

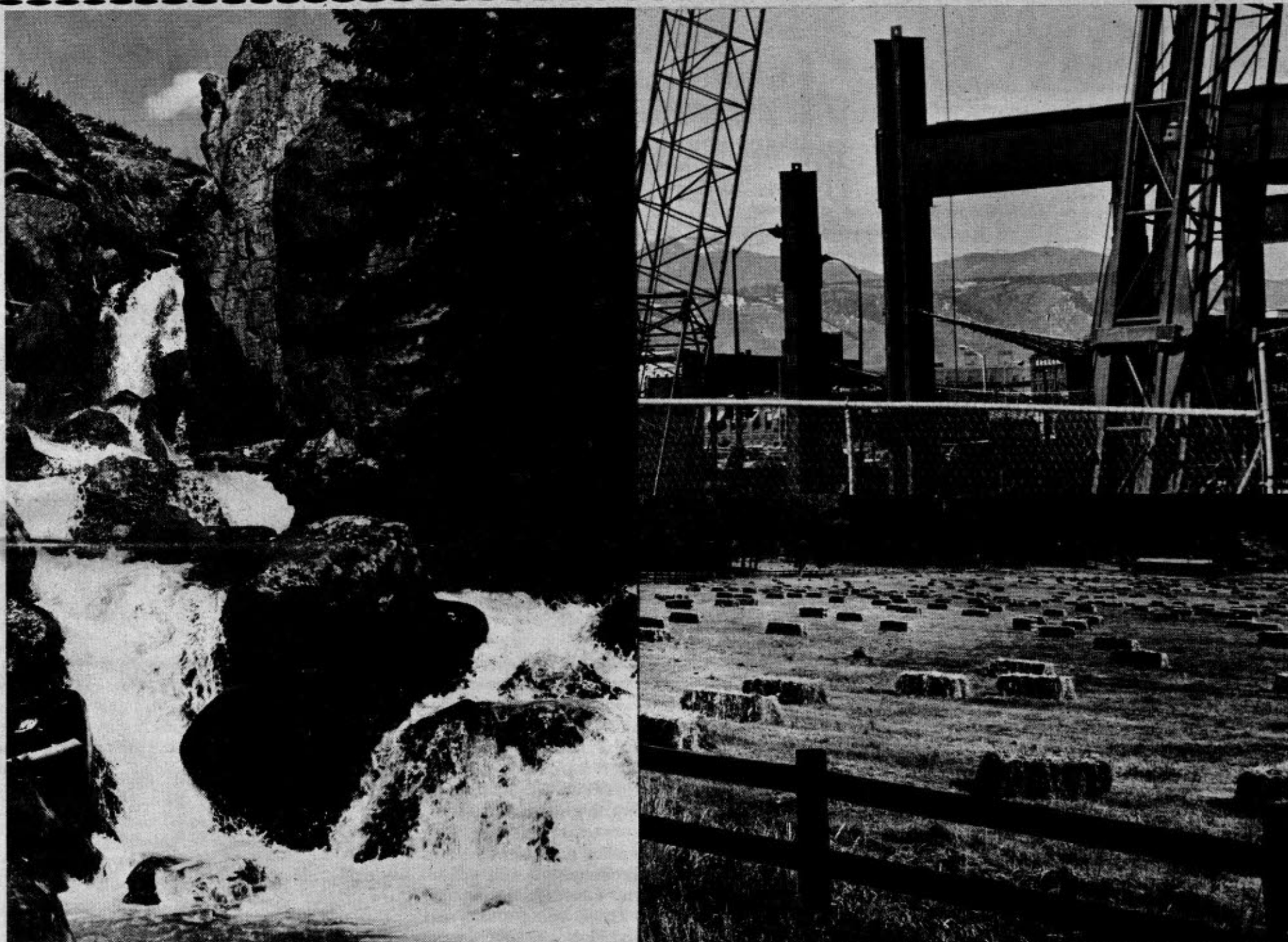
The Environmental Bi-Weekly

High Country News

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Lander, Wyoming

Friday, March 28, 1975



CITIES EYE RURAL WATER SUPPLY. As the population centers on the Front Range of Colorado grow, water supply problems become acute. The city of Thornton north of Denver has run out of water. In order to meet future growth commitments, Thornton is seeking to condemn water used for irrigating nearby farmland. The irrigated land that may be dried up is some of the most productive cropland in the state.

Taking the lifeblood from the land

by Bruce Hamilton

The city of Thornton, Colo., located in the dry Front Range just north of Denver, has run out of water.

Traditionally Front Range cities have turned to the western slope of Colorado when local supplies were exhausted, but with strong environmentalist protest to trans-mountain diversion schemes, thirsty growth centers are looking elsewhere.

So now Thornton is trying to condemn water used to irrigate Front Range farms which are the most highly productive agricultural lands in the state.

Thornton's novel approach has environmentalists caught between their distaste for drying up western slope streams by trans-basin diversion and their desire to preserve open space in the crowded Front Range. Thornton's condemnation plans also make a lot of Front Range farmers angry — and worried about similar actions by other cities.

"This is the first case in Colorado like this," says attorney John Sayre, who is representing Thornton in the condemnation suit. "I think other municipalities are watching this. . . . The principle of the thing — that a city can go out and do this — could apply anywhere."

Two agriculturally-oriented governmental bodies, the Adams County Board of Commissioners and the Larimer-Weld Regional Council of Governments have asked Thornton to reconsider its action and withdraw its suit. The groups are afraid that Thornton's suit may set an undesirable precedent.

IGNORED FOR 50 YEARS

Thornton, like most other north Denver suburbs along the South Platte River, has traditionally relied heavily on water wells to supply its municipal

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HIGH COUNTRY

By Tom Bell

Oregon's former Gov. Tom McCall recently wrote some comments on the upcoming report of the Citizen's Advisory Committee on Environmental Quality (*Sunday Oregonian*, Feb. 23, 1975). The report is directed to the President. McCall is a member of the committee.

It is heartening to note the recommendations. But whether or not the President heeds any of them is another matter. As McCall says, the "document . . . could work as a litmus paper in gauging the depth of his ecological concerns."

McCall is pleased with the report, even though, as he says, the Committee arrived at its conclusions without his exhortations. Those conclusions follow closely some of the precedent-making policies followed by the former governor in his own state. The conclusions also parallel many of his outspoken personal philosophies. (Would that he were president, for he is one of the few national leaders with a realistic grasp of what the energy-economics problems are all about.)

The Committee recommendations deal with energy, land use planning, the place of the automobile in our society, solid waste management, food supply, and population control. Philosophically it says, "There is a continuing necessity to demonstrate that unless we abandon our 'no deposit-no return' attitude toward our earth and its limited resources, we will not only irretrievably ruin our environment but also destroy our economic base."

On energy, the Committee recommends intensive efforts aimed at energy conservation. It strongly endorses the "net energy" concept, saying it is "one of the major environmental contributions of recent years." And it adds, "From this premise it becomes clear that we must become 'net energy' conscious if our economy and our physical well-being are to survive." The net energy concept simply says that if you put as much, or more, energy into obtaining an energy source as you get out of it, you have gained nothing. The development of oil shale may fall into this category.

Clearly, the Report is emphasizing what many environmentalists and some economists have been saying for some time. No new ground is being broken, just an added urgency to get on with some tough decisions.

It is difficult to see how President Ford will accept such recommendations. His personal background and the philosophies of his top advisors rule against what they would consider going back in time. Politically, I would suspect they are on pretty safe ground in rejecting tough energy conservation measures. It is not at all popular to talk of curtailing the use of the automobile and gas-guzzling recreation vehicles of all kinds. This is especially true at a time when the economy is barely staggering along largely because of the oil embargo, oil prices and doldrums in the auto industry. Even though reviving the auto industry is somewhat like performing a heart transplant on a stegosaurus, it will still be tried.

A good example of Administration policies on energy is reflected in the current budget for the Energy Research and Development Administration. Rep. Charles Vanik recently analyzed that budget. He found that the largest item in the agency's budget has nothing to do with energy research. Exactly 30% of the funds will be spent for national security. Direct research and development into non-nuclear energy forms — coal, solar, geothermal — account for little over one-tenth of the agency's total budget. Less than one per cent of the budget will be devoted to finding ways to use energy more efficiently. Excluding administrative costs, over 78% of the ERDA budget is related directly to research and development of various applications of nuclear energy. Exploring the profound issues of nuclear safety will account for only

a little over five per cent of the funding next year. Solar energy research accounts for only a little over one per cent of the total budget.

In a new book (*The Energy Balloon*, McGraw-Hill, \$7.95), former Interior Secretary Stewart Udall, Charles Conconi, and David Osterhant review the history of our energy profligacy. The authors conclude that we are in an immediate crisis. They propose a simple energy policy. It says: It

is the policy of the United States to use energy resources with the highest degree of efficiency, and to conserve energy whenever and wherever possible.

Backed by far-reaching legislation and implemented by tough policy in practice, such an energy policy would revolutionize our society. But it would be a bitter and astringent medicine not likely to be acceptable to the general public. And so we will continue to stagger on from crisis to disaster.

"I SEE, WE'RE DOWN TO THE ALUMINUM CYLINDER CULTURE."



Letters

SLIGHT ERROR

Dear People:

Just a quick note to correct a slight error in a recent story in *High Country News* concerning Nevada. In an article concerning siting of power plants in the Rocky Mountain States, Nevada was somehow included. Of course, Nevada is far removed from the Rockies and is flanked on its western borders by the Sierra Nevada. Still, Nevada has much in common with its neighboring Western States with regard to the power problems.

While we have no fossil fuels of any degree here — one small producing commercial oil well and a smidgeon of coal — and no commercial uranium deposits, we are, as you know, being considered (along with Washington and Idaho) as a repository (read "dumping site") for nuclear wastes. A large number of citizens here are concerned for their future welfare as a result — in spite of warm overtures to the feds by some of our state officials. One Las Vegas state legislator is planning to introduce a bill memorializing Congress to use our state as a repository for such material.

We will have environmental problems here in the future, as we have in the past and are having now, but hopefully we also will have enough concerned citizens to counter adverse actions by vested interests and even our own governing officials.

Sincerely,
Ron Guidotti
Reno, Nev.

P.S. As you are aware, I have frequently used conservation news items from *High Country News* in our own Sierra Club newsletter, *Toiyabe Trails*, which I edit. I find HCN to be an invaluable resource in this area and wish you continued success as a leading environmental journal.

NEW TRAINS OF THOUGHT

Dear Friends:

I look forward to each issue with great anticipation and marvel at the territory you are able to cover and the pertinent information you always have to offer to the people. You not only inspire courage but open new trains of thought, and in this battle there are times when your mind seems to go blank for short periods.

Sincerely,
Anne W. Carlson
Livingston, Montana

THE AMAZING ATOM

Dear HCN:

I read with amazement the article on atomic wastes (HCN Jan. 3, 1975). My amazement quickly turned to disbelief upon discovering the fact that Nevada, Idaho, and Washington are next in line for an atomic waste dumping ground, when the near disasters at Hanford, Wash. and Savannah, S.C. are still fresh in the minds of the members of the Atomic Energy Commission.

I realize that these wastes must be deposited somewhere, but it seems when you're dealing with something as deadly as atomic wastes there is no room for mistakes that have seemed to plague the AEC over the past few years.

If these dumping grounds are forced on the residents of Idaho, Washington, and Nevada as it seems they are destined, we must accept the fact that nothing more is being placed on or in the ground than a mere time bomb.

Respectfully,
William Cook
Missoula, Mont.

Editorial



High Country News-3
Friday, Mar. 28, 1975

Watchdogs protect environment

This session, the Montana House has passed a two year moratorium on subdividing of agricultural land and also a moratorium on new coal conversion or power facilities. A 25% coal tax on the mine sales price is being seriously considered. The state already has one of the strongest strip mining and reclamation laws in the country — if not the strongest. It also has enacted a utility siting act which requires impact statements.

One of the favorite games of environmentalists in the region is to try to figure out why Montana is so far ahead, having passed two or three years ago legislation which is only now being approached in other states. Maybe it's because of the universities and their natural resource orientation. Or a reaction to past economic and political domination by the Anaconda Copper Co. Or the love of the land by the agriculturists. No one can say for sure.

However, interviews by the HCN with several state officials indicate that one essential element of this environmental progressivism is the public's scrutiny, and especially the scrutiny by environmental groups. Montana has several of them — the Wildlife Federation, the Sierra Club, the Northern Rockies Action Group, the Montana Wilderness Association, the Northern Plains Resource Council,

the Environmental Information Center, Friends of the Earth.

And the officials know they're watching. In interviews on several different upcoming decisions to be made by the state, each of the officials said that either way the state decided, he knew it would face a lawsuit.

Think of the significance of that attitude. If the decision is made in favor of the mining company or the coal conversion plant or the power utility, then the environmentalists will sue. If the decision is made in favor of environmental standards, then the industry will sue. There are some who question the use of lawsuits because of the money involved and the lengthy time delays. Yet the result, judging by the comments of the officials interviewed, is an atmosphere where decisions must be based upon thorough investigation of the ramifications of each alternative — investigation which would stand up

in court. The decision cannot be based on expediency as would likely be the case if only one side were expected to sue.

C. C. McCall, administrator of the reclamation division of the State Lands Division in Montana, says that several factors are essential for any environmental legislation to be enforced. First, the law must be enforceable, meaning it must include tight definitions without loopholes. Next, it must have the support of the administrators. Adequate funding and staff are essential, and the staff should not only be competent in their field, but they must also be "conservation-oriented," according to McCall. This means someone who is concerned enough about the resources to be sure they are used properly.

And finally, McCall says there must be external watchdogging by the press and by the public to be sure the laws are enforced. He says "Once the environmental interests or the public forgets and says, 'We've got the best law in the nation so why worry?', then that law is not worth a hill of beans." —MJA

Guest Editorial



Smoke planned for Big Sky

Reprinted from the BILLINGS GAZETTE, Feb. 27, 1975.

A high-level move is under way which bodes ill for this region. It deserves to be exposed for what it is.

This move is to export factory-town air to our Big Sky Country.

It is being proposed under the guise of solving the nation's energy crisis and abetting conservation. This is pure guile.

The *Wall Street Journal* puts the proposition in enticing words when it claims "there is a very simple way for government to aid the electric companies . . . merely by some simple amendments to the Clean Air Act . . . And there would be no serious damage to the quality of the air or to the efforts to clean up bad air where it exists."

The big deal is to allow the electric generating companies to be dirtier in areas where the area is relatively clean.

It is a matter of costs, the *Wall Street Journal* purrs. It won't cost as much to produce kilowatts by polluting less polluted or clean areas as it does to keep from adding to the polluted state of present industrial areas.

The electric companies, and for that matter most industrialists, don't like emissions standards. They prefer the ambient air measurements, which is another way of saying let the wind blow the pollution somewhere else.

Although industrialists happy with federal environmental controls are as rare as whooping cranes, they do exist. The chairman of Dow Chemical Co. states "We've been making a profit from pollution control investments."

One electric company has annual cost savings of \$35 million after investing \$68 million in pollution controls.

Science researchers find that measurable damages from stationary sources reach \$11.2 billion a year, compared with annual control costs of less than half that amount.

The market costs of pollution are real. With controls, the producer of the pollution pays the cost. Without, everybody else pays — in dirty water, crops stunted by acid rains, doctor bills and repairs, to mention a few.

Certainly, we are part of America. That doesn't mean it is a patriotic duty to become as dirty as Gary, Indiana.

CORRECTION: On page 12 of our last issue we said that the Wyoming plant siting law "gives farmers and ranchers who have been in operation since 1970 the right to refuse to allow the coal beneath their land to be strip mined, even when that coal doesn't belong to them." We should have said the bill gives farmers and ranchers who have been in operation prior to 1970 this right.



OREGON WATCHING COLORADO

Dear HCN,

I've noticed that you give quite a bit of attention to land use planning in the HCN. Since that's my field of interest, I thought I would send you something that might be of interest.

Oregon is moving into land use planning and has a reputation as being a leader. Two years ago when SB 100 came before the legislature, lobbying pressure against it was terrific. Only with intense environmental lobbying and McCall's backing, was Oregon blessed with land use legislation.

The legislation, SB 100, is being implemented. Real estate interests who lost the first round are trying to kill the law by withholding necessary funds. The governor's office and the Land Conservation and Development Commission have requested slightly over six million dollars to fund planning efforts over the next two years. The two proposed budgets differ mainly in how the pie will be divided up. The governor's proposal will give three million dollars to local city and county governments so that they can draft plans complying with state goals and guidelines.

You might be interested to know that many environmentalists are watching Colorado very closely. We feel that Gov. Dick Lamm could help Colorado take our reputation away. I was very impressed with your coverage of land use legislation before the Colorado legislature. I hope they get the strong and effective laws needed to do a good job.

Cordially,
Stu Hirsh
Medford, Ore.



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Lifeblood. . .

(Continued from page 1)

needs. But in 1969 Colorado adopted a new water code that directed wells to be integrated with the surface water use.

"Until 1969 there were no regulations on wells in Colorado," explains Sayre. "They've just been ignored for 50 years. When you wanted to put a well down, you put a well down. They used to argue that wells didn't affect the surface stream, but now any good hydrologist knows they do."

When Colorado chose to regulate wells, they made ground water users take on a priority date just like surface water users under the appropriations system. Since most of the wells for the cities along the South Platte north of Denver were put down in the 1940s and 1950s, their priority dates were junior to most other rights in the area. Once those wells are integrated with the surface water rights, the South Platte will be so overappropriated that there would be no water left for the cities' wells. If the state moved to put those wells on the priority system, they'd be so junior in time that they'd be shut down, maintains Sayre.

"If the state persists in shutting down wells and putting them on strict priority, then those cities will all have to condemn water rights to supply urban needs," he says.

COMMITTED TO GROWTH

Thornton bought other water to put in the stream so it could continue to pump from its wells, but now the city is water-short again. Thornton, like other Front Range cities, has experienced explosive growth in the late 1960s and early 1970s, and the city has stumbled on the basic truth that faces all Colorado communities — growth takes water.

During the growth boosterism of the '60s, Thornton annexed enough undeveloped land to make the city cover 25 square miles. Today Thornton's buildings only sprawl over a little more than eight square miles, but it's committed to supply water to potential developers on the rest of its land by legal contract.

Limiting growth is no longer a viable alternative for Thornton, according to Sayre. "The city is already under commitments. You can argue about the wisdom of those commitments, but you have to take the facts as they are — and I think Thornton is in a real tough spot," he says.

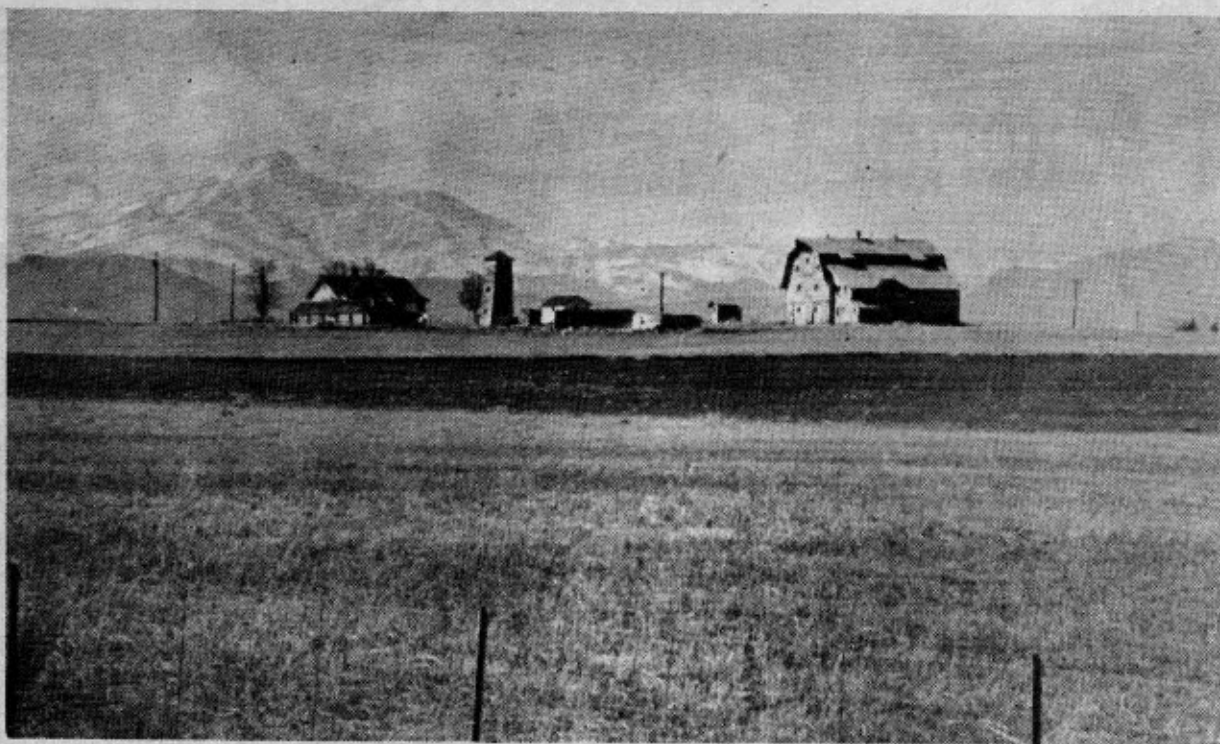
DRYING UP FARMLAND

When Thornton first considered acquiring Front Range agricultural water, they put a man in the field for over six months to try to purchase stock to get more water, says Sayre. "He couldn't get a share!"

"They tried to buy stock at \$2,600 a share, but there were no takers," recalls Adolph Bohlender, president of the Farmers Reservoir and Irrigation Company. "Now they're offering \$3,900 a share, and there are still no takers."

"The true farmer doesn't want to give up his water, because it means converting from irrigated farming to dry land farming and that always entails a couple of years of adjustment," says Sayre.

When purchase didn't work, Thornton decided to exercise its condemnation powers. In 1973 Thornton initiated condemnation proceedings against the Farmers Reservoir and Irrigation Company (FRICO) for 30,000 acre-feet of water stored in



FARMS SAFE? If Thornton is successful in its water condemnation suit, other Front Range municipalities may initiate similar action. Will any Front Range farm be safe? The farm above is in Weld County and irrigated with water from Standley Lake, which may be condemned.

Standley Lake. In 1974 Thornton initiated action to secure 27,342 acre-feet from the Farmers Highline Canal and Reservoir Company and 49.5 cubic feet per second per day of direct flow water from the Lower Clear Creek Ditch Company. Presently only the FRICO case is in court.

The irrigators estimate that about 37,000 acres of irrigated land will be dried up if Thornton is successful. That figure includes 20,000 acres for FRICO, 15,000 acres for Farmers Highline, and 2,000 acres for Lower Clear Creek.

So far, the most vocal opposition to Thornton's plans has surfaced among Weld County irrigators from FRICO's Standley Lake who stand to lose their water. Standley Lake is in Jefferson County, but about 80% of the water goes to productive truck farms, dairy farms, and other irrigated operations in Weld County.

"It's real good land, what we call first grade irrigated land," says Adolph Bohlender. He says the land, with irrigation, will yield 180 bushels of corn to the acre or 75 bushels of brewing barley. Other crops grown in the area include sugar beets, alfalfa, and some wheat.

"There are quite a few grade A dairies in the area," says Bohlender. "They're there because all the feed is grown there. Without water you'd have to haul in feed or move the dairies."

PROTECTING FARMLAND

Weld County farmers work the most productive lands in Colorado, so they're naturally defensive when an urban area infringes on their land or their water.

Weld County ranks first in agricultural productivity of all counties in Colorado, and second of all counties in the nation. In 1969, Weld County accounted for almost 30% of all farm products sold in Colorado. The area around Greeley and the southwestern portion of the county irrigated from Standley Lake are the most productive areas.

"The rich, agricultural, irrigated land is a state and national resource which must be valued as a major asset. The loss of good farmland must be viewed as a potential danger to the state, the nation, and to the county," reads the **Weld County Comprehensive Plan** which was adopted in September 1973.

"Ever since the founding of the Union Colony over 100 years ago in what is now Greeley, growth and economic prosperity have been tied closely to the availability of water. Without irrigation water the area around Greeley, as well as the southwestern part of the county, would be as sparsely populated as is the area north and east of Greeley."

"Irrigation water has provided the base for our agricultural economy and the clean, green open space that is our happy environment. It is ironic that this same irrigation water and green open space are what create the ever-increasing growth pressures for development of new business, industry, and residential subdivisions," reads the plan.

Consequently, the county adopted as the basic premise behind all planning, "that agriculture should and must be protected."

With that kind of policy statement to back them up, Weld County farmers tend to look on Thornton's action with a jaundiced eye.

J. Norman Brown, a member of the Weld County Agricultural Council, says, "Prime agricultural land will be destroyed forever. . . . Weld County's comprehensive plan on growth and retention of prime agricultural land will be voided."

"I can't blame those farmers up in Weld County one bit," sympathizes Sayre. "It's the first time they've been faced with this, and you can't blame them at all for being upset."

LEGISLATIVE RELIEF?

State Rep. Walter Younglund of Weld County and 18 co-sponsors have introduced a bill, HB 1325, designed to protect agriculturalists from similar future situations. The idea of condemning water that grows foodstuffs so that city dwellers can grow green lawns is anathema to the predominantly rural sponsors. To rectify the situation, HB 1325 would allow the "domestic" user of water the right to condemn a lower use of water only when the domestic use involved is in-house use. Water could not be condemned by a domestic user if the water was to be used for watering home gardens or lawns.

Sayre admits that Thornton plans to use the condemned water for watering golf courses and lawns as well as for drinking and sanitary purposes. But he says HB 1325 won't help the farmers' case. Sayre says the bill refines the condemnation hierarchy of water users — but it doesn't touch the state's municipality condemnation laws.

"I think a city can condemn any property upon payment of just compensation," he says. And he intends to prove that line of logic in court.

Younglund may see Sayre's logic because now he's taking a new tack on the problem through

"If the Denver metro area is to grow, then we're finally going to be faced with choosing between trans-mountain diversion or condemnation of agricultural water on the Front Range."

—Bob Weaver, Trout Unlimited

another bill, HB 1555. The bill provides that the acquisition of water rights by eminent domain, when authorized by the constitution of the state or by statute, is limited to present needs. This wouldn't stop condemnation of agricultural water, but it might slow down a stampede to tie down water for future growth.

UNPLEASANT ALTERNATIVE

"You only condemn water as a last resort," explains Sayre. "Thornton has no other source of water."

"There's talk that Thornton could get water from the Denver Water Board, but it has been negotiat-

ing with the board since 1968. Denver hasn't got the water to serve this whole metropolitan area," he says.

"If Denver got the Eagle-Piney diversion and the Two Forks Reservoir, then it could think about supplying Thornton and other municipalities."

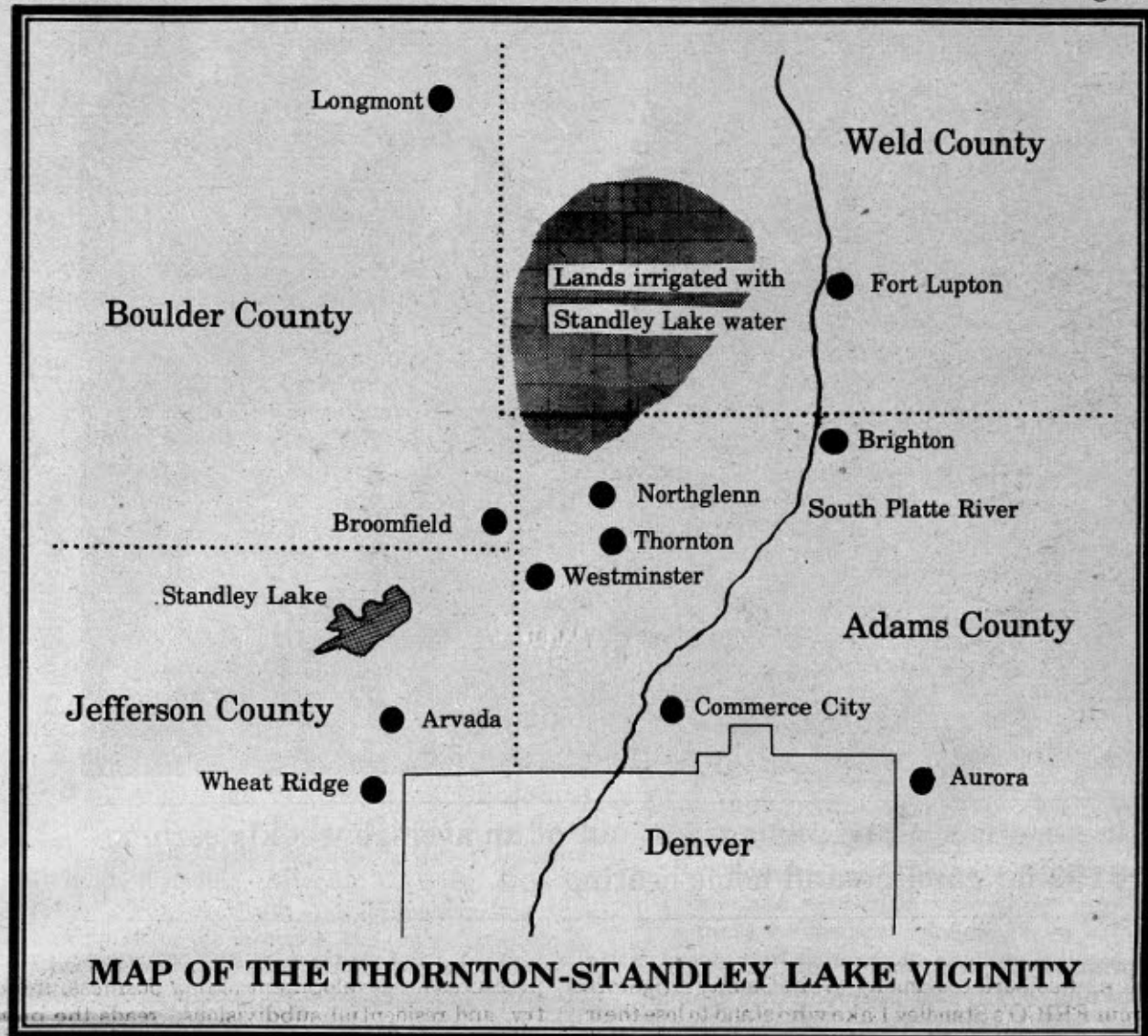
Both Eagle-Piney and Two Forks have been bitterly opposed by environmentalists. Eagle-Piney is a plan to divert water from mountain streams near Vail, Colo., to the Denver area. Two Forks is a reservoir proposal for the South Platte River to store western slope water for Denver area use.

"If the Denver metro area is to grow, then we're finally going to be faced with choosing between trans-mountain diversion or condemnation of agricultural water on the Front Range," says Bob Weaver, executive director of the Colorado Council of Trout Unlimited. "From an environmental standpoint, I'd personally favor the condemnation."

"I'm not advocating condemning agricultural water," Weaver adds. "The real issue is the growth issue and how you get a handle on it."

But if farmers and environmentalists don't ally on this issue they may soon find themselves on opposite sides of the battle line.

Sayre sends this plea to the irrigators: "I think it's just a matter of time before all the cities could be looking at the same thing. Two Forks Reservoir is a must because it brings new water into the basin. The Northern Colorado Water Conservancy District is developing a trans-basin water project for the six northern Colorado cities of Greeley, Fort Collins, Loveland, Estes Park, Longmont, and Boulder. If they get that water, they won't have to go out and get water from agricultural lands on the Front Range. I think it's essential that the farmers in the Front Range start pushing to help Denver and northern Colorado get more water supplies over here so that this thing Thornton's facing won't be repeated."



Powerful spirits from diseased spruce

Wood alcohol to warm Maine

Reprinted from MAINE TIMES, Feb. 7, 1975.

by Phyllis Austin

A crash program is underway in Maine to build the first plant in the nation to produce only methanol (wood alcohol). Governor James Longley has told Robert Monks, director of the Office of Energy Resources, to give the venture the same priority as the Manhattan Project, the top secret program that led to development of the first atomic bomb.

The Governor had pledged to Monks his personal support. Longley wants Maine to lead the way in showing "the rest of the world" there are alternative means to produce energy other than from endangered fossil fuels. Methanol is a clean-burning synthetic liquid fuel made from wood or any cellulosic matter, including animal waste.

Tentative plans call for one small pilot plant to be built at a cost of \$2.5 million, probably on one of the public lots in the unorganized territory. Planning and getting the necessary funding, mostly from federal and private industry sources, will take three to six months. Construction of the actual plant will take about 18 months.

Later, other methanol plants will be scattered in the wildlands in small communities, such as Mexico or Dover-Foxcroft, where the unemployment rate is high.

Monks told Maine Times that the total energy intake of the state's one million citizens on an average winter's day is 332 trillion BTU's. The annual

growth of unutilized wood in the forests could produce 900 trillion BTU's, he said, or almost three times the amount of energy consumed today.

14-19 CENTS PER GALLON

What's even more remarkable, Monks added, is that methanol can be produced at 14-19 cents per gallon for sale to consumers.

The process to be used to produce methanol in Maine's first plant will be pyrolysis. This method uses high temperatures (without air) to decompose the wood fiber into methanol. The waste product is almost pure protein, which can be used as fertilizer or feedstock.

Chipping equipment would be set up in the forest to reduce the trees to manageable size. The chips would be trucked to the plant, probably not more than eight miles from the resource.

Although plans were not final as Maine Times went to press, it is expected that Seven Islands Company, Dead River Company, and the Huber Corporation (all own or manage millions of acres of timberlands) will be involved in the methanol project. The companies have been investigating the feasibility of participating in such an enterprise.

A Maine Woods Fuel Corporation is the vehicle to be used to establish the methanol plants. It will require legislative approval, since the state will be involved. However, there are no problems anticipated with getting lawmakers' blessing.

Initially, the methanol fuel would be tested in public buildings and state vehicles. Later, it would

(Continued on page 6)

Photo by Marge Higley



The annual growth of unutilized wood in Maine forests could produce three times the amount of energy consumed by the state today.

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Wood alcohol...

(continued from page 5)

be marketed commercially for use by the general public.

METHANOL FOR THE POCKETBOOK

There are several immediate pressures for Maine to move immediately into methanol production, all of them directly tied to the pocketbook.

Maine is completely dependent on outside sources for oil and natural gas, and as those resources dwindle, the prices are going out of reach. "If we don't find an alternative fuel, we face the relentless prospect of being utterly without the capacity of helping ourselves," says Monks. "Here, the necessity of life in the coldest damn place imaginable is controlled by foreigners. If we don't do something, we face two choices: don't take the fuel or pay the price anybody wants to set."

Between 1945 and 1972, a barrel of crude oil in Maine dropped from \$1.80 to \$1.69. Today, it's up to \$11 a barrel. With the tariff that President Ford wants to impose, the price will go to \$14.

Mainers are already paying \$21 out of an average weekly earning of \$103 for gasoline and home heating oil. To have to pay more for fuel would mean sacrificing basic necessities — food and clothing — for thousands of citizens.

Also figuring in the picture is the spruce budworm, an insect that in the caterpillar stage defoliates balsam fir primarily. The budworm has seriously infested five million of Maine's 7.8 million acres of spruce-fir woodlands in the northern and eastern sections of the state. Unless the diseased wood is salvaged for use as direct boiler fuel or converted to methanol, it will be lost at a tremendous cost to pulp and paper companies and landowners.

ANSWER TO PRAYERS

Methanol seems to be the answer to everyone's prayers. Environmentally, it is benign. It is colorless, almost odorless, has low toxicity, is biodegradable and can be burned with lower emissions (especially of nitric oxide) than most other fuels used for power generation. It can be used pure or blended with gasoline in cars, where it lowers emissions and increases octane.

Methanol was the first synthetic fuel manufactured — produced as a by-product of wood distillation in manufacturing charcoal. Homes throughout the country used it for heating, cooking, and lighting until the 1880s. Then, cheap oil and natural gas replaced methanol.

Thomas B. Reed, head of the Methanol Division at the Massachusetts Institute of Technology's Energy Laboratory, reports that utility companies are looking toward methanol again for power. It has been tested in boilers and turbines too, he says, and is better than oil or natural gas for thermal efficiency and low pollution.

"Even more exciting is the prospect of using methanol for fuel-cell power generation," he wrote in a paper for the American Chemical Society. "Methanol is the only practical fuel for fuel cells at present. Hydrogen is expensive and difficult to store, and no practical oil fuel-cell now exists."

COMPETES WITH GAS

"Possibly, more important is the potential of methanol as an automotive fuel," he continued. "The pollution and anti-knock properties of methanol make it in many ways superior to gasoline and fuel oil, and at present manufacturing prices, methanol could even now compete favorably with gasoline."

Reed pointed out that alcohols were widely used in Europe before World War II. In 1935, eleven European nations used 180 million gallons of al-

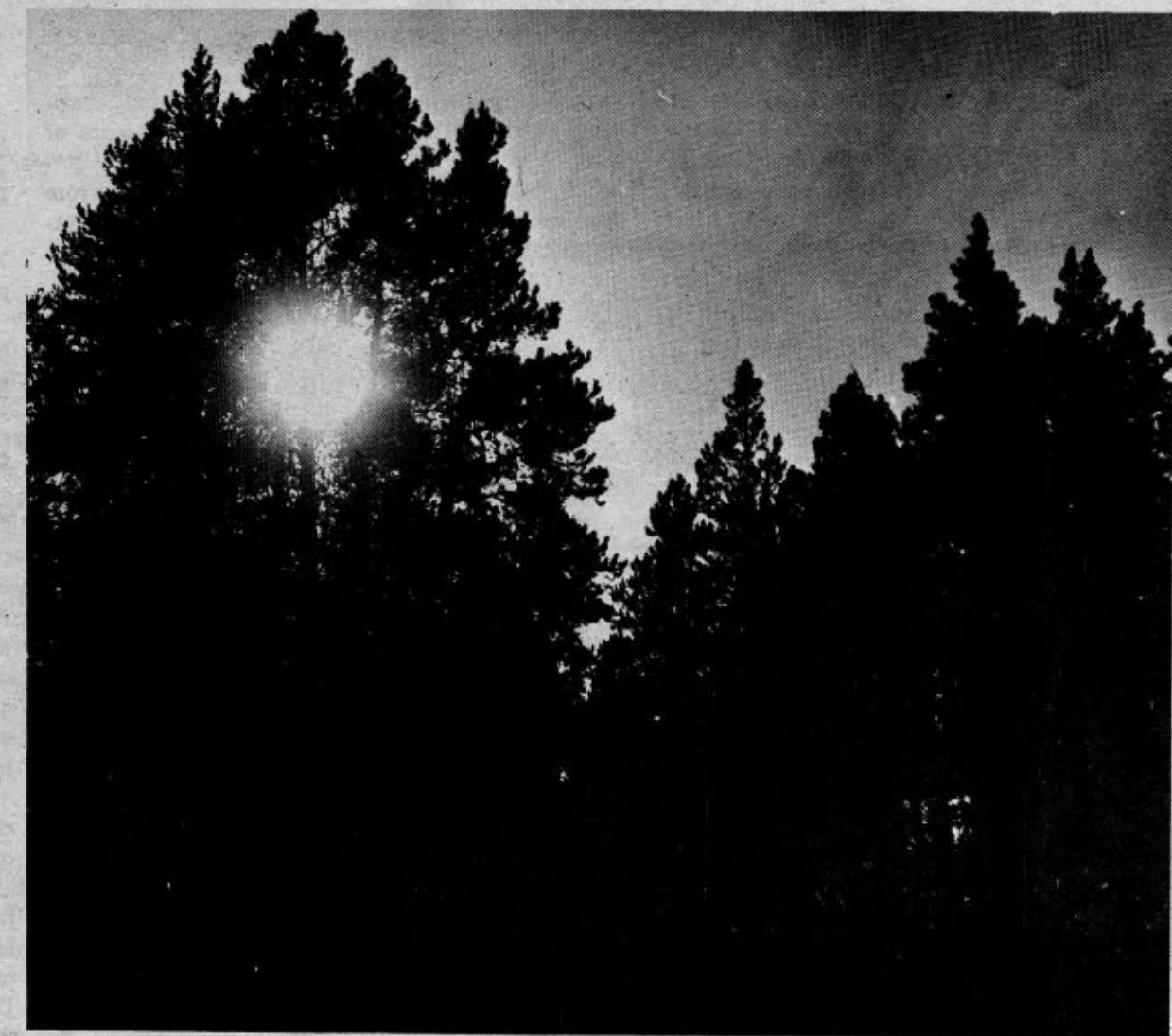


Photo by Marge Higley

Mainers are already paying \$21 out of an average weekly earning of \$103 for gasoline and home heating oil.

cohol, primarily ethanol, in four million vehicles. All of the alcohol was used as a blend with gasoline because it required no vehicle modification. Blends (up to 15% with methanol) gave increased fuel economy over gasoline, he said.

Germany and Japan eventually turned to methanol for automotive fuel in order to divert petroleum for use as aviation fuel during the war. But after the war, there was little use made of wood alcohol, except by backwoodsmen.

In 1971, the Wood Science and Technology School of Forest Resources of the University of Maine at Orono conducted a study of wood as a heat and energy source. It suggested a pilot plant be built after preliminary research for methanol gas production.

ALTERNATIVE BLOSSOMS

But it took the energy shortage in the winter of 1973-74 to create any real interest in methanol as a potential fuel.

Last February, the Atomic Energy Commission issued a report on "Methanol from Coal for the Automotive Market." It concluded that 500,000 barrels (6 percent by volume of the gasoline market) could be in production by 1980 and that a 39,000 barrel a day (5,000 tons per day) plant could be completed by 1978 at a cost of \$22 to \$425 million.

The city of Seattle published a study in May, 1974, which compared 12 ways of disposing of municipal waste. They concluded the city would make a net profit of 63 cents per ton if the waste was converted to methanol, while other processes would cost the city.

NEBRASKA USES ALCOHOL

The State of Nebraska recently returned to alcohol as an automotive fuel. It is purchasing from Georgia-Pacific Corp. in Washington 14,000 gallons of 200-proof ethyl alcohol distilled from tree sugars for a two-million-mile test as an auto fuel supplement. The state will use one part alcohol to nine

parts of leaded and nonleaded gasoline in the test, authorized by the legislature. (Georgia-Pacific produces pure ethyl alcohol and other chemical by-products from pulp mill waste liquor as part of its environmental program.)

Monks believes that wood alcohol has its greatest use as gas. (Waste wood and other cellulosic waste, including animal waste, is converted first to methane (CH₄), a natural gas. Methane, in turn, can be reformed to provide methanol (CH₃OH), which is a liquid fuel. Methanol can be produced also directly from cellulosic waste through a process of pyrolysis and condensation called destructive distillation.)

A report on fuel from wood prepared for the Maine energy office says biological processing of waste wood could yield methane at the rate of 4,000 BTU's per pound of wood. One ton of wood could produce 8,000 cubic feet of gas. Thus the potential for methane production from the state's waste wood is about two trillion cubic feet of gas per year.

CAN'T REALIZE POTENTIAL

The total potential can't be realized fully. But if 30 to 40% of the potential could be met, it would meet 10% of the demand for fuels which could be substituted for natural gas by 1980.

One major issue will be what price industry will be willing to pay for fuels to replace natural gas. Currently, industry is paying \$2.50 per million BTUs for fuels which can be directly substituted for natural gas, such as No. 2 oil, No. 6 oil, propane, and even butane. This price compared with 80 cents per million BTUs for the natural gas still available to industry in the mid-West and mid-Atlantic seaboard states.

Thus, it is reasonable to believe there would be no problem in selling high quality substitutes for natural gas at \$3 per million BTUs or more by 1980. That would correspond to No. 2 oil at \$17 per barrel expected within six years. Beyond 1980, there probably won't be sufficient supply of No. 2 oil or other liquid petroleum products to meet the demand.



Cutting exceeds growth

Rocky Mountain timber cut to drop

by Dale A. Burk

Look for the sawtimber cut on the national forests in the Rocky Mountain West to drop by eight per cent or more by the turn of the century, the U.S. Forest Service warns in a bulletin recently issued by its Intermountain Forest and Range Experiment Station at Ogden, Utah.

Titled "The Rocky Mountain Timber Situation, 1970," the report succinctly states: "There simply aren't enough large trees to sustain the current sawtimber cut over the Rocky Mountain section far into the future."

The report also indicates that the commercial timber base area in the Rocky Mountain states will "stabilize" at somewhere around 47.5 million acres by 1980. This is nearly 20 million acres less than in 1965 when a Forest Service document listed the commercial forests in the area at 66 million acres. This drop is because some areas of public lands formerly classified as commercial timbering areas are being redesignated to protect watersheds, wildlife, and wilderness, for example. It is also because much of the privately-owned commercial forest lands have been converted to other uses, such as subdivisions.

Written by Alan W. Green and Theodore S. Setzer, the report presents highlights of the forest situation in Idaho, Montana, western South Dakota, Wyoming, Arizona, Colorado, Nevada, New Mexico, and Utah. It deals specifically with a description of the resource, the timber supply outlook, and some of the problems associated with increasing the timber output from the region.

RELY ON PUBLIC TIMBER

About 70% of the commercial forest lands in the Rocky Mountain states are federal lands — mostly administered by the Forest Service. Other public forest lands are state-owned, with the largest holdings in Idaho and Montana. Private timbering firms hold only 2.2 million acres of commercial forest lands, almost all in Idaho and Montana.

The report notes that the industry "relies heavily on publicly owned timber even while overcutting its own land."

"Cutting on industrial lands increased during the 1952-1970 period, and was well in excess of growth," the report states.

Growth data on commercial forest lands show removals plus mortality (due to insects and fire) exceeded growth by some 106.6 million cubic feet in 1970.

In drawing a historical perspective of timbering in the nine states involved, the study shows that between 1952 and 1970 total removals of growing timber stock more than doubled to 1.1 billion cubic feet per year.

The greatest increase in removals was on the national forests, up 237% from 1952. Sixty-eight per cent of the timber cut during the 1952-70 period came from the national forests.

PUBLIC TIMBER OUTLOOK

In projecting trends for future timber cutting on the national forests in the Rocky Mountain states, the report indicates three basic facts:

—The present level of sawtimber cut cannot be maintained, except perhaps in Region Four, which includes Utah, Nevada, and part of Wyoming and Idaho. Even there, however, inventory data for some forests are nearly 10 years old. Since then, the region has experienced serious insect problems and heavy timber losses. Thus the mortality rates are probably understated so the projected increase in



Timber supply can be increased somewhat by increasing the level of utilization. This means harvesting more of the wood now left unused after a timbering operation. To increase timber supplies in the long run, management practices will have to be changed to provide more large diameter trees rather than cutting trees which are 12 inches or less in diameter, breast high.

sawtimber removals may not materialize.

—Continuing the current allowable cut will result in the use of more small trees.

—In spite of this more of the trees left standing will be less than 12 inches in diameter unless there is a substantial increase in thinning prior to cutting. This will further aggravate the problems of overstocking and slow growth that already exist in many parts of the Rocky Mountains.

TIMBER AND LAND USE

Three basic factors will influence future timber supplies in the Rocky Mountains: 1. land use policies and the effectiveness of coordinated programs for joint resource use; 2. technological advances in harvesting and utilization; and 3. the extent to which management activities (including protection and harvesting) can be and are being applied. Adequate manpower, money, and ecologically and esthetically acceptable management practices are fundamental to successful timber-growing programs.

"There is nothing particularly new about the preceding statements concerning timber supply," the report states. "However, some of the implications in these statements are new, particularly those regarding the influence the public holds in relation to land use policies, and timber management and harvesting activities." The report notes that the public will have a voice in dictating the size and character of the timber-growing base simply because three-fourths of the commercial forest land in the Rocky Mountains is publicly owned.

TO INCREASE SUPPLIES

The report cites four basic ways to increase timber supplies on a fixed area of productive forest land — shorten the rotation period, shorten the growing period (thinning, etc.) before logging begins, reduce losses to fire and insects, and improve utilization. The report cautions that the first three

are more relevant to long-run timber supplies than to short-run supplies. "The best opportunity for increasing timber supply in the short run is to increase the level of utilization," the report states. "Better harvesting methods could capture more of the material presently left unused or destroyed in the woods. New technology could make more material available for harvest, and more of the wood harvested convertible to usable products."

INVENTORY OTHER RESOURCES

Lastly, the report indicates that detailed inventories of all forest resources, not just timber, are inadequate to provide the kind of data necessary to make meaningful evaluations of the consequences of alternative resource management programs. "To design a good program for increasing timber supply within the constraints of the National Environmental Policy Act and of multiple use, management requires good planning information," the report states.

The authors close the report with a reminder that forest land managers, the public, and Congress will have to "become more serious about it" if timber supplies are to be increased in the Rocky Mountain states. "If money, manpower, and technology are available and used effectively, chances are good that future timber supplies can be increased in the Rocky Mountain states in spite of the reduction in the size of the timber base," the report states in its closing paragraph.

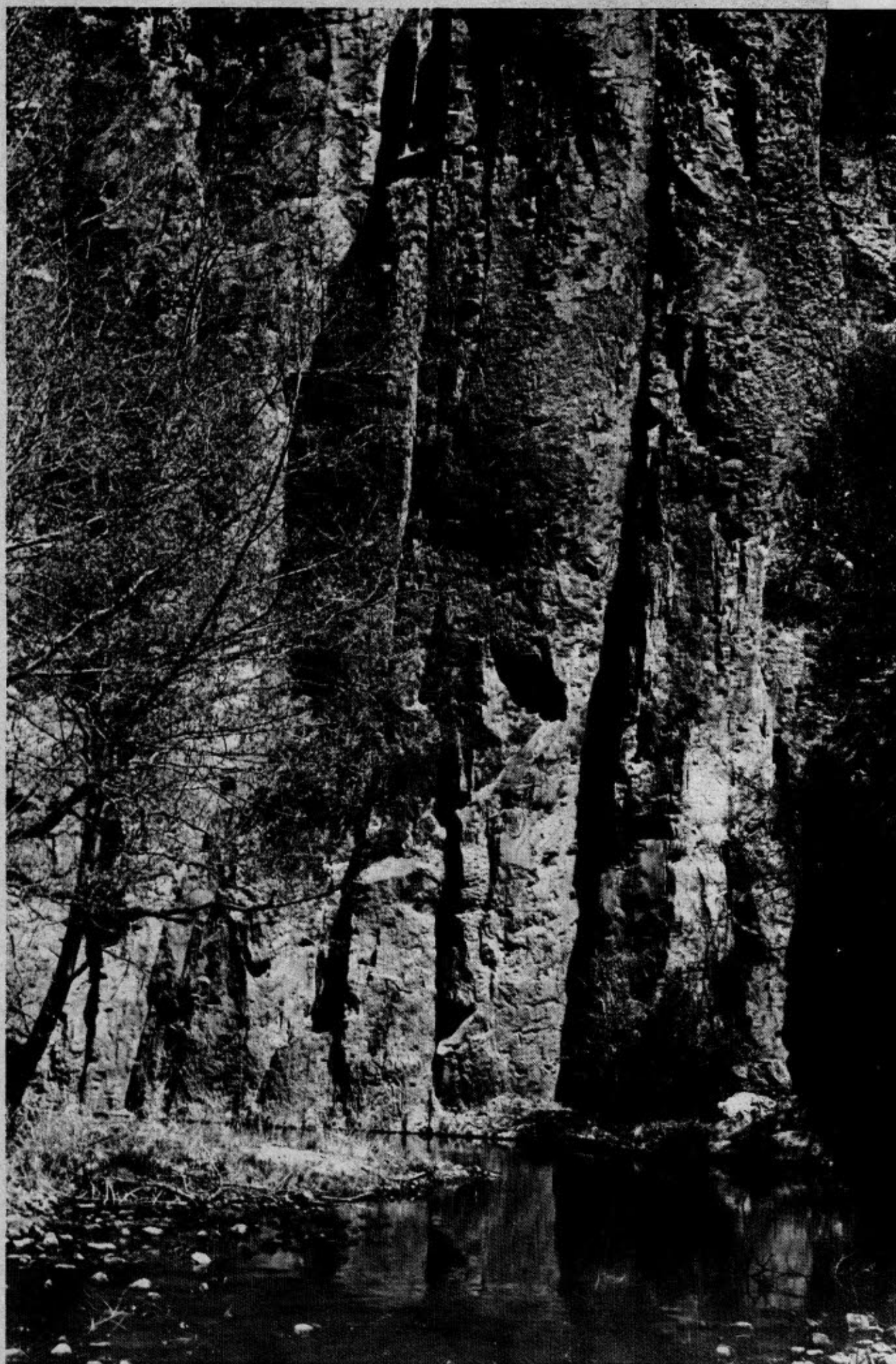
It is obvious from the conclusion that sawtimber cuts are to drop by the turn of the century. The money, manpower, and technology likely will neither be available nor be used effectively. Chances apparently are not good at the moment for any increase in timber supplies from the Rocky Mountain states.

Dale Burk is a writer working out of Stevensville, Mont. Burk does a regular outdoor column for the Missoulian.

8-High Country News
Friday, Mar. 28, 1975



The Diablo Range — Easter time in the Gila.



Alder trees along the Gila River.

GILA WILDERNESS POCKET OF IS

Photos and text by Richard P. Pharis

The Gila Wilderness in New Mexico is the world's oldest formally protected wilderness area. In 1924 — 40 years before the passage of the Wilderness Act — writer-conservationist Aldo Leopold persuaded the U.S. Forest Service to preserve the land in its primitive state. The Gila includes upland desert country in the canyon bottoms and 11,000 foot peaks.

In early spring it is an area of startling contrasts. In the canyons, brilliant red-flowered cacti bloom from crevices in the walls and purple violets flower in the damp maple, alder, and oak streamside forests.

Vertical, tremendously eroded canyon walls rise a thousand feet or more out of the Gila River, trapping the heat from the spring sun. White-barked sycamores stand out against the canyon walls. High above the canyons on the plateaus, there may still be several feet of snow in April, but on the gently-sloping south and west facing aspects it has gone and travel is relatively easy through the open ponderosa pine and juniper forest.

The high ridges of the Mogollon command a truly grand view of the Diablo Mountains — with just a hint of the spectacular canyons that lie below.

Ancient, cliff-dwelling Indians once used the Gila — hunting and even "farming" in the valleys. Some of the dwellings have been restored in the nearby Gila Cliff Dwellings National Monument. Others exist in the wilderness area, but most have suffered vandalism from early souvenir hunters.

Long after the demise of the cliff dwellers, more modern Indian tribes used the Gila as a hunting ground, and the area is still rich in their artifacts. Even Geronimo hunted here. Today Rocky Mountain elk (the native Merriam's elk has been extinct since the early 1900s), mule deer, wild turkeys, Abert's squirrels, and quail provide recreation for photographers and hunters.

Only part of the original wilderness is protected under the Wilderness Act. Now there is a move to expand the

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The Gila affords excellent camping in the spring.

WILDERNESS OF ISOLATION

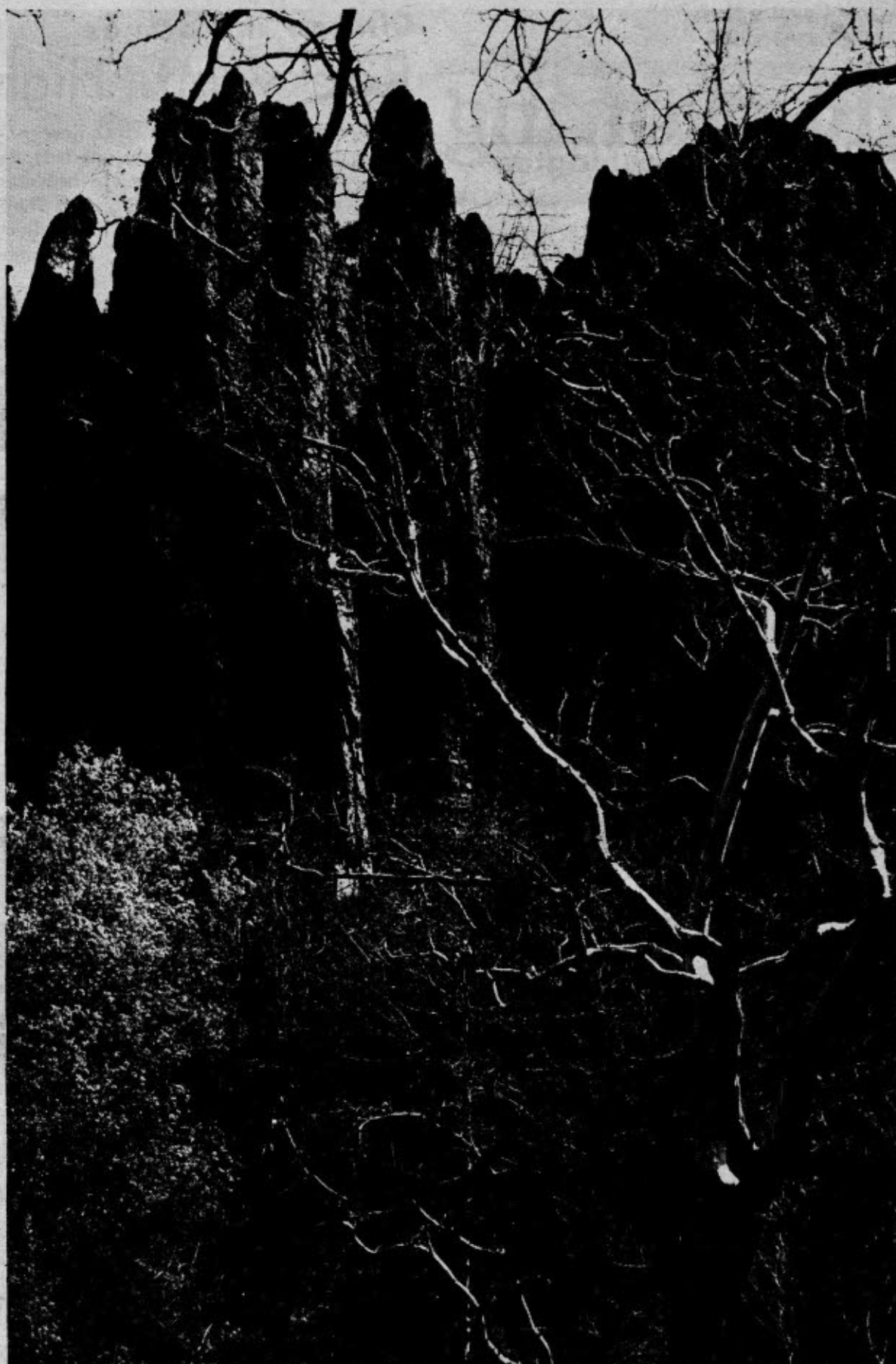
official Gila Wilderness to include adjacent lands into a proposed Aldo Leopold Wilderness. In December of 1974 President Gerald R. Ford recommended to Congress a 115,648 acre expansion of the Gila. The Forest Service proposed an 81,372 acre expansion and conservationists proposed a 181,002 acre expansion at field hearings. Copper mining interests have been the prime opponents of an expanded wilderness.



Indian ruins along the Gila River in the wilderness.



ng.



Sycamore tree in Gila Canyon.



A succulent Crassulacean plant found in the Gila.

10-High Country News
Friday, Mar. 28, 1975

Reckoning from Washington

by Lee Catterall

President Gerald R. Ford is hoping a joint conference of congressmen and senators will adopt Senate changes in the strip mining control bill that would weaken last year's version of the bill.

When the President vetoed last year's bill after Congress adjourned, several proponents of the bill angrily threatened that he quickly would be delivered a bill this year even tougher in its restrictions against coal companies.

That anger soon disappeared. Congressional committees this year heard testimony only from the administration. When the Senate Interior Committee began writing changes into the bill, Sen. Lee Metcalf (D-Mont.) caused jaws to drop by summoning a Montana Power Co. official from the audience for his recommendation; the committee took the advice.

"There have been modifications to try and make it less objectionable for President Ford," Rep. Teno Roncalio (D-Wyo.) told this column. "He said in January if you'll correct eight specifics, and he listed them, I would not veto this bill again. Well, we corrected three of those eight somewhat and hit a fourth a little bit."

Those three parts of the bill the House changed may be regarded as "significant" by President Ford, but environmentalists consider them of little consequence.

In one area, which both the administration and environmentalists think is important, the House actually toughened the bill to prohibit strip mining on fertile valley floors in the West. However, the Senate weakened it, and that difference may be the most controversial item in the conference sessions to begin soon.

Meanwhile, President Ford called coal industry executives and labor leaders to a "coal day" at the White House. Industry leaders complained at the meeting not only about the strip mining bill but also about other environmental laws already on the books.

For example, Louis W. Menk of Burlington Northern Railroad grumbled about having to file an environmental impact statement before being allowed to build a railroad spur between Gillette and Douglas, Wyo., for hauling coal out of the Powder River Basin.

Construction has been "tied up two years or more" because of that law, he said, adding it could be built quickly "if we ever get the sex life of antelopes settled, which seems to be a major issue now."

Menk complained about a part of the strip mining bill that would allow ranchers to forbid strip mining on their land for federal coal.

"Federal coal belongs to all the people," he said. "There is no such thing as the United States of Wyoming or the United States of Montana."

While administration officials lavishly praised the coal leaders, President Ford allowed that he might sign the strip mining bill this time. The President said the House and Senate bills "contain some positive provisions" and, since last year, "we did make progress on some provisions."

"But we must wait and see what comes out of the House and Senate conference still ahead," Mr. Ford said.

The conferences are expected to begin soon after Congress's Easter recess.



Citizen initiatives

Rocky Mt. High Energy Conference

A special Rocky Mountain High Energy Conference to promote the use of citizen enacted initiatives to halt the spread of strip mining in the West will be held in Boulder, Colo., April 19 and 20. The conference is sponsored by the Citizens Energy Initiative; a Colorado group seeking to restrict strip mining in that state.

In July of this year, the Citizens Energy Initiative will be circulating a "Measure to Restrict Strip Mining of Fossil Fuels" around the state in an attempt to obtain 63,000 signatures — enough to put the measure on the ballot in 1976.

"We would like to see other states follow our lead in this area," said Bob McFarland, an organizer of the conference. "After all, if we succeed in putting a strong strip mining law on the books in Colorado, then the energy companies will focus their attention on our neighboring states. We want to alert our neighbors to that possibility."

McFarland says the conference is specifically designed for non-Colorado residents.

The petition the CEI will be circulating calls for a 50% severance tax on coal and oil shale taken from



Colorado Clean air closeted

Colorado officials have voted to delay for seven years implementation of their strict sulfur dioxide air regulations. The regulations, which would have gone into effect in 1978, will now go into effect in 1985.

At the request of affected industries, who would have been forced to submit a compliance plan this year, hearings were held Oct. 1974 before the Colorado Air Pollution Control Commission.

After considering three days of testimony presented at those hearings, the commission voted last week to delay implementation.

"The most compelling thing was that the ability of the control equipment industry to produce flue gas desulfurization equipment is limited," commission chairman Dr. James P. Lodge of Boulder told HCN. "And there is going to be a terrible run on it from the eastern states. By taking our place in the queue behind them, we'll let the worst problems get worked on first and also cash in on the savings of second generation technology. It's a balance of cost and priority," he said.

Present sulfur dioxide regulations in Colorado are slightly more stringent than federal standards, but not as stringent as those recently passed by the Wyoming Environmental Quality Council.

Electric utilities estimate that complying with the new regulations, which would have allowed only 150 parts per million (ppm) of sulfur dioxide in the stack gases instead of the 500 ppm now allowed, would raise electric rates by 17-28%. Lodge said that the commission accepted industry figures on the probable rate increase. No independent assessment was made.

strip mines in Colorado and a 10% tax on coal and oil shale from underground mines. Strip mine operators who successfully reclaim the land will be allowed a tax credit of 80% of their severance tax which will be returned to them five years after the land is restored. "This measure will insure that no strip mine will be opened unless the company is certain it can reclaim the land," says McFarland.

McFarland says he hopes the Colorado initiative will serve as a model legislation for other western states. He says 21 states have provisions for citizen-sponsored initiatives.

Speakers at the conference will include Morey Wolfson of People for Rational Energy Sources (the group that helped pass an initiative to stop underground nuclear gas stimulation experiments in Colorado), Ralph Red Fox of the Northern Cheyenne tribe in Montana, and (hopefully) U.S. Rep. Ken Hechler of West Virginia who has been invited to speak on the federal strip mining bill.

Registration will be at 8 a.m. on April 19 at St. John's Church, 1415 Pine St., Boulder. Housing for participants is being coordinated by Don Johnson, 3330 14th St., Boulder, Colo. 80302 (303-443-5164). Write or call and tell him whether you want a hotel, motel, lodging in a private home, or a campsite. Registration is \$3.98 which includes a picnic dinner on Saturday evening. McFarland says bring a bathing suit since one meeting will be held in a swimming pool and sauna. Tours of the Fort St. Vrain nuclear plant and solar heated homes in the area are planned for Sunday.

If you can, McFarland urges you to send advance registration by April 10 to Citizens Energy Initiative, 2660 13th St., Boulder, Colo. 80302.

"We look forward to an exciting meeting since it will be the 200 year anniversary of the battles of Lexington and Concord," says McFarland.

Coal suit filed against Interior on leasing

The Natural Resources Defense Council (NRDC) has filed a lawsuit seeking to require the Interior Department to consider environmental damage and environmental costs in deciding whether to issue preference right leases allowing mining of federal coal deposits.

Preference right leases are issued after the holder of a federal prospecting permit finds commercial quantities of coal on the land covered by the permit. The Interior Department has maintained that it has no authority to consider environmental factors in acting on these lease applications.

NRDC, a national environmental organization, contends that this refusal is a violation of both the Mineral Leasing Act and the National Environmental Policy Act. The group filed suit in the District of Columbia federal court March 10.

Approximately two-thirds of a million acres of federal coal lands, containing several billion tons of coal, could be affected by the lawsuit. The preference right lease applications resulted from the granting of hundreds of federal coal prospecting permits, mostly in the 1960s.

"One important result of the suit could be to force the Interior Department to act to consolidate and adjust federal coal leases to insure that federal coal is leased only in areas where adverse environmental impacts are minimal, and where acceptable reclamation and revegetation can be achieved," NRDC attorney John Leshy says.

The Environmental Defense Fund joined with the NRDC as plaintiff in the case.





THIRTY-FIVE CENT COFFEE. After six years of delays, work on the Alaskan oil pipeline has begun. The pipeline is the country's largest private construction project, costing more than \$6 billion and employing 10,000 workers. Inflation caused by pipeline paychecks has sent the cost of living in Alaska soaring, the **NEW YORK TIMES** reports. In Anchorage, a cheeseburger and french fries costs \$3.30. Gasoline is as high as 73 cents a gallon. In one cafe in Nome, a cup of coffee costs 35 cents. Other changes linked to construction of the oil pipeline are more profound. Traffic is congested and many Alaskans have begun locking their cars and homes now. "I think in the long run," says one resident, "what we're facing is a change of values, a way of life we've gotten used to in Alaska. We simply won't have that low pressure, non-competitive atmosphere any more."

Above, a scene from untrammeled Alaska, along the sea coast in Katmai National Monument. National Park Service Photograph



Emphasis ENERGY

in the Northern Rockies and Great Plains



COLORADO SOLAR CENTER. Colorado lawmakers are trying to lure a national solar energy institute to their state. Sen. Gary Hart (D-Colo.), with the help of Gov. Dick Lamm and state agencies, is leading the state's congressional delegation in the drafting of a proposal to be presented to the Energy Research and Development Administration. Last year Congress ordered the creation of such an installation, but no funds were budgeted for it.

SOLAR TOWNHOUSES. Kinetics, a small construction firm in Boulder, Colo., is building solar-heated townhouses. The firm says the sun system will add five to seven per cent to the cost of the project, but will cut fuel costs by 70% per year. Kinetics is also designing the dwellings to save energy. Doors will be recessed so the wind won't blow into them. The walls will have 6 inches of insulation and the ceiling will have 10.

PANHANDLE CALLS FOR HELP. Panhandle Eastern Pipeline Co. says that the estimated cost of its proposed coal gasification plant in Converse County, Wyo. has doubled to \$1 billion. An investment that size will create "severe financing problems and will, in our opinion, require governmental assistance," says Panhandle President Richard L. O'Shields.

CANADIANS MAY CHANGE MONTANA. A new coal mine is planned just north of the Montana-Canada border near Glacier National Park. The mine will produce high BTU coal which can be processed nearby and then sent to Japan for use in steel mills. Montana legislators are concerned that acid mine drainage might pollute the North Fork of the Flathead River. Since easiest access to the mine may be from the south, Montanans are also concerned about a possible new town, paved roads, rail lines, and transmission lines which may be necessary in their state as a result of the Canadian venture. Rio Algom Mines, Ltd. has proposed the project. "No environmental problem in recent years in the Flathead (valley) has contained the potential to unify diverse interests in the area — be they economic, environmental, or political — as this one," says Missoulian writer Dale A. Burk.

COAL ROYALTY FEUD. "A body's got to take a stand somewhere," says Colorado mine owner Violet Smith, 69. Smith says she'll use guns if necessary to avoid paying higher taxes on the coal she digs out of her mine near Hesperus. She used to pay royalties of 15 cents a ton on her federal claim. But after she'd signed a lease for her latest 40 acres, she found royalties had been upped to four per cent of the coal's valuation. "I've got guns and my neighbors have got guns, and if that's what it takes to keep them off my land, that's the way it'll be," Smith says.

High Country News-11 Friday, Mar. 28, 1975

The Hot Line

energy news from across the country

WESTERN COAL NEEDED? Without the West, the U.S. will never achieve energy independence — that is, boost energy production to provide 80% of the nation's needs, says a spokesman for the Federal Energy Administration, Roger W. Sant. Joe B. Browder of the Environmental Policy Center in Washington, D.C., claims, to the contrary, that it is a myth that western coal has to be developed to solve the nation's energy problems. Browder says that there is a bias running through the federal government "favoring resource development on the public lands." Both men spoke at the "Summit on Coal" conference held in Denver in March by the Rocky Mountain Center on Environment and the Federation of Rocky Mountain States.

OREGON FOR SUN, AGAINST FISSION. An energy study completed for the state of Oregon recommends a complete halt to nuclear fission electric power and advocates a systematic transition to solar-based economy. The report also contains a net energy audit of 14 major existing and proposed U.S. energy delivery systems. The report is available for \$5 from the Office of the Governor, State Capitol, Salem, Ore. 97310.

FEDS OWN OFFSHORE OIL. The Supreme Court has ruled that the federal government, and not individual states, has the exclusive right to exploit oil and natural gas off the Atlantic Coast. The 8-0 decision removed a major stumbling block from the Interior Department's plans to lease drilling rights on 3.5 million acres of the Atlantic seabed.

SOLAR UTILITY FOR SANTA CLARA. In July of this year the city of Santa Clara, Calif., will complete a new recreation building that will draw about 80% of its heating and cooling energy from solar collectors mounted on the roof. But that building is only the beginning.

Eventually, Santa Clara will run its own solar utility. The city plans to finance and install solar heating and cooling systems in new buildings. Consumers will pay a monthly fee to cover amortization and maintenance of the solar units. The utility will be run on a non-profit basis, with capital raised through municipal bonds.

ANTS AND ANCIENT MEN. Ants and primitive man used the sun more wisely than we do today, says University of Washington professor David MacGowan. Ant hills and adobe huts in Africa are efficient uses of the sun, he says. Proper construction and placement of buildings could cut fossil fuel costs by 50-80%, according to the professor.

PEABODY BIDDERS IDENTIFIED. Three bidders — the Tennessee Valley Authority (TVA), an international coal exporting corporation, and a publicly-held company now involved in gas and oil — have been identified as bidders with "bona fide" offers to buy Peabody Coal. A **New York Times** story March 2 said the bid was for an estimated one billion dollars. Peabody has been the major supplier of steam coal to the electric utility industry for many years, producing more than 10% of the nation's coal last year. The Federal Trade Commission has ordered Kennecott Copper Corp. to divest itself of Peabody. If TVA wins with its bid, it will probably have to get Congressional approval. One of the other three bidders, Carbomin International Corp., would be backed in its bid largely by foreign sources. The third, Cities Service Gas, would like to build a gasification plant using Peabody coal from the Northern Cheyenne Reservation in Montana and-or from the Powder River Basin in Wyoming. About half of Peabody's coal is in the West.

12-High Country News

Utah session ends Strip mining, predator, front money bills pass

by Jack E. McLellan

A record number of bills directly related to environmental concerns came before the 1975 session of the Utah Legislature. Chief lobbyists for environmentalists were Janet Gordon, Sara Michl, and Millie Ehrman, who officially represented the newly-formed Council on Utah Resources. The council represents over 20 Utah environmental groups. The coordinated lobbying effort gave environmentalists much more power and credibility than in any previous legislative arena, according to observers.

STRIP MINE BILL

Rep. Genevieve Atwood, sponsor of the strip mine bill (HB 323) says, "The bill is designed to set up an administrative mechanism to effectuate its provisions, and to provide legislative intent to the agency for the reclamation of mined lands." Rep. Atwood, a geologist, stated that the proposed statute, "recognizes the opportunities and economic advantages that mining brings Utah's economy and the challenge of energy development to Utah's future. At the same time, it recognizes that mining operations, particularly large scale surface mine operations, pose a threat to the future productivity of Utah's land for agricultural and recreational purposes, and an even greater threat to the quality of Utah's water resources."

Environmentalists state that the bill is relatively weak, but it is a good starting point — particularly in raising questions and in informing people who will be affected by strip mining.

WHITEWATER RESOLUTION

The House resolution calling for increased use of boats with motors, increased numbers of river runners, and no wilderness designation for Utah rivers was defeated. The resolution was buried in the Senate sifting hearing committee after environmentalists forced hearings and rewritings.

TAX SYSTEM FOR DEVELOPERS

The "Kaiparowits package" of five bills passed by legislators establishes a method of funding new public facilities, including roads and schools, which are necessitated by energy development projects such as the huge Kaiparowits coal-fired power plant in Southern Utah. Under provisions of the key measure (SB 256), the developer would prepay Utah sales and-or use taxes before purchasing the installation equipment to which it would apply. This "front end" money would be allocated by the legislature to pay for specified public projects related to the development.

HB 111, related to the Kaiparowits package, would allow joint participation between Utah cities, regulating electrical companies, and municipalities of other states in the planning, financing, construction, ownership, and operation of power facilities. Basically, it allows a group of independent small power companies and towns to sell electricity to Southern California areas. It eases the way for another power plant as large as Kaiparowits to be built just east of Capital Reef National Park by the Intermountain Power Project, a grouping of local (15% interest) and outside (85% interest) power companies.

PREDATOR CONTROL

A substantially amended SB 114, the Agricultural and Wildlife Damage Prevention Act proposed by the woolgrowers, passed in the last hours of the

legislature. A bill proposed by environmentalists placing predator management in the Division of Wildlife Resources died in committee. Environmentalists were very successful, however, in convincing legislators that the original SB 114 was an unacceptable bill. The definition of predatory animals was narrowed from one that covered nearly every living thing, including man, to a limited version including only coyotes and bobcats.

The composition of the board was changed from a 13-member board heavily loaded with livestock interests, to a 9-member board not quite so weighted in their favor. The intent is to include wildlife interests in two positions which will be appointed by the governor.

The other major change was to rescind the section in present Agricultural Department regulations calling for extermination of predator species. Even though environmentalists express dissatisfaction with the basis of the bill, most are pleased with the amendments they achieved.

"The worst blow of the whole session was to be sold-out by a group we trusted, who even helped us write the Council on Utah Resources version of predator legislation," says Millie Ehrman, acting chairperson of the council. She is referring to a decision by the Utah Federation of Wildlife.

In a joint hearing on the two predator control bills, the Utah Federation of Wildlife representa-

dures for approval of control plans.

Measures concerning water were generally ignored by the legislature. Six Senate bills and seven House measures relating to water all failed. Included in these was a bill giving the State Board of Health authority to certify public water supply, sewage, garbage, and solid waste disposal systems prior to construction on developed land.

DEPARTMENT OF TRANSPORTATION

A state Department of Transportation was created by HB 22. Under the act, the Utah Highway Department, Division of Aeronautics, the tramway safety board, and certain functions and powers of other state departments were transferred to the new Department of Transportation. Actual functioning of the units affected is not expected to change. A serious omission in the bill was not including the Utah Transit Authority, a mass-transit system recently expanded by a ¼-cent sales tax increase. Since control and coordination are needed in considering highway versus mass-transit construction, environmentalists were disturbed that more emphasis was not placed on mass transit provisions.

OTHER BILLS

SJR 24 requests the Interior Department Secretary to approve a Kaiparowits plant site immediately. HB 69 appropriates \$200,000 to Division of Water Resources for cloud seeding and weather modification. HCR 4 asks U.S. Congress to change the boundaries of Capitol Reef National Park.

Some minimum taxation on non-metal mining was begun by SB 5 and many bills concerning enabling legislation for power plants were passed. Environmentalists managed to defeat a bill allowing transfer of Utah State Hospital land to the city of Provo, who then intended to sell the land to a private developer for a ski development.

Idaho land use bill

The main proposal in Gov. Cecil Andrus's package of seven land use bills passed out of the Idaho legislature last week.

The bill, the "Local Planning Act of 1975," will require cities and counties to make land use plans and adopt corresponding zoning ordinances. The bill passed by a 37-33 vote in the House and by 23-12 in the Senate.

Of the six other Andrus land use measures, four failed to get out of the Senate and two are awaiting action in a House committee.

North Dakota Farm, solar bills lost

North Dakota Gov. Arthur A. Link's natural resources program took two severe blows in the state legislature. The House killed a bill establishing a Department of Natural Resources, and the Senate axed the Environmental Policy Act. That bill would have required environmental impact statements on projects having a significant effect on the environment, according to *The Onlooker*.

A bill that would have taxed the coal industry to support solar energy research and one which would have provided guaranteed loans at low interest for solar energy developments were defeated.

The House killed the Trust Lands Bill which was strongly supported by the Farmers Union. It would have created a trust lands division which would have authority to purchase farm land for subsequent lease and sale to eligible young farmers.

regional
legislative
review

tive, Dave Wallace, supported the council's bill. The woolgrower bill was partially rewritten after the hearing. At a Senate committee meeting a few days later, Wallace agreed that the federation would support the woolgrower's bill.

"We had no warning," says Ehrman. "Conversations with Wallace after the meeting gave an indication that he had changed his vote for two basic reasons: the Wildlife Federation had been promised a position on the predator control board provided by the bill, and the federation had received what had amounted to a threat — if the federation did not support the woolgrower's bill, federation members would not be welcome on private lands during hunting season."

The National Wildlife Federation was not pleased about the stand the state group had taken. Ehrman said, "After all this happened, we had a call from a National Wildlife Federation board member offering to come from Colorado to testify on our bill when the House committee met. Unfortunately, our bill never got out of committee."

The HCN could not reach Wallace for comment.

AIR AND WATER POLLUTION CONTROL

Two measures, considered vital by the State Health Division, were designed to update state statutes to conform with federal requirements for air and water pollution control programs. The air pollution amendments (SB 84) passed. The water amendments failed. SB 84 provided for control of indirect sources of air pollution and modified proce-

Western Roundup

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Montana joins EDF water suit

The Montana Department of Natural Resources plans to intervene in a lawsuit which challenges the Bureau of Reclamation's authority to option water from Yellowtail and Boysen reservoirs for industrial purposes. The DNR will side with the Environmental Defense Fund and several irrigators along the Yellowstone River below the reservoirs in question (see HCN Dec. 20, 1974, p.16). "Intervention appears to be the only possible course of action at this time if we are to preserve the right of Montanans to decide how best to use the state's vital water resources," said DNR Director Gary J. Wicks. Eleven major energy companies have intervened in the case already on behalf of the Bureau of Reclamation.

In a separate but related action the DNR reported that the Yellowstone River has a water supply and demand problem of major concern. The DNR's Water Resources Division has reported that 12.3 million acre-feet of water will be required from the Yellowstone Basin by the year 2000, but the river's average flow is only 8.8 million acre-feet. The DNR report said industrial filings could deplete approximately 1.3 million acre-feet annually. New irrigation projects could demand an additional 1.6 million acre-feet by the year 2000. "Realizing that significant future stream depletions could irreversibly damage fish and wildlife resources in the basin, the Montana Department of Fish and Game recently requested a seven million acre-feet reservation at Sidney for instream flow protection," the report said.

Snake dams impact statement ready

An environmental impact statement on the Federal Power Commission's proposal to dam the middle stretch of the Snake River along the Idaho-Oregon border has been released. Five dams are suggested for the river. Various combinations of dams would change from 55 to 75 miles of free-flowing river into still reservoirs. All would back the river up into Hells Canyon — the nation's deepest gorge. The impact statement says any combination of dams "would have significant impact on the environment of the area." The flooding would destroy salmon spawning grounds and white sturgeon and rainbow trout would die out, according to the document. The governors of Oregon, Idaho, and Washington have opposed the dams, as have the members of the states' congressional delegations. Bills have been introduced in Congress to ban all dams in the area and declare the Snake a part of the wild and scenic rivers system. Copies of the impact statement are available from the Federal Power Commission's public information office in Washington, D.C. 20426.

BuRec negligent on Garrison

The General Accounting Office has criticized the Bureau of Reclamation for failing to inform Congress that construction costs for the Garrison Diversion Project in North Dakota will be more than double 1965 estimates of \$207 million. Congressman Henry S. Reuss (D-Wis.) said the Bureau also failed to inform Congress about a water quality dispute with Canada over the Souris and Red Rivers. Reuss said the Bureau has not informed Congress about the dispute or of alternatives proposed to alleviate the problem. The Garrison project proposes to irrigate 250,000 acres of agricultural land through 1,800 miles of canals, four regulation reservoirs, 141 pumping plants and over 2,800 miles of drains.

Hot sauce on mutton for coyotes

Scientists are working on making sheep distasteful to coyotes to try to curb predation. A University of Wyoming biochemist, Robert McCulloch, is spraying sheep with a commercial dog repellent and a concentrated form of Tabasco-like hot sauce. "The first time a coyote tries to kill sheep, it will turn him off and maybe he'll find something else to eat," he says.

John Garcia of the University of California and Carl Gustavson of the University of Utah have been lacing mutton with lithium chloride so that coyotes will learn to associate lamb with sickness and avoid it. The chemical makes the coyotes ill but will not kill them. Critics of Garcia and Gustavson say using lamb meat could cause coyotes to avoid eating carrion rather than live sheep, according to a VPI report.

Ford shelves Utah wilderness plan

The Interior Department has deferred, for an indefinite period, its plans to ask Congress to declare portions of Capitol Reef National Park in Utah a wilderness area. The area has been the subject of controversy because designating it as wilderness would close the Halls Creek jeep road to vehicle traffic.

The Ford Administration also deferred a request to add part of Arches National Park in Utah to the wilderness system as part of a package of 97 wilderness recommendations which were introduced in the Senate. Sen. Floyd Haskell (D-Colo.) introduced the 97 wilderness proposals at the request of the White House.



WILDERNESS SOCIETY BLASTS PARK FUND CUT

The growing influence over the National Park System by the Office of Management and Budget and by park concessioners has been challenged by The Wilderness Society. In testimony prepared for hearings of the House Subcommittee on National Parks and Recreation of the House Interior Committee, George Alderson, the Society's Director of Federal Affairs, said that if any national park areas are to be closed this summer (as is being planned), "on every 'closed' sign or notice, bold letters should state that the closure is 'Courtesy of the Office of Management and Budget.' Those who have starved the Park Service of staff and funds should stand up and take the credit for the consequences of their actions." The Wilderness Society spokesman also testified that park concessioners are exerting too much influence over park policies. He said: "Where once the greatest dangers to the National Park System were from logging, mining and grazing, the greatest modern danger is posed by the concessioners which operate motels, lodges and stores in the parks. Concessioners in all parts of the country are pressing for expansion of their facilities into now-natural park lands, and they are opposing wilderness protection for the parks. We believe the growing influence of these firms must be curtailed." Citing abuses by concessioners in Yosemite, Crater Lake, Mount McKinley, Lassen Volcanic, and Mammoth Cave National Parks, among others, Alderson recommended that the National Park Service "adopt and implement a firm policy of phasing out unnecessary concession facilities in the parks, and of relying in most cases on private enterprise to provide tourist services outside the park boundaries."

Pictured above is Trail Ridge Road in Rocky Mountain National Park, Colo. with the Alpine Visitor Center and Trail Ridge concession store visible near the center of the photo. Photo courtesy of the National Park Service.

Briefly noted . . .

A new aluminum plant is being considered for the Wah-Wah Valley northwest of Milford, Utah. The plant, designed by Earth Sciences, Inc., would use alunite mined in the valley as a source of the metal. Sulfur will be a major by-product of the process. The company plans to import phosphate rock from Wyoming and upgrade it to superphosphate using the sulfuric acid by-product.

The Montana Douglas-fir Tussock Moth Task Force has recommended limited use of a virus to control a moth outbreak on 500 acres near Flathead Lake. William M. Ciesla, chairman of the task force, says the virus has been used in the past on an experimental basis as a substitute for spraying with DDT and has "caused tussock moth infestations to collapse naturally."

The Bureau of Land Management and the U.S. Forest Service need more flexibility to manage wild horses and burros, according to the International Association of Game, Fish, and Conservation Commissioners and the Oregon Association of Conservation Districts. The groups say the Wild Horse and Burro Act of 1971 is too restrictive and doesn't allow for proper management. As a result, horse and burro numbers are increasing and displacing native wildlife in several areas, according to the groups.

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My annual bout with spring fever started early this year. In fact, I felt the first pangs of the malady as early as mid-December of last year, when I flew to Arizona to spend Christmas. From snow-boots to sweater weather in one day is enough to bring on an attack of spring fever in any native Wyomingite! "Hmmm—" I thought, "maybe I should stay in this nice warm sunshine until the snow melts at home!"

The thought lasted about as long as the sunshine, which was three or four days. You may remember the weather news about that time — lots of snow in southern Arizona, and the coldest Christmas weather in the last 30 years. My symptoms disappeared as I donned my topcoat over my sweater and watched the grandchildren build a snow man. The days were grey and chilly for the remainder of my stay, turning warm and sunny again just one day before I returned to Wyoming.

My symptoms returned toward the end of January, when I went to California for a few weeks' visit with sisters there. The day after our arrival we took a picnic lunch to eat under the trees in Wilderness Park. Song-birds flitted among the branches of green trees — flowers in bloom everywhere — sweater weather again. Spring in January, as far as I was concerned. Next day came the chilly rains, and one morning we awoke to see snow on the higher reaches of the mountains to the north. The visit was great, but not because of the weather. The sun did come out warm and bright just before we returned to the snow-covered Rocky Mountains, but the mountain sun seemed brighter. Maybe because it sparkled on the snow? So who needs spring fever in February?

A week or so ago — mid-March in Wyoming — and even the pussywillow in my back yard seemed to know that spring was coming early this year. The snow drifts against the fence got smaller every day, melting into the brown earth. Sweater weather for sure!

One of the symptoms of spring fever is restlessness — so one morning last week seemed just the right sunny day to drive over the mountain to Green River to visit a favorite friend. I tossed my overnight bag and sweater into the car — then on second thought went back in and got my warm jacket and snow-boots — just in case. As the road rose higher and higher over the mountains, the snowbanks at the side were deeper, but the road wasn't icy — just slushy. And those beautiful Wind River mountains literally glistened in the warm sun.

"What a glorious spring day!" I thought. Then suddenly I had passed the point where lots of traffic had cleared the road, and as I neared the very top, the wind roared in strong gusts, blowing drifts of soft wet snow across the road. I slowed my pace, and was glad to creep up the last long hill behind a convoy of trucks. Over the top, and then I was back into spring-time again. That afternoon in Green River, I even left my sweater in the car — but the following morning we awoke to see about six inches of snow covering everything!

By noon the road was dry and I headed for Rawlins, a couple of hours away, to visit with a sister. She had to make a business trip to Encampment and I decided to go along with her. A snowstorm caused us to delay our trip for one day, but we did get over there today. I don't believe I've been any colder all winter long than I was that morning!

But I still have spring fever. I'm sure it's almost here, even in March in Wyoming. All I have to do is wait — and keep my warm jacket and snow-boots handy!



Solaron Corp. will heat Gump Glass

Calling their firm "profit-minded" and "economy-minded," the management of Gump Glass Co. in Denver has invested in a solar heating system for their new factory under construction in Denver.

Gump expects the system to save them 77% on their annual fuel bill. "The front-end cost of installation is minimal in the light of sharply-rising costs of conventional energy sources, with every indication that such sources will become ever more scarce as time goes on," says Jerry Sigman of Gump Glass.

The Gump contract is a big order for the fledgling sun power firm who will produce the solar collectors — Solaron Corp. Solaron's president John Bayless says Gump is proving that solar heating has moved "out of the laboratory and into the marketplace almost overnight." Solaron went into business less than a year ago — in April 1974.

Solaron is the first publicly-held solar heating and cooling company. At a time when it was difficult to convince investors to put money into anything, Solaron stock zoomed from 10 cents a share this summer to 75 cents a share in early March.

During the past year the firm has worked on two homes in Fort Collins, Colo., and one in Denver in addition to the Gump Glass contract. Its technical experience reaches back 32 years, however, through the work of Dr. George O.G. Lof, vice president and technical director of the firm. Lof is president of the International Solar Energy Society, director of the Solar Energy Applications Laboratory at Colorado State University, and a professor of civil engineering. Lof put his first solar heating system into operation in 1944. Today's Solaron collectors are modeled after the system Lof put into his solar-heated home in Denver in 1957. That system, which is still going strong, heats air in flat plate collectors on the roof and stores the heat in rocks.

Solaron information director Bill Brenneman says Solaron recommends air systems rather than water systems to avoid freezing, pumping, corrosion, and storage problems. The storage unit at the Gump Glass company will be a bin eight feet wide, eight feet deep, and 16 feet long containing about 50 tons of rounded pebbles. A thermostat will regulate the flow of heated air to the building.

Prices for a Solaron system are steep when compared to conventional alternatives. On the plus side the solar systems have no fuel costs, emit no pollutants, and, Solaron claims, require no maintenance and will last the life of the building. Brenneman says costs will go down when demand for their product is great enough to make use of mass production techniques. As it is, each system they build is "individually tailored," Brenneman says.

He estimates that the present cost of a system is roughly \$10 per square foot of collector space. That means a system for a 2,000 square foot house could run \$10,000 or more. (Most clients install a collector one-third to one-half as large as the square footage in their house. Larger collectors would provide more heat, but aren't worth the cost at present fuel prices.) In the Denver area, with a collector half as big as the square footage in a house, some kind of auxiliary heating system would still be needed to provide heat during cloudy days.

To find out more about Solaron write 4850 Olive St., Denver, Colo. 80022 or contact John Bayless at 303-289-2288.

(Editors' note: This article is part of a series designed to let our readers know about alternative energy equipment available for purchase in the Rocky Mountain region. If you know of a company we should mention, please send us information. We can't make endorsements, because we haven't tested the equipment. But we hope you find these introductions useful and are moved to begin your own, more thorough, investigations.)



OLD HOME, NEW HEAT. The first old home fitted with Solaron roof collectors is this bungalow owned and remodeled with energy conservation in mind by Denver architect Richard Crowther. The Denver home, complete with solar heating system, is for sale.

Eavesdropper

environmental news from around the world

LOONEY LIMERICKS

by Zane E. Cology

The cities are all in a quandry
Wanting water for lawns and new laundry,
While their friends on the farms,
Are shouting alarms:
"Leave our water for beef, corn, and barley."

NO SPECIAL INDIAN RIGHTS. Delegates to the National Wildlife Federation convention called for a new national policy that would strip American Indians of special hunting, fishing, and timber rights. Most of the delegates were hunters and fishermen, according to the UPI report. The resolution said that because the Indians have intensified their hunting and fishing under liberalized federal policies, management of game and fish resources is becoming impossible. One delegate expressed reservations about the decision: "I don't know if we should have done this. The Indians and the sportsmen have been traditional allies, and this action may spoil this relationship."

FORD BACKS DOWN ON LAND USE. The Ford administration says economic factors are forcing it to abandon support for federal land use legislation. The planning bill sponsored by Rep. Morris K. Udall (D-Ariz.) would authorize grants totaling \$500 million over six years with no more than \$20 million issued during 1976. **Land Use Planning Reports** says, "An influential role in Ford's decision seemed to have been played by Rep. Sam Steiger (R-Ariz.), who led opposition to land use legislation last year." Steiger has been meeting with White House officials and House members to gain enough support to kill the bill in committee.

COURT UPHOLDS CITIZEN SUIT LAW. The Michigan Supreme Court has unanimously upheld the Michigan Environmental Protection Act which includes a provision for citizens to file suit to protect the environment. According to the **Audubon Leader**, seven other states (Conn., Fla., Ind., Mass., Minn., N.J., and S.D.) have laws modeled after the Michigan statute, and similar legislation has been introduced in Congress.

Book reviews

Making the Adobe Brick

by Eugene H. Boudreau, Fifth Street Press, Berkeley, Calif., 1971, \$2.95, paper cover, 88 pages.

Sod Walls

by Roger L. Welsch, Purcells, Inc., Broken Bow, Neb., 1968, \$8.50, hard cover, 208 pages.

Review by Peter Wild

Many people are investigating alternatives to America's zippy doodah culture. This may involve a return to a simpler past and along with it a rediscovery of native building materials. Usually these are cheaper and more efficient, not to mention more harmonious with natural surroundings, than the highly processed and expensive building products available on the market. Hence the popularity, for instance, of the log cabin. Two other materials, adobe and sod, bear consideration.

Adobe, traditional for hundreds of years, lends a unique architectural flavor to the Southwest. Likewise, the Omaha Indians of the plains lived in domed sod lodges for generations before the idea was adopted by pioneers on the wood-and-stone scarce plains. Thousands of old homes of these materials continue in use, providing excellent insulation against heat and cold. Of the surprising variety of books on the subject, these two will equip an individual with little money, but energy, some ingenuity, and a desire for an environmentally sound structure, with the basic information he needs to construct his own home.

Adobe is a mixture of sand, water, and clay, which is poured into forms to produce sun-baked bricks. Emulsified asphalt can be added as a waterproofing agent. Eugene Boudreau, a geologist, offers *Making the Adobe Brick* as a result of his building a five-room adobe house. Hence we have the advantage of his research, as well as of his mistakes. Of particular value is his penchant for detail in discussing and illustrating all phases of construction. Hints on building codes, plumbing, electrical wiring, engineering calculations, and a bibliography should give the beginner a sense of confidence in the outcome of his adventure.

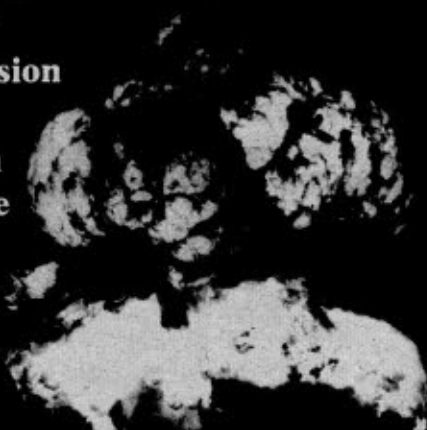
A couple of things need to be noted, though, before one envisions his castle of adobe. Because of weight, adobe structures should be limited to one story. Also because of the weight, the builder must resign himself to lugging around many tons of mud. Additionally, despite steel reinforcement rods, adobe tends to fall all over itself in an earthquake. Lastly, adobe has done well in warm, dry climates. Mr. Boudreau makes no mention of its performance in cold, wet ones.

Frequently, sod houses are associated with the economically deprived conditions of the pioneer plains farmer, who could not afford a more lavish home. In fact, because of its insulation qualities, both from weather and bullets, and its stability in tornadoes, sod was preferred, even when other materials became available on the frontier at reasonable prices. With little trouble, a small sod house can be built by one man in a week. In contrast to the mass and weight of adobe bricks, sod blocks are thin

and easy to handle. They require no mortar and are simply laid row on overlapping row until walls reach the desired height and shape. For the roof, cedar beams, available from river bottoms, are fitted into place, then covered with a layer or two of sod. This gives a comfortable home, which blooms in the spring along with the surrounding flowers. However, it also tends to house snakes, mice, and fleas. The fastidious will want to counter this by plastering the walls inside and out.

Most of *Sod Walls* is not given over to the relatively simple techniques of construction but to placing sod homes into the historical context of the developing West. In the late 1800s a man named Solomon Butcher wandered over the desert of Nebraska, taking hundreds of pictures of the pioneers. His specialty was photographing families outside their sod homes. In his day people thought he was crazy, and he probably was — as crazy as anyone who would run around in modern suburbs recording lives in tract homes. Nevertheless, he has passed down to us a superb photographic record, full of pathos and hope, of our ancestors posed in their severe surroundings. He has included the traditional canary in its cage hanging by the door and perhaps the sewing machine dragged from the gloomy house to become the centerpiece of the photograph, assuring the audience that civilization was indeed present on the prairie.

Over 20 years ago we lost comprehension in emotive and human terms of the reality of nuclear weapons.



The clock on the cover of the Bulletin of the Atomic Scientists is a symbol of danger and hope. The danger is that humankind is already well beyond the 11th hour in coming to terms with its immense and growing capacity for self-destruction. The hope is that, with reason and a sense of urgency, we can succeed despite the lateness of the hour.

Founded by scientists who helped develop the first atomic bomb, the Bulletin has served as the conscience of the international scientific community, focusing attention on the impact of science and technology on public affairs. Written for the scientist and non-scientist alike, it is read and respected in living rooms and chancelleries around the world for its commentary on public affairs. The Bulletin speaks authoritatively on nuclear arms and safety topics and addresses itself to other important questions. Recent monthly issues have included:

Energy—An inventory of the world's energy resources and a definitive statement of the need for early, wholesale revision of public policy in the energy field, by Amory

Loivins, an American physicist assigned to Friends of the Earth in London. **Population**—The UN's Antonio Carrillo-Flores on world population policy, Carl Djerassi on the Chinese achievement in fertility control, Gunnar Myrdal on the need for reordering social and economic priorities. **The Arms Race**—The corruption of the Strategic Arms Limitation Talks, the mythology of national defense, India's atomic explosion, Israel's growing nuclear potential, the moving of the Bulletin's "doomsday clock" 3 minutes closer to midnight. **Nuclear Safety**—Origins and issues of the current controversy, hazards of the nuclear fuel cycle, the selling of the atom. **The Scientist in Politics**—The new scientist-advocates, the rise of public interest science, political baptism of the atomic scientists.

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Friday, Mar. 28, 1975

BULLETIN BOARD

TEACH ORGANIC GARDENING

The editors of *Organic Gardening and Farming* magazine, in cooperation with the National Council of State Garden Clubs, have developed an easy-to-teach course on organic gardening. Soil testing, composting, insect control, and mulching are just a few of the topics covered. Everything the teacher would need from filmstrips and promotional materials to student kits and course outlines is available. Now, where are the teachers? For further information write Rita Reemer, Course Editor, *Organic Gardening and Farming*, Emmaus, Pa. 18049.

CONFERENCE ON RURAL AMERICA

The first National Conference on Rural America will be held in Washington, D.C., on April 14-17. The conference is "designed to assess present social and economic needs against the historic shortcomings of both government and the private sector in dealing with rural people." Discussion groups and panels will cover such topics as housing, rural transportation, energy and rural people, rural poverty, and public education in rural America. Speakers will include Barry Commoner and Sen. Edward M. Kennedy. Anyone interested in preserving rural lifestyles may be interested. Write National Conference on Rural America, 1346 Connecticut Ave., N.W. Room 529, Washington, D.C. 20036. The registration fee is \$45.

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16 Subdivision inventory catalyst for action

The state is astir. Under the battle cry of "Keep Montana Montana," the Environmental Information Center (EIC) is saying that agriculturists, wildlife, and the present residents — all part of what makes Montana Montana — will suffer unless legislation brings subdividing under control.

To prove the urgency, the EIC just published an inventory which shows that a startling half a million acres of Montana has been subdivided into parcels of 40 acres or less. This figure was published in February in a tabloid newspaper which also includes maps, figures on the extent of subdividing in 35 of the state's 56 counties, and explanations of the ramifications of these figures.

The study — which is probably a unique citizen effort — has not gone unnoticed. As an indirect result, citizen groups have formed to petition for subdivision moratoriums in some counties. Legislators are using the EIC figures to encourage laws putting stricter controls on subdividing. Two state governmental agencies, the Environmental Quality Council and the Department of Natural Resources, have cited the subdivision figures in their reports, recognizing that this is the first time the figures have been available.

Realtors are reacting the most vigorously. They have contacted the press, spoken out at public meetings, and called the EIC office — in one case threatening to sue — to protest the EIC's findings. The EIC staff says the figures can be substantiated and, if anything, are conservative because of incomplete county records.

CATALYST FOR ACTION

Before the study was published, Phil Tawney, executive director of the EIC, told the *High Country News* that he hoped the study and the county maps showing subdivisions would serve as catalysts for action. "When you get things on a map, people can identify the changes that are being made, and they begin to get concerned. Before that, you're just talking in generalities," Tawney said.

Tawney found it alarming during the 1974 legislative session when he realized that no one knew the extent of subdivision in the state — not the state lawmakers, nor the local officials, nor the buyers or realtors themselves. To him, it seemed obvious that this information was essential for planning the future of the state and for formulating goals.

So the EIC, a citizen funded corporation, took on the monumental task of collecting information on the extent of land development in the state, and what it was doing to critical wildlife habitat, prime agricultural land, watersheds, floodplains, government costs, and the quality of life.

The EIC sent staff researchers and volunteers out to the courthouses in each of 35 counties who spent the summer examining county records on subdivision plats and certificates of survey. The job would have been big enough in itself because of the amount of traveling required and because of the detailed work. However, it was made even harder by the lack of standard filing forms and by the complexity of some land transfers which are not recorded until the deed actually changes hands several years after the sale.

In addition, the researchers sometimes uncovered illegal subdivisions which had never been recorded.

SALES IN JAPAN

The researchers' work revealed loopholes and inequities in present laws which the EIC is now lobbying to change. Some would give further protection to buyers from unscrupulous developers. Tawney says that many realtors in Montana believe they are "getting burned by a few real shady operators."

The EIC report outlines the schemes of seven of the worst offenders. Advertising on television in Hawaii, Japan, and Southeast Asia, one company gives residents "a very positive opportunity" to buy a piece of Montana. When they arrive, they find that their 20 acre lots probably have no access, no water, no



The Environmental Information Center staff includes (left to right) Torian Donohoe, Jane Jones, Robin Tawney, Bill Milton, Phil Tawney, Dana Milton, Tina Torgrimson, and Len Sargent. Staff members who are not pictured are Sandy Sargent and Bob Oset. Phil Tawney is executive director of the EIC. Torgrimson is project director for the inventory of subdivisions. Rodd Hamman (not pictured) and several volunteers also worked on the inventory. The EIC office is in the Placer Hotel in Helena, Mont.

telephone or power lines, no public transportation, and no buffalo.

Tina Torgrimson, inventory project director, tells of a family who came from Hawaii with two children, an uncle, and a couple of dollars in their pockets. They couldn't even get to their newly acquired land and there was no water on it. Luckily, some local people took the family in until one of them could find a job.

Developers of Shining Mountains Ranch ("an ecological subdivision") apparently are trying to make up for the wildlife losses to subdivision by providing a safari park. There the residents can see real live elephants, lions, jaguars, leopards, black bear, antelope, elk, and white-tailed deer.

Tawney agrees that unscrupulous developers do reflect unfairly on more honest realtors in Montana. However, he believes that the Montana realtors, too, are usually guilty of transgressing against a land ethic, an ethic that has made Montana Montana. This is because the subdivisions — especially the rural ones — take up land that is consequently lost to agriculture and to wildlife.

The effect of subdivisions on both wildlife and agriculture illustrates the necessity for a statewide rather than a piecemeal look at development. The loss of prime pasture land or of elk winter range in one county might be insignificant — if it were not happening in every other county simultaneously.

PRIME TARGET FOR GROWTH

"Agricultural land is the prime target for growth — it is generally flat and open and is ideal for buildings, sewage disposal, and gas, water, and telephone lines. Not only that, but it is also cheaper than building on the foothills, particularly for housing," the EIC report says.

The EIC quotes a study by the Montana Crop and Livestock Reporting Service showing that 4.4 million farm acres have been put to other uses, including subdivisions, since 1962.

The EIC has put a high priority on a moratorium on further subdividing. Called the Agricultural Land Protection bill (HB 319), it originally provided for a four-year suspension of subdivision on productive agricultural lands. It has since been amended to an optional moratorium for six months to two years, leaving it up to the counties to decide.

What would happen during the moratorium if the bill passes? "I would think the onus would be on the people to really get involved in the planning process and work," Tawney says. He and the rest of the staff believe that good land use planning requires inventories and goals with broad public participation in both. They feel their work is only a beginning of the information gathering that is necessary for good planning. Still needed are subdivision inventories in the remaining 21 counties; regular updates of the inventory information in each county; an inventory of agricultural lands and their capabilities including soil analysis; wildlife habitat study; and an inventory of forest practices. The EIC staff is trying to help citizen groups organize their own studies at the local level although they believe that actually, the work should be done by governmental agencies.

The EIC concentrates on the need to inventory public attitudes as well. At the staff's suggestion, a series of statewide land use conferences were held last fall throughout the state to determine public attitudes. Interest was high, particularly at Lewistown where some people drove over 100 miles one way to attend.

Currently, the EIC is sharing the results of its study with communities through slide presentations and speeches in hopes of encouraging public participation in planning. The EIC is also supporting legislation to create a statewide goals formulation process for land use (HB 675).

Anyone interested in a copy of the subdivision inventory, a 20-page tabloid newspaper, should write to the Environmental Information Center at Box 12, Helena, Mont. 59601. Copies cost \$1 each or 50 cents each for 100 or more.

—MJA

Dear Friends,

"I was born on the prairie and the milk of its wheat, the red of its clover, the eyes of its women, gave me a song and a slogan."
Carl Sandburg from *Prairie*

Stories come to *High Country News* in strange ways. In early March a farmer from Weld County, Colo., came to our office wanting to speak to one of the editors. He said he and his neighbors had a problem and a friend had told him HCN might be interested in it. He was visiting relatives in nearby Riverton, Wyo., so he thought he'd stop in and see us.

The farmer was concerned about the depletion of farmland in the nation — a phenomenon that had reached the alarming rate of nearly 10 million acres per year. The farmer's home state of Colorado had lost 1,661,368 acres of farmland between 1964 and 1969 — a rate of over 332,000 acres per year.

Weld County residents are very conscious of this trend because the county ranks first in agricultural productivity of all counties in Colorado and second of all counties in the nation, the farmer said. To stem this tide, he said, rural people in the county have become active in land use planning.

The farmer's specific problem related to a legal action the city of Thornton, a Denver suburb, had initiated to condemn agricultural water in several northern Colorado counties, including Weld. He feared this action might nullify all the county's land planning efforts and set a precedent that would lead to the drying up of farm land all along the Front Range of Colorado. The story of Thornton's water suit against the irrigators starts on page one.

Montana is also seeing its farm land taken out of production at an alarming rate — largely because of subdividing activity. In Montana, no one knew just how much farmland was being lost, or how fast it was going. The urgent task of documenting changing

patterns in land use was taken up by the Helena-based Environmental Information Center (see story page 16).

The EIC wanted to instill a sense of urgency in the public over what it considered a critical land use trend. Their tactic? Maps. Maps which graphically illustrate with red how much of each county studied is already engulfed by subdivisions — how much is now unavailable to the farmer's plow, to wildlife, to sportsmen's treks.

We'd also like to take this space to send our thanks to all of you who have lifted our spirits by your willingness to help HCN. We are encouraged by the letters and checks you've sent since our last report to the stockholders, which indicated that we were headed downhill financially. We had a record number of contributions sent this month, totaling \$663. Thank you. That will help.

And so will an effort started here in Lander last week to get sample copies sent out to people in the Rocky Mountain region. We opened up the office to a volunteer work party of 12 who cheerfully stuffed and labeled 2,064 envelopes. One dedicated couple, Charles and Frances Nations, of Lander, spent their 32nd wedding anniversary helping us out. If we can get an energetic group like that together once a month or so, we hope we can slowly and surely increase HCN income and readership. Every additional subscriber brings us closer to becoming a business rather than a charity.

Can you help us further by finding lists of people who might be interested in receiving a sample copy of HCN?

Again, thank you all for the kindness and care you have shown.

—the editors

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