical inholdings in the Birds of Prey Natural Area near Boise, Idaho. The area provides habitat for the most concentrated nesting population of eagles and hawks in the world.

If enough money is raised, the land will be bought by The Nature Conservancy, a national, non-profit conservation organization. The conservancy has options to purchase three inholdings in strategic locations in the 36,000 acre natural area, which is managed by the U.S. Bureau of Land Management.

"As a fast moving, private organization the conservancy can add a whole new dimension to both the acquisition and the management of important lands in the natural area," Andrus says.

Boise film maker and conservationist Morlan Nelson, is also on the fund raising committee. He says the three optioned tracts, totaling 500 acres, are valuable nesting habitat for prairie falcons, golden eagles, and ferruginous hawks.

The land is to be a partial gift, partial sale from a Boise resident whose grandmother homesteaded the property in the 1800s. To exercise its option, the conservancy must have \$150,000 before the end of the year and the rest by the end of next year.

## Excess acres hearings in November

Hearings will be held around the West in November to discuss the U.S. Interior Department's proposed crackdown on farmers who are irrigating more than 160 acres with water from federally subsidized water projects. Renewed enforcement of the 160-acre rule, part of a 1902 law, is expected to have the greatest impact in California, not the Rocky Mountain and Northern Plains states.

The law limits farmers who use Bureau of Reclamation water for irrigation to 160 acres or 320 acres for a married couple. The law was meant to insure that taxpayer-subsidized irrigation projects would supply irrigation water for family farmers and not large corporations. In recent years, the rule has been ignored in some Western states.

However, the National Land for People Organization, a California-based group dedicated to democratic land control won a lawsuit on the issue requiring the Interior Department to enforce the law.

In Wyoming, there will probably be "a few farmers who will be affected, but not that many," says Frank Trelease, director of the state's water planning program. While the size of the average farm in the Rocky Mountain states is way above the 160 acre limit — 2,139 acres — many federal water projects here were specifically exempted from the rule when they were authorized.

The Northern Plains Resource Council, a Montana-based rancher-conservationist organization, is in favor of expansion of the 160-acre rule in areas with a short growing season.

A Nebraska farmer who is also chairman of the Nebraska Sierra Club group favors strict enforcement of the rule. The farmer,

Bob Warrick, says enforcement would alter "a longtime trend of encouraging absentee farming and absentee landlords."

One major change proposed in new rules is a provision that would require all future purchasers of excess lands to reside on, or in the neighborhood of, the land they wish to buy.

Many Arizonans are concerned about the proposed regulations, because the state's giant Central Arizona irrigation project would apparently fall under the 160-acre limitation when completed.

Interior Secretary Cecil Andrus says that the upcoming hearings will be important in shaping the agency's final policy. "Some modifications of the proposal are likely," he says. The proposed regulations were published in the *Federal Register* Aug. 25.

Hearings are scheduled for Nov. 7 in Billings, Mont.; Nov. 11 in Washington, D.C.; Nov. 15 in Denver, Colo.; Nov. 15 in Salt Lake City, Utah; and Nov. 22 in Phoenix, Ariz. Hearings have also been scheduled in California, Texas, and Washington.

Written comments on the regulations should be sent by Nov. 23 to the Commissioner, Bureau of Reclamation, Department of the Interior, Attention: Code 410 Washington, D.C. 20240. Requests to testify at the hearings may be made to any of the Bureau of Reclamation's regional headquarters in the West. Speakers will probably be limited to 10 minutes each.



14-High Country News — Oct. 21, 1977



**HCN**

# Bulletin Board



### JOB IN THE EAST

The Interfaith Center on Corporate Responsibility is looking for a half-time consultant on energy issues. Research, writing, and public speaking skills are necessary. Pay is \$7,000-\$8,000 per year. Contact Tim Smith, Director, ICCR, 475 Riverside Drive, New York, N.Y. 10027.

### FUTURE POWER

Weekend workshops in southern Colorado on energy conservation and solar energy will be held the third weekend of each month from now until April. The workshops are coordinated by Arnold and Maria Valdez of "Future Power at San Luis." Wind and wood power and methane will also be discussed. The sessions are free to local residents. Out of town participants are asked to pay a small fee to cover printing costs. Participants should pre-register. For more information send a self-addressed, stamped envelope to Future Power at San Luis, Route 1, Box 3 A, San Luis, Colo. 81152.

### CACTUS ALLIANCE FORMS

Early in October people from Colorado, New Mexico, and Nevada formed a group to oppose nuclear energy and weaponry development called the Cactus Alliance. "We actively support the alternatives of strict conservation practices, the redirection of technology to meet human needs, and the full development of alternative energy

sources along with decentralization of energy systems," says Judi Bartlett, a member of the new group. For more information contact the alliance at P.O. Box 7339, Las Vegas, Nev. 89101.

### BEARTOOTH PLAN

A draft environmental impact statement on management plans for the north and east face of the Beartooth Mountains in Montana and Wyoming is ready for public review and comment. The Beartooth Face Planning Unit, as it is called, is in Custer National Forest. Public meetings on the statement are expected in mid-November and written comments are due Nov. 30. Copies of the plan are available for inspection at Custer National Forest offices.

### HALLOWEEN HEARINGS

On Halloween the N.D. Public Service Commission will hold two public hearings in Beulah, N.D. One hearing will deal with Basin Electric's application to construct an 880 megawatt coal-fired generating plant north of Beulah. The other hearing, to be held simultaneously, will deal with the siting of a water pipeline to supply the plant. The hearings will begin at 1 p.m. in the Tri-County Neighborhood Facility.

### COLO. ENERGY SYMPOSIUM

Energy in Colorado, its development, transportation, and use, will be discussed at a Colorado General Assembly Energy

Symposium Oct. 31-Nov. 1. Gov. Dick Lamm and former Gov. John Vanderhoof will be featured at one of the sessions. Registration is \$35 with meals and \$10 without. Contact the Energy Research Institute, 2221 East St., Golden, Colo.

### RIVER AND TRAIL RESTRICTIONS

This year's Idaho Trails Symposium theme is "River and Trail Restrictions — New Approach to Recreation in Idaho?" The meeting will be at the Moscow campus of the University of Idaho Nov. 12 and 13. To pre-register contact J.R. Fazio, Idaho Trails Council, College of Forestry, University of Idaho, Moscow, Idaho 83843. Admission is \$3 for council members and \$4 for non-members.

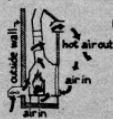
### SOLAR SEMINAR

"Solstice: A Practical Seminar on Solar Energy for the Homeowner" will be held Nov. 5 and 6 at the Inn at Estes Park, Colo. The seminar is sponsored by the University of Colorado at Denver Solar Energy Program and will include sessions on solar architecture, space heating and cooling, domestic hot water heaters, economics, legislation, consumer protection, and do-it-yourself projects. Instructors are Lee Salmon, Karen George, and Alan Brown. Registration is \$35 for both days and \$20 for one day. Enrollment by Oct. 28 is recommended. Contact The University of Colorado at Denver Solar Energy Program, 1100 14th St., Denver, Colo. 80202.

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# DISTAFF CORNER

**PATRICK H. SAID IT**  
by Myra Connell

In 1916 I traveled with my parents by wagon from our ranch near Lander to the Sweetwater River. On the bench land between Beaver Creek and Sweetwater (as nearly as I can recall), we saw large bands of wild horses, 200 or more in a bunch. I never saw a wild horse again until April of 1977, when I traveled by Cessna with my son over the Sweetwater and Red Desert area. Sometime between 1916 and 1926 I vaguely remember hearing of wild horse roundups, in order to save the range for cattle. In 67 years between 1900 and 1967 the estimated number of wild horses decreased from an estimated 2,000,000 to 17,000 (by BLM count).

In recent years the problem of the wild or

feral horses has been brought forcibly to my attention by Wild Horse Annie, the International Society for the Protection of Mustangs and Burros, and by passage of the Wild and Free-Roaming Horse and Burro Act of 1971.

Just last week a TV network broadcast a documentary analyzing the whole wild horse problem, with emphasis on the "Adopt-a-Horse" plan. Hope Ryden, noted wildlife photographer and author, appeared on the screen and spoke in opposition to placing surplus wild horses in foster homes. In the prologue to her book "America's Last Wild Horses" (1970), Ryden says, "I decided to . . . do everything in my power to keep them (the wild horses) alive and free" (emphasis mine). (Critics of Ryden's campaign say that the wild horses

are endangering their own species, wildlife, domestic stock, and the quality of the range by overpopulation. Editors' note)

McCalls magazine (Oct. 1976) in a brief article captioned "Look, a Gift Horse" outlines the main points of the adoption program, stating it's a dream come true! (Not for the adoptee of course.)

Being intrigued as I usually am by the



A wild mare with her foal. Photo from MUSTANGS by Hope Ryden.

Oct. 21, 1977 — High Country News-15

tranquilized with drugs to make handling possible.

In fancy I see the big horse-trailer, equipped with every comfort for its occupant, entering the small town in Connecticut, where the populace has turned out to see a real Western wild horse. News reporters have been alerted, and a swarm of them are on the spot:

Q. Mr. Foster, can you tell us your plans for the beautiful yearling that is now in your care?

F. I have a nice pasture for him, a whole quarter acre! Of course, in winter he'll have to eat hay.

Q. Do you plan to break him to saddle? —F. Certainly! He'll have to earn his keep. But he'll have a nice warm stable instead of having to stand out in the bitter cold wind.

The horse, of course, is fresh from square miles of open desert, clean air, and the smell of wild grass and sage.

The reporter turns away, and for some reason he is thinking of Patrick Henry.

## Eavesdropper

environmental news from around the world

**LOONEY LIMERICKS**  
by Zane E. Cology

There once was a gluttonous nation,  
That just didn't have any patience.

They sought a new tool,  
To exploit fossil fuel,  
And settled on gasification.

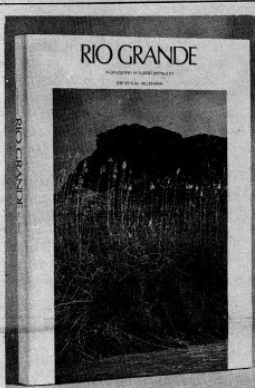
**ALASKA BILL MARK-UP.** A House subcommittee has prepared a modified version of the Alaska lands bill that was offered by Rep. Morris Udall (D-Ariz.) (see HCN, 10-7-77, page 13). The Alaska Coalition, an organization of environmental groups, is pushing for the fuller protection offered by the original Udall bill, but coalition representatives say opposition to large Alaska withdrawals is building. Full committee mark-up of the bill is expected in November, with House floor action by February. Action is not expected in the Senate until early next year.

**WETLANDS PROTECTION.** Amendments to the Clean Water Act are threatening wetlands protection, according to the Audubon Society and the Clean Water Action Project. House and Senate conferees are meeting on amendments to change the section 404 permits, limiting protection only to wetlands adjacent to waters actually navigable or susceptible to navigation with modification. The Audubon Society says that this change would leave 75% to 80% of the remaining wetlands open to unregulated dredge and fill. Both groups are urging individuals to write to Congressmen and Senators opposing any change in wetlands protection.

**RIO GRANDE**  
Photography by Robert Reynolds,  
Text by Tony Hillerman.

Thrill to the incredibly beautiful photographs from Robert Reynolds' dramatic journey along the more than 1,800 miles of the river known as Rio del Norte, Rio Bravo, and Rio Grande. From remote snow fields and mountain meadows of Colorado, through fertile valleys of New Mexico, deep canyons and sandy plains of Texas to the salt marshes of the Gulf of Mexico, you will explore the history and geography of the great river as it has flowed through time, changing the face of the land, watering the fields of today and of ancient civilizations, and enriching the soil from which grew legends of heroes and hellions. A grand format book in full color.

Charles Beiding and his Graphic Arts Center Publishing Company of Portland, Ore. have generously allowed High Country News to have all the retail profits from the sales of the book described here.



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## Classifieds

**GUARANTEED LIVE CATCH TRAP.** Caught 3 coon, 5 possums, 2 mink and one damned house cat in one trap in one night. Simple to make from scrap. Results guaranteed. Send \$2.00 for drawing. Vesta Hammond, RR 5 Feiser Rd., Covington, KY 41015.

**ALTERNATE ENERGY EXPO 77** will be held at Expo Square in Tulsa, Okla., Nov. 11, 12, & 13, 1977. The Expo will be a people centered event geared to educate all of us on ways to improve our lives and our environment. It will present the latest innovations in the fields of solar, wind, wood, methane, etc. The expo will also focus on conservation of energy, health, ecology, education, wilderness skills & much more. This exposition will be the largest of its kind ever held in the Midwest, with over 200 display booths and parking facilities for 25,000 cars. For further information, contact Ron Surface, Liberty Enterprises, Inc. 7729 E. 21st., Tulsa, Okla. 74129 918-663-2291.

**PHOTOS AND MANUSCRIPTS WANTED.** A new ski publication serving the intermountain area is soliciting ski related photographs and manuscripts. We are attempting to establish a network of

correspondents throughout the area. Intermountain Skier, P.O. Box 738, Park City, Utah 84060. (801) 649-9592.

**POSITION AVAILABLE.** Program Coordinator for Energy Extension Service. Master's degree or equivalent desired. Two years of administrative experience with an understanding of organization and management of people, finances and work scheduling. Must demonstrate very high degree of communicative skills. Duties in part include: assisting in overall management of Wyoming Energy Extension Service Program. Program planning and execution. Public Relations Activities. Salary: negotiable. Closing date: 19 October 1977. Please forward resumes to: RMIEE, Box 3295, University Station, Laramie, WY 82071. The University is an Equal Opportunity-Affirmative Action Employer.

**POSITIONS.** The Powder River Basin Resource Council, a citizens' resource conservation organization concerned with energy development in eastern Wyoming, plans to hire three field organizers this winter. Energetic, enthusiastic people with a potential for leadership are desired. Rewarding work, invaluable experience. Send resumes to PRBRC, 150 W. Brundage, Sheridan, WY 82801.

controversial situation, I asked some questions of the BLM and learned that foster "parents" come from as far away as Connecticut to claim the captives, who are

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Pay: Minimum \$15,000 - higher negotiable  
Requires: Extensive travel in the State of Wyoming; an office location in Cheyenne; Experience in the political process in the State, and a knowledge of county government.

Resumes to: Elmo Foster, Laramie County Court-house, Cheyenne, Wyoming 82001.

**Deadline for Applications: Oct. 27, 1977**

16-High Country News — Oct. 21, 1977

## Joe Orr, committed to one big extravagance

"Since we are habitual and incurable spendthrifts, why not shun a hundred petty squanderings and commit ourselves to one meaningful and positive extravagance — the realization of total heat from the sun?" asks Joseph B. Orr of Laramie, Wyo.

So while the experts have counseled Orr to build a solar heating system providing 65-75% of his needs, he is busy trying to end his dependence on fossil fuels completely.

"We are going for broke," Orr said in an article in *Solar Energy Digest*. "Hopefully by the time we are broke we will have incorporated enough life support systems under one roof so that we will no longer need much cash."

The first step on the road to self-sufficiency for the Orr family has been, in consultation with William B. Edmondson of *Solar Energy Digest*, to design and construct a large solar-heated greenhouse attached to a shop building.

The 14-foot by 30-foot greenhouse provides Orr with a place to grow vegetables all winter long — even with sub-zero temperatures outside — and provides some heat for the 40-foot by 20-foot room behind it.

The most unusual thing about Orr's system is the way he stores heat. Rather than using rocks or water to hold heat captured by solar collectors above the greenhouse, Orr blows heat through plastic pipes imbedded in a bin of wet dirt underneath the greenhouse floor. On cold nights, the heat

stored in the earth is blown into the greenhouse.

While Orr's storage system has not been as successful as he hoped, he is pleased with the performance of the wet dirt and says it offers several advantages over rock

bed or water tank storage schemes. It is easier to obtain and has higher heat capacity than a rock system of equal size. And it is cheaper than a water system, Orr says. The cost of the wet dirt system is equal to the cost of the plastic pipes that run air

through it, the pipe fittings, and a plastic liner. An equivalent water system would cost anywhere from two to five times as much (for barrels or a steel or concrete tank), he says.

Orr admits that plastic pipe isn't nearly as good a heat conductor as metal pipe. But he chose plastic pipe anyway, because it cost six times less.

In two winters of operation, the wet dirt bin has only provided 20-25% of the warmth that Orr thought it would, however. He had hoped for storage temperatures of 130 degrees, but never measured a temperature higher than 90 degrees. He defines the problems as "heat dilution" — too much storage material for the size of his collector. With a smaller storage bin, he says, he could get higher temperatures.

Orr is interested in the psychological benefits of the greenhouse as well as its thermal performance. He describes Laramie in winter as "America's own Outer Mongolia," with persistent winds and frigid temperatures.

"Our solar greenhouse has brought a new joy to winter, a new kind of warmth that conducts immediately to the bones," he says.

Ever since he attended a solar energy conference in Aspen, Colo., Orr says he's been entranced with "the passive philosophy." He wants to use the natural patterns of heat flow rather than electrically-powered fans to move heat to and from his storage bin. To accomplish this, he'll bring his storage out of the ground and, with some sheep fencing for support, mold it into a wall near the back of the greenhouse. Then he can get rid of the separate collectors he's been using to provide heat for storage. They added 30% to the greenhouse cost, and "you can't grow any lettuce in them," Orr says. The wet dirt storage wall will receive its heat directly, from the sun coming into the greenhouse.

A more complete description of Orr's system is included in Volume 9, Number 1, 1977 of *Solar Energy Digest*. (A copy costs \$2.40 from SED, P.O. Box 17776, San Diego, Calif.)

Orr is happy to discuss his experience with others, but hesitates to mail out plans for his greenhouse, which some people have requested. He's too busy making improvements.



Photo by Bruce Hamilton

**WET DIRT** stores heat more cheaply than water and more compactly than rocks. Shown here is the storage bin buried beneath Joe Orr's greenhouse in Laramie, Wyo. Hot air is pushed through the three-inch plastic pipes to heat the mud. A fan pushes warm air from the pipes back into the greenhouse when needed.

## Dear Friends

Some questions have been raised recently about *High Country News* and its role in the environmental community. Several different people have said that HCN seems to have been publishing some information lately that, by revealing environmentalists' strategies and struggles, can be helpful only to "the opposition."

While we're not sure what specific articles raised these questions, we're disturbed by their implications. Do these people expect that we will publish only articles that put the environmental movement in a good light?

If so, we should make it clear that we see HCN's role differently. We do consider HCN to be an environmental advocacy newspaper, but that means we take strong positions for protection of our region's resources in our editorials — not in our news pages. On our news pages we write about environmental issues, but, recognizing there are more sides to those issues, we endeavor to present all of them.

When we give instructions to new HCN writers, we ask them to give a fair presentation of different views. We don't think it's fair to censor certain views because we disagree with them and print other views that reinforce our prejudices. We suspect that most of our readers would prefer to make their own judgment about which side is right. And by understanding those who disagree with them, they may be better prepared to take action in public on the issue.

We think it's also important for our readers in one state to understand strategic errors — as well as victories — in another state so they can learn by them.

That said, we should also be honest about our bias. We are likely to give a large amount of space and our most careful attention to those stories that we feel will be useful to the cause of wise use or preservation of the land and the life that it supports. We tend to ignore stories that would only aid those working to exploit our resources. When a story falls somewhere in between — that is, it seems vital for both citizens and exploiters to know about — we usually go ahead and publish. We assume that citizens depend upon us, and exploiters, with their well-funded intelligence network, probably know already.

Of course most of the material we publish doesn't fall into any of these categories, but is merely part of the mass of information that we feel is necessary to make the West and its problems understandable to the public.

We also should point out we recognize there is very useful background information that we are privy to that is not meant for publication. Whether this information comes from industry or environmentalists, we honor the source's trust. If they ask that we not attribute a quote to them, we don't. If he or she asks that we don't print it at all, then we don't print it unless we have the same information from another person.

### OUR BIAS

Tom Bell, our publisher, didn't start this paper from a position of neutrality. In a place where his neighbors reacted with indifference or fierce hostility to his goals, he founded *High Country News* because it hurt him deeply to see the earth abused for power and profit. He wanted to reach a segment of the

public that would work to change the situation. He believed strongly enough in his mission to work without pay for three years and to sell his small ranch near Lander to help pay the paper's other debts.

Tom Bell is no longer active in the management of the paper. But those of us who are remain loyal to the ideals that he shaped for us. We are unquestionably biased — or committed — toward looking out after this region's natural resources. In any dispute over them, you can bet that we're going to come out in favor of the land.

So, while we're committed to balanced coverage on our news pages, we're entirely predictable on the editorial page when it comes to issues of land versus human greed. But we may be less predictable in more subtle confrontations. When it comes to the politics of saving the Rocky Mountain region, we feel it is our duty to be everybody's adversary. You can expect us to back whoever we think is doing the best job to protect the land, whether it is an environmentalist, a farmer, a federal agency, or a corporate interest.

The answer to the original question — do we publish only articles that put the environmental movement in a good light? — is no. We reserve the right to be a critic of the action of any environmental group, though we may share their goals.

We don't really think that any one would want us to be a propagandist for the environmental movement. From the very beginning, when Tom Bell invested everything he had to fill the information gap, we've tried to provide something much better than that.

—the editors

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