The Environmental Bi-Weekly

High Country News

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Photo by Lynne Bama

We rarely picture America like this, but such a map is part of the truth. About half of our major cities will run out of dumping space in the next five years. We've proven our ability to use technology to produce goods. We've only begun to employ our skills to eliminate, re-use, or dispose of our abundant leftovers.

Reusing and Recycling Wastes

Kicking the Garbage Habit

by Joan Nice

Connecticut is the first state to acknowledge that our mountains of solid waste are too big for cities to handle alone. Connecticut, experiencing what may be the West's problems of the future, feels its cities are caught in a vise. They must face skyrocketing volumes of waste, a sharp decline in land available for disposal sites, and diminishing supplies of natural resources.

A government study in 1968 indicated that the average person produces 5.3 pounds of solid wastes per day. These wastes accumulate year after year. And most are pushed aside using technology developed by the armies of Julius Caesar — open dumping.

So the Connecticut State government has offered to shoulder some of the solid waste burdens of the municipalities. The $295 million Connecticut plan takes garbage from all over the state and separates it into aluminum, glass, iron-bearing materials and power plant fuel. What's left finds its traditional place in the local landfill.

The plan, which was developed for the state by General Electric Co., calls for the construction of 10 recovery facilities between now and 1984. The plants will separate bulk refuse into reusable materials, which will be sold. Other refuse will be pulverized, mixed with oil and used as a clean-burning fuel in a conventional power plant.

In the first year of operation, probably 1976, state officials anticipate recovering 72,000 tons of iron and steel, 47,000 tons of glass, and 4,000 tons of aluminum. The energy developed from the wastes will be equivalent to 650,000 barrels of oil, officials say.

When all the recovery plants are complete in 1984, the system is expected to save the Connecticut taxpayer $50-100 million in capital expenditures. The fuel produced will generate about 10% of Connecticut's energy needs, officials say.

Would Connecticut's approach work in the West? Finances will keep most state governments waiting and watching. Connecticut officials claim the program will be self-sufficient. Skeptics point to the lack of sure markets for recyclables, freight rates that discriminate against the vehicles hauling recyclables, and depletion allowances, (tax breaks which aid in the mining of virgin materials).

TRANSCENDING RECYCLING

While the others wait, Oregon has taken a step which offers a closer look at the costs of recycling. Oregon has chosen to reuse — rather than recycle (collect, smash and remelt for glass) — beverage containers in the state. The results transcend any benefits that can be reaped from recycling.

The bill was conceived as an anti-litter law. Starting Oct. 1972, the state required that all beer and soft drink containers sold in Oregon have a refund value. Cans with pull-tab openers were banned. "Certified" containers in standard sizes which beverage companies could use interchangeably were introduced.

The state has been rewarded by less litter and unexpected energy savings. An Environmental Protection Agency study shows that beverage container litter has decreased by at least 49% after a year under the new regime. The switch has also saved enough energy to

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HIGH COUNTRY

By Tom Bell

Future Shock is here! It's being announced daily on nearly every news broadcast every day.

The country is in a state of ferment and fear unseen since the days of World War II, and, before that, the dreaded Great Depression. Where our present situation will lead, no one really knows for there is no viable leadership to give us direction. Our country stumbles daily from one bad situation into a worsening one.

Across the country, change is affecting people's lives daily. Some are losing jobs with no prospect of ever finding another in the area in which they live. Some have been completely hooked on the automobile and the way of life which it has come to represent. Many are showing dissatisfaction with the sudden disruption of their daily routine. As I write, thousands of truck drivers are stopping their trucks on interstate highways and jamming traffic for miles. It is only the first of many ugly aspects of the energy crisis which will be appearing in the weeks and months ahead.

Already, those who want business as usual are showing their muscle or exerting influence behind the scenes. We will see more and more attempts to set back the social and environmental gains of the last few years as energy becomes an overriding concern. A former governor of Mississippi, and the chairman of the American Party in Louisiana have suggested that a good way to save fuel is to stop all court-ordered busing intended to help integrate schools. The Ohio Manufacturer's Association has asked the Ohio Environmental Protection Agency to grant a two-year extension of the deadline on standards for particulate emissions in air quality control. The Wyoming Highway Users Conference (road builders and truckers) board of directors says it will recommend to all members a resolution calling for discontinuing automobile and truck emission control devices until the energy crisis has been resolved.

Worst of all, the energy industry seems to be getting to enough congressmen, especially Republicans, to completely stall effective strip mine legislation. Republican members of the House joint sub-committee simply failed to show up at meetings on the strip mine bill. Wyoming Congressman Teno Roncalio asked his colleagues if they "are taking part in any 'deal' to try to frustrate this legislation."

Here in the West, the ramifications of weak federal strip mine legislation can have an effect for untold generations. The rush is on for more coal development and now oil shale. We need protection.

But beyond the effects of land disruption are the effects of massive intrusions of people. The West is simply not ready for large scale development of resources. No state has an adequate land-use planning frame-work, although Colorado may be moving closer to a solution. No state has its own energy policy. Only Montana is moving in that direction. And Montana appears to be the only western state with an adequate set of mining and utility siting acts to protect its land to any degree, and to guide its destiny.

In short, the states have no institutional or governmental arrangements with which to guide the sudden onslaught now facing them. One of the great tragedies of American history seems to be unfolding. Here in the West we used to have the solid silver dollars with the words 'In God We Trust' thereon. Now we don't even have that.

I don't see anything optimistic. It's going to be a new world. For the first time, the nation is going to realize a real shortage of energy. We're going to have to change our very lifestyles.
Gov. John A. Love
Deposed Energy Czar

Letters

Editor:

Congratulations on your excellent column in the November 9 issue. Although I am employed in the nuclear power industry, I found myself nodding in agreement after each paragraph.

From my point of view in the industry, your paper constitutes the eminently reasonable voice of the loyal opposition. I hope you will continue to keep up the good work.

Congratulations, too, on your clairvoyance in anticipating the President's message.

Yours truly,
Malcolm M. McGawn
Zion, ILL
University of Wyoming, '72

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Editors,

Compliments on your paper **High Country News,** I find it to be an honest and forthright attempt at getting the truth to the American people.

The quote, by J. Wes Blakely, on page 12 of the November 23 issue has prompted me to send you a recent issue of **The Militant,** a Socialist newsweekly.

It appears to me that Mr. Blakely and people he serves are the real short sighted, myopic, and dangerous individuals who, motivated by self interest, pose the greatest threat to the continuance of human self-development, creativity, and culture on this planet.

To get into a discussion of socialist vs. capitalist points of view in relation to the current "energy shortage" is something I do not want to do at this time.

I would like to say however that I find the **Militant** to be the same kind of truthful paper as your **H.C.N.,** but with a broader, world wide perspective that encompasses more than just environmental issues. I feel the **Militant (and the socialist viewpoint it represents;** not all socialists are the same) goes a long way in explaining and clarifying how the web of human interrelationships **are presently working** and how they could and will be improved in the days and years ahead.

In the issue I've enclosed there are two related articles dealing specifically with energy, on pages 6 and 7. If you find these articles of interest and the viewpoint expressed to be of value to your understanding and you would like to be in contact with the **Militant** more frequently please let me know and I will be happy to take out a subscription in your name.

I really feel that it is illusionary to think we can solve our environmental problems within the present capitalistic economic system and that once we get over the anti-communist-socialist programming we have all undergone from early childhood, this problem and others that beset our culture are seen as being inherent in the capitalistic system itself.

Sincerely,
J. J. Platt
Logan, Utah

We must redesign our economy and our institutions to bring them into conformity with the reality that the earth is a continuous social and biological entity, with finite resources and limited tolerance for abuse.

There will be no more difficult step on the road to mature stewardship of our planet than to put this truth into practice. It will require hard work, large amounts of money, and abandonment of outworn ideology; it may well demand sacrifices of personal comfort, profit, and convenience. There will be no simple solutions; although some of us would choose to do so, we cannot turn back the clock to some time before the Industrial Revolution. If we place our faith in a return to Arcadia, we will be as disappointed as those who believe that technology miraculously will rescue us at the last minute from the consequences of our mismanagement.

William D. Ruckelshaus
Toward a New Ideology
THE PROGRESSIVE June, 1973

Editorials

Nixon Jeopardizes Nation

Mr. Nixon has once again set the foxes to guard the henhouse. He has asked some 250 oil and energy executives to advise him on energy matters. Unlike John Love, they will undoubtedly tell him what is in their best interests, and what he dearly loves to hear from such charitable contributors to campaign funds.

The meaning of this is that the two principal culprits in the energy crisis — Mr. Nixon and the captains of the energy industry — are to go on prescribing for the nation's ills.

If there was ever any doubt in anyone's mind about the propriety of such an arrangement, that should be dispelled by the words of one who should know.

James Boyd is the former executive director of the National Commission on Materials Policy. That commission finished its work last June and issued a report. The commission had been established by Congress and implemented by the National Academy of Sciences and the National Academy of Engineering.

The June report said, "We conclude that an energy shortage, of severely disruptive and damaging proportions, is a distinct possibility in the immediate future. Major economic stresses resulting from energy deficiencies may occur and increase between now and 1980." Secretary of Commerce Frederick B. Dent and Secretary of the Interior Rogers C.B. Morton were members of the commission at the time the report was issued.

Boyd said both Congress and the Administration were amply warned of impending crisis. He said emergency plans should have been drawn long ago, but that no one seemed to grasp the "enormity of the problem."

Boyd said the June report spelled out the reason for some of our energy problem now. The report said, "New refineries were built abroad because growth of foreign demand, investment climate, taxation, or other factors were more favorable than in the United States." And when he was asked if he meant the oil companies had gone abroad ". . . and left the United States in the lurch, knowing we were heading for an energy crunch because they could make more money over there," Boyd replied, "Right. There is no doubt about that."

Deposed energy czar John Love, when interviewed by NBC, said Mr. Nixon had been so involved in other matters (implied Watergate) that he did not grasp the seriousness of the energy crisis. While it is undoubtedly true that Mr. Nixon's "wallowing in Watergate" has caused his mind to stray from other matters, his lack of foresight and wisdom go back much beyond that.

President Nixon's Office of Management and Budget has been sitting on impounded funds for energy research and development for at least five years. In 1971, H. R. Richmond, administrator of the Bonneville Power Administration, said, "There have been significant delays in federal generation schedules. As a result, the region (Pacific Northwest) faces power deficits during most of this decade."

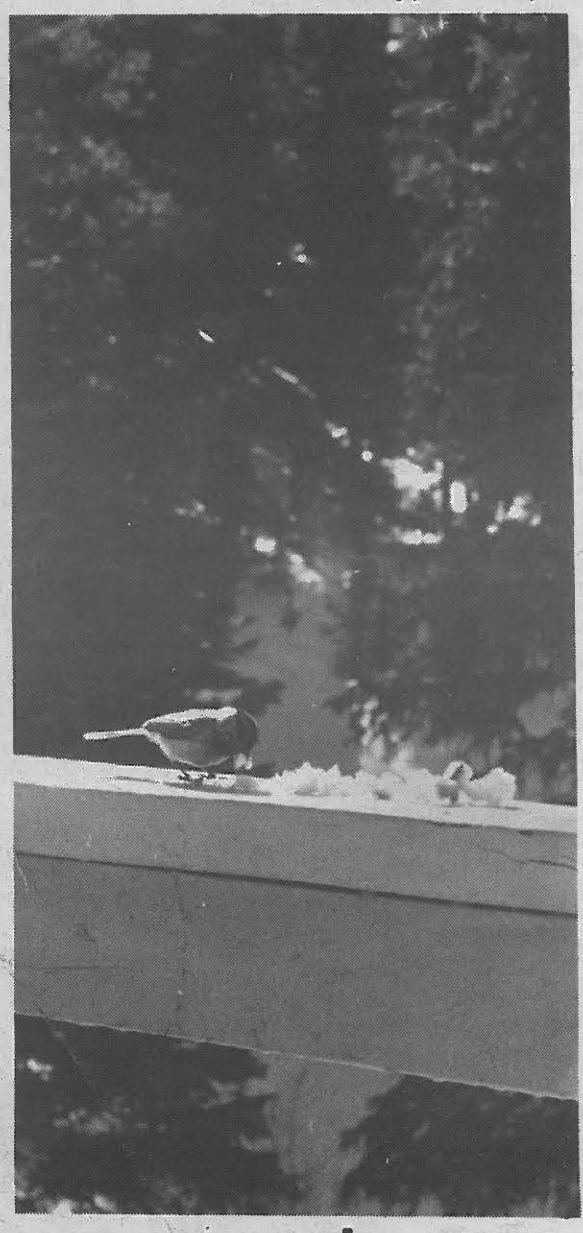
Richmond was referring to the fact that Lower Granite Dam on the Snake River was to have been completed in 1971. It wasn't because appropriated money was held back in each of four separate years — fiscal 1968 through 1971. Its completion is now set back to 1975. OMB is sitting on $900,000 which was appropriated for additional power generating units at both Lower Granite and Little Goose Dams.

The first three generating units were to have been installed this year at Libby Dam in Montana. They have been delayed until 1976 by impounded money. Eleven new generating units were to have been operating at Chief Joseph Dam this year. The target date is now 1979. Ice Harbor Dam was scheduled to have three new generating units by 1974. They are going to be at least a year late.

Sen. Mark Hatfield of Oregon recently suggested that OMB director Roy Ash be fired when he pointed out OMB was still sitting on $3 million for new generating units at the Bonneville Power Administration. At the same time Hatfield pointed out OMB was sitting on a total of $22,650,000 of impounded funds for not only BPA but also solar energy research ($600,000), geothermal ($4.7 million), and fusion research ($4.5 million) among others.

On Sept. 21, 14 western senators wrote Mr. Ash imploring him to turn loose impounded funds needed to finish the second BPA powerhouse. They wrote, "It's delay, and similar delays in other authorized Federal power projects in the system, is the major reason why the people of the Pacific Northwest will periodically suffer cold homes and loss of jobs from now until the 1980's."

It was only one more example of Mr. Nixon's non-policy on energy. And because of it, more than the Northwest will be committed to cold homes and no jobs. —TB



Energy Policy vs. Reality

President Nixon has an aversion to reality. He seems to be flying high on the American Dream in Air Force One while the rest of the country is coming to grips with some very hard realities about our energy situation. Nixon's only recognition of the seriousness of our plight came when his energy policy changed its tune from "cheap plentiful energy" to "voluntary controls." Both policies have the same outcome: diminishing reserves, slighting environmental concerns, cold winters ahead and windfall profits for the energy companies.

This summer Nixon picked a "yes" man as an energy czar to serve as a figure head for an understaffed and neglected energy task force. John Love was inexperienced both in energy matters and in national and international politics. Consequently, the Nixon line remained unaltered.

But after months of studying energy, even a neophyte like Love saw that Nixon's policies were leading to disaster. When Love finally concluded that gas rationing and other strict mandatory controls were needed despite their negative political effect, he was sacked. Love hardly measures up to being a martyr of the caliber of Cox, Richardson and Ruckelshaus, but the leadership pattern is the same— tell me what I want to know and don't question Oval Office policies.

With the Administration in such sordid shape the country must turn to its Congress. There the choice was made clear by Speaker of the House Carl Albert when he said,

"Congress must choose between cooperating with an Administration which is intent on deceiving the American people with regard to both the severity and the causes of our energy shortages, and being honest with the people by telling them that we are living on borrowed time, on our reserves, and that far more stringent allocation, rationing and conservation measures are our only hope of riding out the difficult winter just ahead and the difficult years which will follow."

Unfortunately, half of the Congress has already defaulted its chance to provide leadership in this time of crisis. The Senate has overwhelmingly passed legislation giving the President the power to do "whatever he thinks is necessary" in the energy area. The President seems to feel nothing is necessary but to sit tight, bundled up in a blanket, and ride this one out. The House still has a chance to provide the needed leadership. Albert's statement is encouraging. If the House abdicates its authority as well, crisis may be a mild word to describe our plight. —BH

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Garbage . . .

(Continued from page 1)

heat a city of 46,000 for one year, says Don Waggoner, president of the Oregon Environmental Council.

Returning every used item to its point of manufacture to be re-introduced into our system of consumption is a simplistic view of the problem of solid waste disposal, Bruce Hannon of the Center for Advanced Computation at the University of Illinois says.

"This is a highly simplified recognition of the law of conservation of mass," Hannon says. "However, little public or scientific environmental attention has been given to a companion physical law, that of conservation of energy. Energy resources are also finite and also cause environmental degradation when consumed too rapidly."

Hannon concludes that energy conservation as well as conservation of mass should be considered when deciding whether or not to recycle.

DARK GARBAGE HEAPS

Reusing — not recycling — is the obvious solution for beverage containers, says the president of Canada Dry Bottling Co. of San Antonio, Tex. The bottler, William B. Matthews, says that every time someone purchases a drink in a throwaway bottle or can, enough energy is lost to burn a 100 watt light bulb for five hours.

"People talk about pollution and ecology and now the need to conserve energy, but when it come to the checkout counter, the consumer wants the convenience of throwaways even if it means his grandchildren will be living in a garbage heap in the dark," Matthews says.

After looking at the energy costs of recycling glass, the frugal society would probably pass a returnable bottle bill in every state. Bruce Hannon estimates that it takes 4.4 times as much energy to deliver a soft drink in a throwaway bottle as in a returnable. In fact, figures like that might convince a frugal society to standardize all their bottle containers so that they might be systematically refilled.

Most bottlers and canners are disturbed by anything that resembles an Oregon bottle bill, however. Each time a returnable bottle replaces a throwaway product, those who make the non-returnables lose a market for 15 containers, since returnables make an average of 15 trips to the consumer before they must be replaced. Is it any wonder that the container industry would rather advertise for recycling than allow reusing?

Patrick Van Keuren, chairman of the Oregon Beverage Industry Task Force, points out that in Oregon the bottle bill will cost Oregon consumers about $10 million. The cost of beer (before the refund is paid) has gone up 68 cents per case and soft drinks 30 to 40 cents per case, Keuren says. Any energy savings are negligible, Keuren says, because the beverage industry consumes only about .5% of the total U.S. energy demand.

VERMONT'S BOTTLES

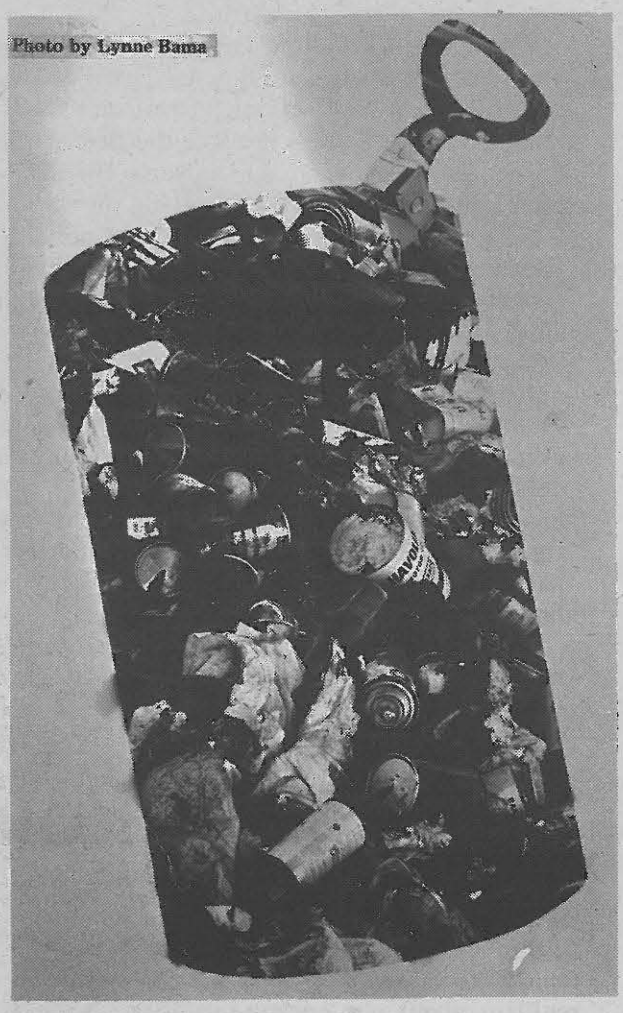
A similar bill in Vermont, which came into effect this September, has met even greater opposition from industry. The concessions Vermont made to them in the bill may be part of the problem.

Vermont allowed a one-cent handling charge for distributors to be added to the price of beer and soft drinks. Distributors used this provision as a springboard and added an additional two cents. That brought a $1.47 six pack of beer up to an unattractive $1.95.

"This price increase is being used by distributors to create an angry public outcry against the bottle bill," says Vermont's Gov. Thomas Salmon.

Vermont altered the Oregon bill in another way, by putting a five-cent deposit on cans instead of banning them. This, apparently, was the second mistake. Instead of increasing the amount of returnable bottles used, the Vermont bill has left grocers and distributors with piles of cans that will end up in the dump.

"The Oregon law is best — just as it's written," says a bottler who is fighting for the enactment of bottle bills across the country. "Whoever wrote that law really knew what he was doing. Just the few changes made in Vermont have caused a great deal of trouble."



Cans and bottles for beer and soft drinks constitute about one-half of all beverage and food containers. It is estimated that by 1976 68% of the soft drink and 80% of the beer containers will be throwaways. Despite what advertising tells you, throwaways are no blessing to the consumer. You pay 30% more for a throwaway. You waste the nation's energy resources. To top off these costs, the throwaway makes you responsible for the handling, storage and disposal of the container.

On the other hand, a return to returnables would cut the cost of pop and beer and reduce our total volume of solid wastes. It would also cut the industry's energy demand by 55% — enough to generate residential electricity for a city of 7½ million people, according to Dr. Priscilla Laws, of Dickinson College in Carlisle, Pa.

ENERGY COSTS FOR PRODUCTION OF COMMON MATERIALS
(equivalent in pounds of coal)

Per Pound of	From Ore	From Recycled Material
Steel	1.11	0.22
Aluminum	6.09	0.17 to 0.26
Copper	1.98	0.11
Glass	0.36	0.36

Source: Oak Ridge National Laboratory.

BEYOND GLASS

The prospects for sensible recyclers are more encouraging outside the glass factory. Paper, steel and other metals can be recycled without an energy debt and with savings to valuable finite resources.

In 1973 for the first time, the paper industry is relying more on secondary pulp sources — waste papers, wood chips and such — than on pulpwood logs for raw material, the American Paper Institute says. The Institute looks to recycling, especially of newsprint and paperboard, as their most rapid source of increased raw materials. The paper industry now uses 50.7% waste and chips and 49.3% new logs. The amount of waste used in the future will increase, predicts the Institute's President Edwin A. Locke, Jr.

Similarly, the steel industry is gaining capacity to deal with scrap metals. Electric furnaces, which can melt 100% scrap, produced 17.4% of our steel in 1971. During the previous two decades the industry had been dominated by the basic oxygen furnace (BOF), which could handle a maximum of about 30% scrap. Now, even the BOF can be adapted to use more scrap.

The only cloud over this rosy world of recycling markets is, unfortunately, black. Markets do seem to exist. But present laws and skills surrounding recyclables make it difficult to bring the junk to market.

MARKETING SCRAP

Take the steel industry, for example. Each year cars are equipped with more non-steel parts. The scrap dealer must get rid of all of these materials before he has salable scrap. Removing copper is especially important because an excess in the steelmaking furnace will cause "copper checking," a surface defect in the final product. Most often this involves costly, inefficient hand labor.

The much needed research in processing is being carried out — not by the steel industry — but by the Bureau of Mines. Bureau engineers, in cooperation with the Wasatch Metal and Salvage Company, have developed a low-cost smokeless incinerator now operating in Salt Lake City. The incinerator can process 50 cars in eight hours, producing a scrap bundle containing less than .1% copper. Construction of the incinerator costs $22,000. Unfortunately, most scrap men don't have that kind of capital.

The scrap man also needs an efficient way to process household appliances. The average stripped auto contains 90% steel. The average appliance contains almost as much steel unstripped.

The steel industry has provided no support for this research either. Many steel makers have money in the mining industry, so they don't want scrap to become available too rapidly. Many realize that no matter what the scrap processing techniques, virgin ore will probably remain cheaper. Discriminatory freight rates and depletion allowances keep scrap prices up and ore prices down.

As one scrap dealer said, "Until 1970, it was cheaper to ship a ton of scrap from Baltimore to Japan than it was from Baltimore to Pittsburgh." A Battelle Institute study shows that discriminatory transportation rates add about six per cent to the cost of producing steel from scrap.

The situation has improved since 1970, but a disparity still exists.

SCRAP IN COURT

The transportation rates were challenged in court in 1972 by a group of George Washington University law students, members of Students Challenging Regulatory Administrative

Proceedings (SCRAP). They charged that the rates result in a depletion of natural resources and contribute to the accumulation of solid waste and the destruction of our environment. SCRAP asked that the Interstate Commerce Commission, which must approve all rate increases, be required to prepare an environmental impact statement before approving the latest proposed increase.

SCRAP won the case in federal district court. The Supreme Court reversed that decision, however, ruling that the district court had exceeded its jurisdiction.

The ICC filed an impact statement anyway, early in 1973. The commission drew unexpected conclusions from the study, however. They decided that the freight rates for recyclable materials should be increased — not decreased. The proposed increase has been temporarily frozen, however — a victim of Nixon's economic stabilization program.

Meanwhile SCRAP has proclaimed the ICC assessment of environmental impact an understatement. The group has returned to the courts to seek a permanent injunction against an increase.

In short, these problems of processing, freight rates and depletion allowances keep the scrap from its market. Similar problems affect the sales of recyclables in other industries.

Progress in the West

Some Westerners have found innovative approaches to handling solid waste problems on a small scale. No bottle bill has been passed in the Rockies yet. But a few small recycling operations are making ends meet. Their very existence is preparing the public for larger operations. If people are ready to accept the higher costs which result initially from Connecticut plans and Oregon bottle bills, it may be because the citizen garbologists and the small-scale recycling engineers have convinced them that it is necessary.

Here is a brief look at what is happening in the Northern Rockies:

Aspen, Colo. — Paving With Glass

County officials in Aspen, Colo. have agreed to let volunteers try collecting glass trash for use in road paving. Citizens are encouraged to bring bottles and smashed windows to the recycling center. When the center's barrels are filled, county trucks haul the contents to a special pit at the county dump. The goal is to amass enough to pave a one-mile stretch of county road. Simultaneously, another one-mile stretch of regular asphalt will be laid and the results compared. Glasphalt is said to be a tougher product than asphalt — but it's never been tried at this 8,000-foot elevation before, so the mix will be an experiment. If successful, the experiment may prove a good alternative to more gravel pits in the scenic resort area.

Glasphalt may not be feasible on a large scale in these days when energy is no longer plentiful nor cheap, however. Production of glasphalt consumes 60 times more energy than asphalt made with stone, according to Bruce Hannon of the Center for Advanced Computation at the University of Illinois.

Boulder, Colo. — Scavenging at the Dump

It is the business of Urban Waste Resources, Inc. to rummage through the Boulder, Colo. landfill in search of beverage cans, cardboard, bottles and cloth. On a good day, UWR can recycle about 63 tons of trash. At the company's 400-acre site near Marshall, Colo. workers sort through selected loads of residential garbage as they come down a conveyor belt toward a large shredder. After the cans, metal, bottles, rags and good pieces of cardboard have been picked off, the rest is shredded and piled. The piles are turned, re-shredded and watered down every three days. After about 90 days in good weather the material is sifted and bagged as "Rich Loam" compost. UWR owner David Kean says the compost contains more phosphorous, potassium and nitrogen than other commercial peat products.

Denver, Colo. — Trash Mountains to Molehills

The drudgery involved in the Boulder sorting process soon may not be necessary. A Denver company has developed a machine that can help reduce America's five pounds of trash per person per day to a single ounce.

The company, Scientific Separators, Inc. has found a way to separate light, burnable trash from heavier glass and metal refuse. American Can Co. has bought rights to the system and has assigned them to its subsidiary, Americology, Inc.

The sorting process uses a zig-zag wind tunnel that allows lighter paper and plastic to be blown out the top into a compactor. The light material is then reduced to pellets which can be readily sold as fuel for boilers and furnaces. The heavier junk sinks to the bottom, where a magnet sorts the metal from the glass.

The system could handle about 500 tons per day — the output of a typical city of 150,000 people.

Golden, Colo. — Pyrolysis

Nearby in Golden, Colo. the Adolph Coors Co. brewery is building a pilot plant to convert garbage into usable fuel gas. The gas produced will make steam to help drive the brewery generators. The process, "pyrolysis," was developed by the Bureau of Mines. Trash is injected into a high-temperature, oxygen-deficient atmosphere to produce gas. Since the gas is produced without traditional combustion, the traditional air pollutants are not produced.

For now, the plant will consume only three truckloads of garbage a day. If all goes well, Coors plans to build a full scale production plant which could someday consume all of Denver's garbage and satisfy all the company's power needs.

Wyoming — Can the Big, Empty State Recycle Too?

The Wyoming State Department of Environmental Quality reports that the beverage industry has shown some interest in establishing recycling centers in the state. As anyone who has tried to recycle in Wyoming already knows, key questions are: availability of markets, transportation costs and volume of recyclable material located in the state.

"The recycling spirit is at the roots of Wyoming tradition," says Barbara Zimmers, who has

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We junk about eight million cars a year. That scrap, along with the metal in our 21 million discarded appliances and 48 million steel cans could provide American consumers with about 35 million tons of ferrous material, according to the Council on Economic Priorities. Only about 16 million tons of that is actually recycled, however. If we had recycled the rest in 1970 we would have saved 16.4 million tons of coal, the Council says. Recovering a higher percentage of this potential steel will be difficult for three reasons: 1. The purity of ferrous scrap has deteriorated. Automobiles are now built with a higher percentage of alloys, coated and plated steels. 2. In our pioneering enthusiasm for rapid resource development, the country set up freight rates which discriminate against those who carry scrap, instead of virgin ore, to the processor. 3. The depletion allowance gives the ore miner an economic advantage over the scrap dealer.

On the bright side, technological developments have recently cleared the way for using more scrap. New electric furnaces which can melt nearly 100% scrap produced 17.4% of our steel in 1971. The rest of the industry still uses basic oxygen furnaces which can handle a maximum of about 30% scrap. **Photo by Lynne Bama**

helped start and run a recycling center in Jackson, Wyo. "Old-timers have been recycling for years."

The Jackson center began in 1972. The volunteer group that runs it, AWARE has no bills and a very small income from the aluminum it collects. Their goal is to reduce the solid waste load and to work toward a system which is not totally dependent on volunteer help.

The center accepts newspapers, glass and aluminum. The aluminum goes to Coors. The glass goes to a local road builder who uses it for sub-surface. (The builder does not have a fine enough crusher to make the glasphalt.) Newspapers are picked up by the city once a month and delivered to the recycling center. The papers are hauled to Idaho Falls for use in insulation manufacturing. The manufacturer pays to have the papers loaded and transported.

Because of distances and the lack of industries that accept recyclables in the state, recycling looks forbidding to many Wyoming communities. Zimmers says that for this reason, the state should try to reduce the amount of waste it produces. She favors the passage of an Oregon-type bottle bill, which would eliminate many of the throwaway cans and bottles in the garbage heap.

Wyoming — Bottle Bill?

Returnable container legislation failed to move out of committee at the last session of the Wyoming legislature.

The bill, No. 381 sponsored by Alan Simpson and John Turner, was very similar to the Oregon bottle bill. It set up a study commission to work on the problem until the proposed date the bill would have become effective, Oct. 1, 1977.

Wyoming — Hauling Auto Hulks

Fremont County, Wyo. has lowered transportation costs to encourage the recycling of auto hulks in the county. A Chicago and Northwestern Railway executive, Joe Doskey, convinced his firm to create a special reduced freight rate for crushed autos headed for recycling. C & NW purchased a number of 65-foot gondola freight cars which can transport 60 flattened hulks each.

The community took over from there on a project that the railway dubbed "PRIDE," Promote Involvement to Defend the Environment. Citizens have inventoried abandoned autos, set up collection sites and arranged for processing each of the cars donated to PRIDE.

The number of donations so far has disappointed county officials. The first collection this summer processed only 900 hulks. Next year, officials say, they'll start publicity on the project earlier.

Two salvage yard owners in the area refused to participate in the program.

"I can't afford to give my cars away," said one. "The scrap metal market is on the upswing and I'll be able to salvage at a profit."

Idaho Falls, Idaho — A Tale of Woe

Volunteers in Idaho Falls, Idaho have found recycling a frustrating venture. They began two years ago with modest ambitions: to try to collect the aluminum and bi-metallic cans in the area. They set up three bins. Volunteers cleared and sorted the cans daily and the city came for collection once a week.

"As with anything left unattended, we found dirty diapers, kittens in boxes, fried chicken bones, a deer carcass and other miscellaneous items," said Bonnie Farman, a member of the frazzled recycling committee.

The aluminum collected was sold to a Coors distributor for $200 per ton. The other cans were not so well-received.

"The junk dealer who was taking the bi-metallic cans and paying three dollars per ton often complained about taking the cans and refused them," Farman said. "Discouragement set in and the program was scrapped after about a year and a half."

Girl Scouts may take over the project. They plan to have cans deposited in a location which opens only once every two months.

Boy Scouts conduct paper drives once every six weeks in the Idaho Falls area. Bonded Electric Company buys the paper for eight dollars a ton. The scrap is made into a fireproof insulating material for homes. Unfortunately, the Scouts can't find enough paper. The company would buy 50 tons, but at best the boys have only been able to collect 20 tons.

Bonnie Farman estimates that about 85 tons of newspaper are let loose in the city every month. "The paper is here, but we don't seem to be able to interest enough people in saving it," she says.

Farman will continue her recycling efforts, because she feels that volunteer groups can, at least, educate the public. They won't be able to carry out recycling on a full scale until laws require it and transportation is cheaper, she says.

Her reward so far is that "people in Idaho Falls now know the word 'recycling,' " she says.

Boise, Idaho — A Small Success

The Boise Recycling Committee, Inc. is reaping a small profit from the trash they collect. They have a paid coordinator. After his salary of $250 per month and the other bills are paid, the committee finds they still have a bit left over for purchasing equipment.

They make most of their money from quality paper and aluminum. The paper is shipped to Washington and to Vancouver, B.C. It is reduced to pulp and returned to the paper process again. The aluminum is sold to Coors.

The glass collected by the committee is shipped to Owens-Illinois in Portland, Ore. where it is used in glass making. Newspaper is sold locally and used to make insulation.

Montana — Recycling Complex

Recycling has become a large business operation for Doug Stewart and Mark Richlen of Missoula, Mont. They started a center in Missoula in October of 1971 with a $10,000 investment. The other centers which he established in Billings, Great Falls, Bozeman, Livingston, Butte and Helena required smaller investments, Stewart says. He and his staff have collected $155,000 worth of trash during the last two years.

The centers collect newspaper, aluminum cans, certain beer bottles and other household aluminum products. The paper is sent to mills in Washington for recycling. They pay a penny for each five pounds of newspaper turned in. At the Missoula center, about 90,000 pounds of newspaper accumulate every six weeks.

The centers own three aluminum shredders. After shredding, the aluminum products are sent to Lester Hill, Ala. by rail for melting and processing into new aluminum products.

Recycler Stewart has opposed the passage of an Oregon-type bottle bill in Montana. The Oregon law puts a deposit value on all of its beverage containers and has outlawed the pull-top can. Such a bill, if passed in Montana, would make cans and bottles so valuable that the recycling centers would be put out of business, Stewart says.

Montana — Erasing Car Body Blight, Saving Steel

Montana has a statewide law about auto hulks. Since July 1, 1973, counties have been required to provide temporary and permanent auto graveyards. When 200 cars are collected in any one yard, the state hires a contractor to squash the cars and ship them for recycling. The state is using funds from title transfers and license plate fees to finance the program.

Where to Go To Recycle

Here's a guide to recycling in the Northern Rockies (to be used only after you've tried to buy all returnables and failed).

We've included both private companies and volunteer groups — both those who just relieve you of your junk and those who pay. When money isn't mentioned after a location, we don't know whether they pay or not.

We suggest you call or write before you arrive with a truckload of trash at any of these places. Many operations require specific quantities and special preparations.

From the looks of the list, you're able to get rid of your trash most easily if you live in Salt Lake City or Denver. In other places there's usually a recycling center for aluminum, but not much else nearby. We hope that this list will suggest some solutions to those of you in the smaller places. If you haven't already, your community could start a recycling center manned by local volunteers. Perhaps a local grocery chain store would let you fill their truck with your collections. It may now be empty as it rolls toward some metropolis for supplies. If stationed nearby, perhaps the National Guard would make periodic practice missions for your cause. Explore other trucking possibilities.

If you have more information about recycling centers in the Northern Rockies, let us know. We'll try to keep our list up to date.

Colorado

AKRON
— O'Neil Brothers Distributing Co., 10 South Custer — aluminum cans.

ALAMOSA
— Coors, Inc., 407 6th St. — aluminum cans: 10 cents per pound.

ARVADA
— Colo. Delivery, Inc., 7800 W. 62nd Ave. — aluminum cans.

ASPEN
— Environmental Task Force Recycling Center, shed across from county court house — beer containers, glass.

AURORA
— Timberline Distributers, Inc., 3131 Oakland St. — aluminum cans.

COLORADO SPRINGS
— Cascade Sales, 3141 N. Century — aluminum cans.
— Rampart Distributing Co., 470 N. Park Rd. — aluminum cans.

CRAIG
— C&H Distributing Co., 395 School St. — aluminum cans.
— Midway Distributing Co., 306 Breeze St. — aluminum cans.

DENVER
— Adolph Coors Co., 18th and Clay St. — aluminum (10 cents per pound) and steel beer cans and all beer bottles (1 cent per bottle).
— Coors Distributing Co., 1280 W. 47th Ave. — aluminum and steel beer cans and all beer bottles.
— Friedman & Son, 2345 Walnut — paper, magazines, IBM cards, cardboard: $7 per ton, in separated bundles.
— Museum of Natural History, City Park — paper.
— Augustana Lutheran, E. Alameda — paper and beverage cans.
— American Can Co., 4801 E. 46th Ave. — any metal container: steel $10 per ton, aluminum $200 per ton.
— Continental Can Co., 241 S. Cherokee — tin and aluminum cans: donations to charity only.
— National Iron & Metal, 100 S. Sante Fe — large quantities of tin and aluminum.
— A & A Rag and Metal, 2601 Larimer — any quantity of non-ferrous metal.
— Newell Salvage, 1919 7th Ave. — large metal carcasses.
— Barter Metals, 701 W. Bayaud — large quantities of tin and metal.
— Rocky Mountain Paper Co., 3500 Chestnut Pl. — computer print out paper, copper and brass.

— Denver Free University, 1122 E. 17th — aluminum.
— Lowry Air Force Base, paper, aluminum, scrap metal and battery lead.
— Barter Machinery & Supply, 215 S. Sante Fe — any metal can.
National Metal Processing Co. Inc., 1919 7th St. — automobiles: unprepared $6 per ton, seats removed $9.50 per ton, flattened $11 per ton.

— To buy recycled paper in Denver contact one of the following paper companies: Butler, 601 W. 50th; Dixon, 1780 W. 6th Ave; Gleason, 4950 Dahlia; Jensen, 10707 E. 40th; Nationwide, 4800 E. 48th Ave.; or R V, 2480 W. 4th Ave. These companies prefer orders of 10 cartons or more.
— For small orders of recycled paper or questions about recycling in the Denver area contact Keep Colorado Beautiful, 4260 E. Evans, Denver, CO 80222.
— For more information about recycling any non-returnable beverage container in the Denver area contact Tri-Cycle, P.O. Box 7E, Arvada, CO 80001.

DUMONT
— C & H Distributing Co., Lots 9-10-11 in Block 1 — aluminum.

DURANGO
— A & L Coors, Inc., 877 E. Third St. — aluminum.

ENGLEWOOD
— D & D Sales Co., 4300 S. Sante Fe Lane — aluminum.

FLORENCE
— J & F Sales Co., 126 E. Main St. — aluminum.

FORT COLLINS
— E & J Sales Co., 126 E. Main St. — aluminum.
— Marshall Distributing Co., 518 N. Loomis St. — aluminim.

GLENWOOD SPRINGS
— Coors Western Slope Distributing Co., Route No. 2, One Mile West of City Limits on Rio Grande Railroad Service Road — aluminum.
— Grand Mesa Distributing Co., Rural Route 2 — aluminum.
— Orrison Distributors, Inc., 302 W. 8th— aluminum.

GOLDEN
— C & H Sales Co., 780 Simms St. — aluminum.

GRANBY
— C & H Distributing Co., P.O. Box 121 — aluminum.

GRAND JUNCTION
— Centennial Distributing Co., 245 S. Ave. — aluminum.

GREELEY
— McDay Distributing Co., 500 26th St. — aluminum.
— Nor-Colo. Distributing Co., 2428 4th Ave. — aluminum.

LA JUNTA
— Greenstreet Distributing Co., 702 E. 1st St. — aluminum.

LAYFAYETTE
— Wano Co., 404 W. Baseline Rd. — aluminum.

LAKEWOOD
— C & H Sales Co., 11494 8th Ave. — aluminum.
— Craft Center, 195 S. Sheridan — paper, cardboard, grocery bags, baby food jars and shoe boxes.

LAMAR
— Greenstreet Distributing Co., 107 W. Poplar St. — aluminum.

LEADVILLE
— George F. Rutkey, Inc., 500-506 Front St. — aluminum.

LONGMONT
— Nor-Colo. Distributing Co., 105 Gay St. — aluminum.

MONTROSE
— R.C. Pixler Distributing Co., 333 N. 8th St. — aluminum.

PUEBLO
— A-B Distributing Co., 1900 S. Freeway — aluminum.
— Luria Brothers Compressed Steel, 303-545-0263 — automotive bodies and major appliances, must be cleaned by hand or by burning. Engines, tires, wiring, rubber must be removed: $16 per ton.

SALIDA
— J & F Sales Co., 338 Oak St. — aluminum.

STERLING
— Debord Distributing, Inc., 915 State St. — aluminum.

TRINIDAD
— M & M Distributing, Inc., 915 State St. — aluminum.
— So. Colorado Coors, 505 W. Main St. — aluminum.

WALSENBURG
— So. Colorado Coors, 344 E. 6th St. — aluminum.

Idaho

BOISE
— Boise Sales Co., 110 W. 33rd St.— aluminum.
— General Distributing Co., 5208 Irving St.— aluminum.
— J & J Distributing Co., 6004 Franklin Rd.— aluminum.
— South Idaho Distributing Co., 5125 Gage St.— aluminum.
— Yachum Distributing Co., 5520 Wylie Lane— aluminum.
— for more information about Boise recycling contact Boise Recycling Committee, Inc., Lyle Sall, 512 W. Idaho.

BURLEY
— Burley Beverage Co., 437 E. Fifth— aluminum.

COEUR D'ALENE
— Don R. LaVoie Distributing, 1515 N.W. Blvd. — aluminum.
— Kiefer Distributing Co., 201 Third St.— aluminum.
— Kootenai Distributing Co., Route Box 130-A— aluminum.
— Panhandle Distributers, 208-664-4895— aluminum.
— Parker Distributing Co., 201 N. Third St.— aluminum.
— S & P Sales and Distributing Co., 1512 Government Way— aluminum.

IDAHO FALLS
— B & F Distributing Co., 325 N. Lee— aluminum.
— Drewes Distributing, 1190 Quigley— aluminum.

KELLOGG
— Panhandle Distributors, W. 35 Railroad Ave. — aluminum.

LEWISTON
— Valley Recycling Center, 1205 Main St. open Tues. and Sat. — newspapers, steel-tin cans, glass jars, paper bags, egg cartons, baler twine, empty 30 gal. barrels, aluminum cans (10 cents per lb. crushed, 5 cents per lb. uncrushed), beer bottles (1 cent each or 25 cents per case for Coors, Rainier, Rhinelander, Lucky, Olympia, Tuborg, Hamms and Heidelburg).
— Empire Beverage of Lewiston, 0205 First St.— aluminum.
— Gail Fouts Distributing Co., 3020 E. Main— aluminum.
— Lewiston Distributing Co., 1901 Main St.— aluminum.
— Mitchell Distributing Co., 517 Snake River Ave.— aluminum.

Lists to be continued next issue.

Areas of Action

Strip mining may become more costly than deep mining — at least if Rep. John Seiberling of Ohio has his way. Seiberling is a member of the joint subcommittees on Environment and Mines and Mining in the House which has been considering strip mining legislation. He has offered an amendment which would in effect reverse the trend away from deep mining toward strip mining.

The amendment provides for a $2.50 a ton fee to be placed on all domestic coal. The fee could be rebated up to 90% as a credit for funds in one of three catagories: 1) reclamation as required under the Act, 2) equipment required by the Coal Mine Health and Safety Act, and 3) black lung benefits due under the Coal Mine Health and Safety Act.

The intent of the fee is to make deep mining competitive with surface mining. Now stripped coal is $2.60 a ton cheaper than deep mined coal from the same area. Seiberling estimates that his amendment might increase the cost of deep mined coal by as little as $.25 a ton while stripped coal would increase in cost by as much as $2.00 a ton.

Seiberling is said to have offered his amendment less because of environmental concern than because of concern over the energy crisis. He sees the steady shift to strip mining as a threat to this country's economy and energy self sufficiency. Seiberling feels government policies which encourage more strip mining are foolhardy in view of the small percentage of our nations's coal reserves that are strippable. In the end we must return to deep mining and if we drive all our deep miners out of business before their day we'll be in serious trouble.

The subcommittee has not adopted a counterpart to the Senate-passed Mansfield Amendment (which bans surface mining of federal coal where the surface is in private ownership). Observers feel the House may adopt a bill with provisions "less stringent than Mansfield's, but more protective of the surface owners than the current provisions. . ."

Sen. Mansfield has stood steadfast behind his amendment despite criticism that it would not even allow coal companies to mine their own land if the coal is federally owned. In a letter to the House Interior Committee, Mansfield wrote, "I wish to reaffirm my previous statement that the stripping of coal in the West is not the answer to our current energy crisis. It may be the easiest but this shortsighted solution gives no consideration to the future of a large part of the Great Plains. The Administration and the Congress have neglected the expansion of existing power generating facilities, accelerated research and development, and conservation of energy. Some attention must be given to these matters and to the development of an overall long term national energy policy before we proceed to allow destruction of states like Montana, North Dakota, and Wyoming. My amendment is one means of forcing all interested parties to stop and take a look at what is happening."

In view of the stand taken by many landowner and citizen groups in Montana, Wyoming, and North Dakota, we urge our readers to write your representative in Congress in support of the Mansfield Amendment, and the Seiberling Amendment. Further, we ask that you urge a strong bill be considered at the earliest possible time. Mining and utility interests have already forced a delay in consideration of a House strip mine act until late in January. Your help on this matter is critical.

Solar heating and cooling of our nation's buildings is not an exotic energy source in the distant future. Dr. Dixie Lee Ray, Chairperson of the atomic Energy Commission, has just completed a study on energy research and development which recommends installing solar systems in federal buildings. She believes there are no technology hurdles to the use of solar energy in this manner. If federal buildings were committed to solar energy this would accelerate the marketing and manufacturing of solar heating systems, according to Ray.

Rep. Mike McCormack of Washington is also enthusiastic about solar energy's potential. "At a time when we face a severe energy shortage, not only for the coming winter but for years and decades ahead, we can no longer afford to ignore the potential contributions of solar energy," he said.

McCormack has introduced a solar energy bill H.R. 10952) into the House that has already attracted 120 co-sponsors. All but one of the members of the Science and Astronautics Committee — to which H.R. 10952 has been referred — are co-sponsors.

The bill directs the Administrator of the National Aeronautics and Space Administration (NASA) to develop, with the Secretary of Commerce, "performance criteria for solar heating equipment and systems to be used in residential dwellings and performance criteria for such dwellings themselves, taking in to account in each instance climatic variations. . ." Open competition will determine the best system. NASA is authorized to aid in both the development and production of approved systems.

Solar heating systems are to be installed within three years in about 2,000 homes across the country and their performance will be monitored. Solar heating and cooling (dual) systems will undergo a smilar test within five years. NASA is also directed by the legislation to investigate solar heating and cooling for commercial buildings. Research would be conducted in conjunction with the National Science Foundation.

Solar energy is one of those resources whose time has come. H.R. 10952 will expedite the day when solar energy will be used to replace dwindling and expensive fossil fuels. It needs widespread support. Write your own congressman and urge his support. Write your senator and ask him to sponsor or co-sponsor similar legislation in the Senate.

Oil Shale - B

The Piceance Basin is not the desolate unaesthetic wasteland that prospective developers would like you to believe. The southeast portion of the basin, pictured above, is cut by rugged scenic canyons. This picture looks southwest from over the headwaters of Roan Creek. The canyons are excellent big game winter range.

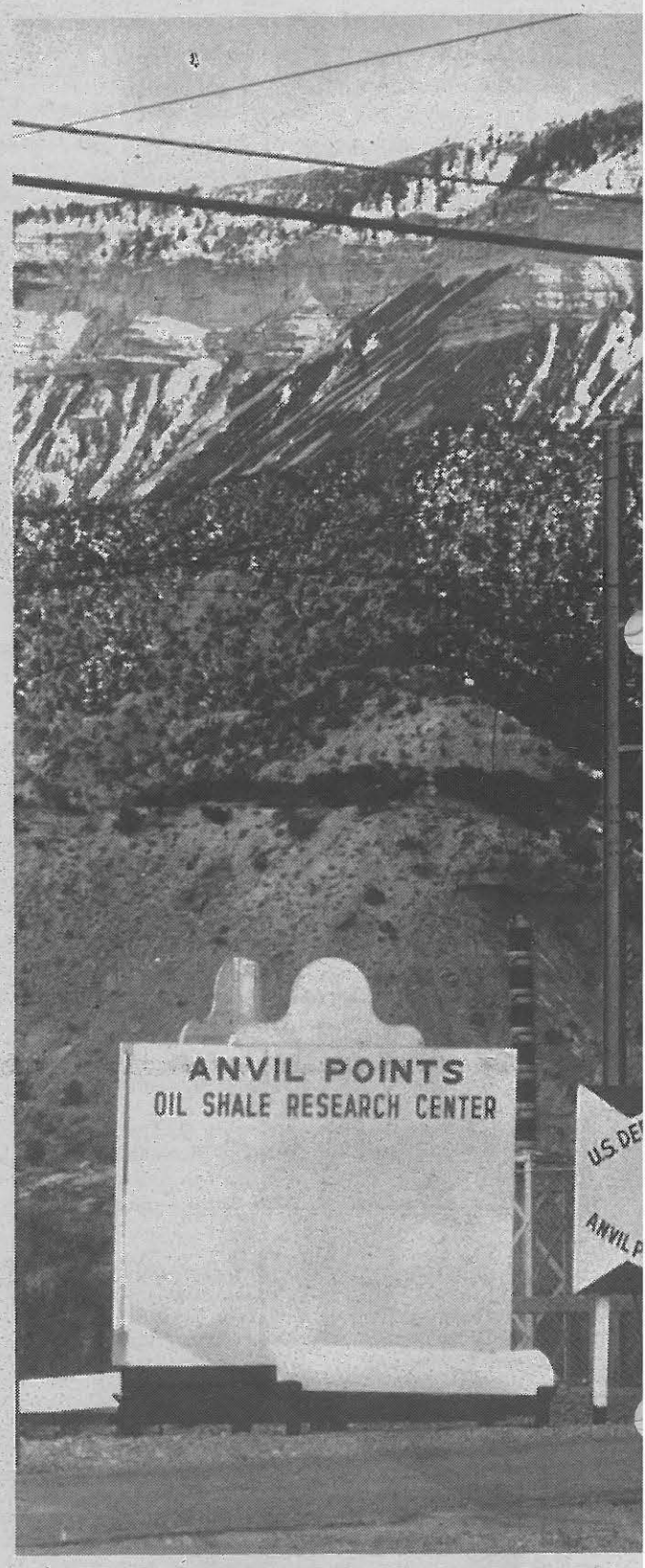
Photo by Hubert Burke

Colorado Tract C-b, shown partially in right middle foreground above (tract extends to right out of photo), will most likely be developed using underground mining and surface processing and disposal. This photo is taken looking south over the East, Middle and West Forks of Stewart Gulch. These are all proposed as surface disposal sites for spent shale. That is, the powdery, black material would be packed into the valleys. Average relief from valley floor to ridge top in the proposed disposal area is 500 feet. It may be zero feet in the future. Shrubland is pinyon pine-juniper.

Photo by Hubert Burke.

Secretary of the Interior Rogers C.B. Morton ha given the go-ahead to oil shale development on publi lands in Colorado, Utah and Wyoming. The first trac Colorado Tract C-a, will be up for grabs Jan. 8 i Denver. Colorado Tract C-b will be let Feb. 5. Th two Utah tracts will be bid March 8 and April The two Wyoming tracts will be offered on May and June 4. Each tract contains 5,120 acres.

Colorado Tract C-a is the most controversial sinc the surface owner, the Colorado Division of Wildlif has publicly opposed its selection. An open pit m is forecast for the tract which could uncover 1.8 b ion tons of oil shale and is projected to yield 1.3 billio barrels of oil. Tract C-b by comparison has one billio tons of mineable oil shale and could yield 900 millio



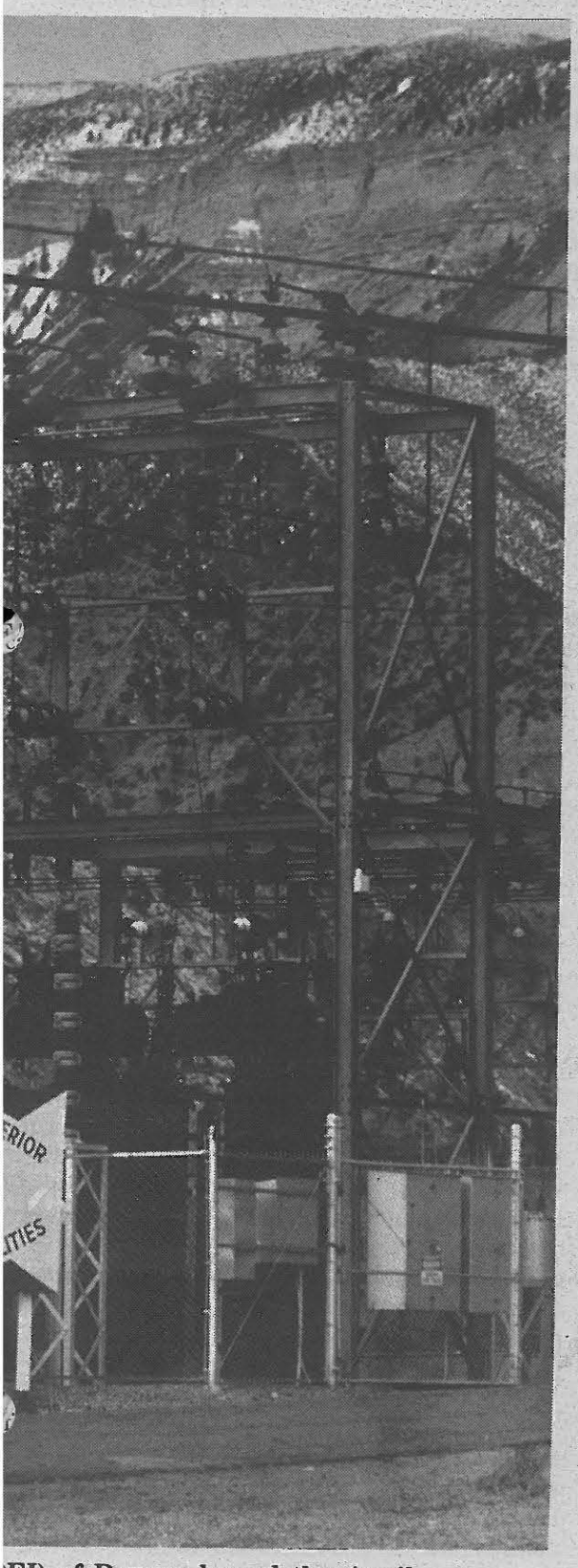
In April, 1972, Development Engin Points Oil Shale Research Center fr DEI has begun a $5 million research pr operated by the Bureau of Mines until are outcroppings of oil shale.

Conservation organizations have su ing program, the government could r the facility would be used to produ experimentation by energy companie testing of a variety of retorting tech minimum of land disturbance. It would less investment by companies with lin

or Bane?

s of oil.
sell Cameron, a Denver engineer who has been
ng oil shale for 25 years, says, "We will have
every energy source we can develop. The
are already born who will use oil from shale.
see a million barrels a day capacity in the
"

ell Train, administrator of the Environmental
tion Agency, says there should not be any
ly adverse environmental impacts from the
e developments. But he says problems could
th full-scale development.
ured on these pages is some of Colorado's oil
country. The region, known as the Piceance
is in northwest Colorado near the Utah border.



EI) of Denver leased the Anvil
Bureau of Mines for five years.
ility. Anvil Points was originally
956. The cliffs in the background

an alternative to the major leas-
oints mine. Under the proposal,
ilot-scale demonstrations and
tive would allow simultaneous
esearch on reclamation with a
water consumption and require
Photo by David Sumner.

Much of this bottom land along the Colorado River has been bought up by industrial and private land speculators. Population is expected to nearly quadruple in Colorado's tri-county oil shale region as a result of development. The Colony Development Corporation's private prototype oil shale operation is up Parachute Creek (canyon shown in upper right). The town of Grand Valley at the mouth of Parachute Creek is expected to be a major growth center in the area.

Photo by Hubert Burke.

Colorado Tract C-a is located approximately eight miles beyond the ridge shown above, known as Cathedral Bluffs. A surface mine on the tract would have to dispose of 60,000 tons per day of retorted (spent) shale. How can you get rid of that much waste? Easy, says the federal government! One plan calls for transporting the wastes from the mine to the top of the scenic Cathedral Bluffs. Then you just shove it over the edge into the canyons, one of which is shown in the foreground here. Six side canyons of Douglas Creek, like the one pictured above, may be obliterated in this way. But have no fear, for we can rest assured that the "surface would be graded to blend into the natural terrain." The Interior Department notes that "during periods of heavy runoff, these tributaries to Douglas Creek, and Douglas Creek itself, which is also deeply incised (cut by canyons), transmit large quantities of water and silt into the White River." Spent shale may soon be added to the murky runoff.

Photo by Hubert Burke.

Reckoning from Washington

by Lee Catterall

Responding to a shotgun challenge to massive, proposed strip mining activities in Wyoming and Montana, officials from an assortment of federal agencies have begun plans to determine how mineral development would affect the Powder River Basin.

Such a determination is required by a law Congress passed nearly four years ago, a law that has delayed some proposals, paralyzed others: the National Environmental Policy Act. It compels federal agencies to prepare comprehensive descriptions of "major federal actions significantly affecting the quality of the human environment." These must detail what impact, direct and indirect, possible and unavoidable, such actions would have on the environment.

Armed with that law, environmental groups have reacted with legal briefs to every recent wink in the direction of the Powder River Basin's coal bed, alleging that strip mining destroys the land and that coal-generated power plants pollute the air and hoard the water.

When Burlington Northern proposed building a rail line to allow coal to be hauled from a strippable area near Gillette to a main hookup near Douglas, environmentalists said that was a helluva place to run a railroad. Accordingly, the Sierra Club demanded an environmental impact statement and said it should include the effects of all coal-related development in the area.

The Interstate Commerce Commission, which grants rail permits, has agreed with the Sierra Club that such a statement is required, and has begun receiving bits of information from Burlington Northern about the impact, an ICC spokesman said. Chicago and North Western, which also wants to build a rail line in the same area, has joined Burlington Northern in opposition to the Sierra Club challenge.

Meanwhile, people in other federal bailiwicks could see legal challenges to strip mining on the horizon. The proposed railroad, an Interior Department official said, is "just part of the picture of a big operation."

So "rather than everybody writing an impact statement on its little piece of the action," he said, representatives of different parts of government have begun meeting recently to plan an attempt at assembling the jigsaw puzzle, "to try to determine the scope of the environmental impact statement, and who the lead agency would be. Even in a joint effort, somebody has to ramrod it."

The informal sessions, which have included people from Interior's Bureau of Land Management, Agriculture's Forest Service and the ICC are "still in the formative stages," the Interior official said. However, he added that one, large, all-encompassing statement, rather than smaller ones dealing with the many different facets, like the railroad, "appears to be ultimately what we'll end up with."

The immediate fate of the rail line, and any other coal-related activity, also hinges on the outcome of a Sierra Club suit that is expected to be argued next month in U.S. District Court in Washington. The suit seeks to stop all federal action "involving or affecting coal development" in the area until an environmental statement is completed.

On another front, a House Interior subcommittee this month approved, for consideration by its parent committee, a bill that would seek to limit environmental damage caused by strip mining. The bill, which won't undergo further committee work until at least late January, is more detailed than one passed by the Senate in October. It is considered tougher, although it doesn't contain a controversial provision, included in the Senate version, that would forbid strip mining on private land for coal owned by the federal government.

The Black Dollar Rush

Coal development in the West has many facets. Not the least of these are the profits to be made by the companies and the revenues to be derived by state and local governments. The latter are not always viewed as unmixed blessings by residents and state officials. The following comments are from one Montana official who must remain anonymous.

The editors.

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During the last days of the 42nd Legislature, the widely heralded Montana Utility Siting Act became mired in heated dispute. Environmental groups supported it; power and coal companies opposed it.

But when the time came for a decision, something strange happened. Generally speaking, the energy companies didn't exert their full influence to defeat the bill. And the lawmakers, in turn, made it law.

That turn-of-events didn't make modern political sense at first. But now, the complete impact of the siting act and other coal-related legislation has began to surface.

The siting law promises to bring millions upon millions into state coffers. The first filing fee by the Montana Power Company for Colstrip plants Numbers 3 and 4 was around $1.3 million, for example.

These dollar-laden dreams have created much activity among the various state agencies — and, as a side effect, a few quips. One goes like this: Ten years into the future, a nonresident flies over Helena and, looking down, exclaims, "Wow! Montana sure has a large and impressive Capital building." However, the pilot, a native Montanan, corrects the newcomer by saying, "Sorry, Joe, but the Capital is that smaller building over there. The big one is the utility siting department." (This may be funny now, but in a few paragraphs, it may not be.)

The siting law is not, however, Montana's only new money-making legislation. Several tax and reclamation laws also pour dollars into Helena. The large general fund surplus the state experienced this year was undoubtedly partly caused by increased income from coal development.

About now, many Montanans are — while dancing wildly with joyous dexterity on the nearest bar room table — preparing to sound off with an ear-splitting, "Isn't that wonderful." But we say, "Wait just one minute — all that is good is not tabulated in dollar signs."

What will all this money really do? It will, in essence, guarantee the State of Montana's approval of the accelerated development of Montana's energy resources. The question of whether or not coal development is good for Montana is now only asked in low tones in Capitol corridors. Anything that creates so much income for the state **must be good.** Right?

Wrong! Already the state has learned to depend on the income from coal. And to endanger that income in future years borders on political impossibility. The coal miners probably will, in the end, have their way. Montana's vast coal deposits — found in 50 of 56 counties — will be extracted by strip mining. The stripped coal will be burnt for energy. And the energy will, for the most part, go out of Montana.

Granted it will cost the companies more than it does in other states. That alone will certainly slow the development to some extent. And coal development requires tight control, so the new laws are needed. (However, much of the coal-produced income goes for one purpose — administering, researching and staffing coal-related projects.)

In 1858, when the Stuart brothers found the first yellow flakes in Gold Creek, a tributary to the Clark Fork River, their discovery echoed across the land. Much earlier — April 22, 1805 — however, Captain William Clark saw an outcrop of coal along the Missouri. He was, in fact, the first white man to find, and then burn, coal in Montana. Oddly, his find didn't get much recognition — until now, that is, when Montanans have finally learned how to extract green dollars from black gold.

Will these dollars turn black like their precursor? And will Montana — in the long run — be better off **without** so much money from coal?

Today, these questions are difficult — maybe impossible — to answer. But in ten years, it's a safe bet that they won't be.

It can all be summed up in a bit of wisdom published by the Northern Plains Resource Council, a Billings-based environmental organization, entitled, "How to Cook a Live Frog."

Now, we all know that if we put a live frog in a pan of boiling water, he will react instantly and jump out **without even getting burned.** But if you place the same frog in a pan of cool water and then began to heat it up very slowly, the frog relaxes and dozes because it's so comfortable in the nice warm water. Before he wakes up and realizes it's time to jump, it's too late. **He's cooked!**

Emphasis ENERGY

The **North Central Power Study** (Oct., 1971) projected a need for an estimated 1.8 million acre-feet of water for power generation alone in the Powder River Basin of Montana and Wyoming. The Cameron Engineering Report (1969) projected as many as 19 powerplants, eight gasification plants, and eight synthetic liquid fuel plants in the Powder River Basin of Wyoming by the year 2020.

Recently, the Water Work Group of the Northern Great Plains Resource Program said energy companies have taken options on 712,000 acre-feet of water from Boysen Reservoir in Wyoming, Bighorn Reservoir in Wyoming and Montana, and Tongue River Reservoir in Montana. The energy companies have also applied for another 1,991,000 acre-feet a year which has not yet been allocated to them.

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Peabody Coal Co. and **Panhandle Eastern Pipe Line Co.** have hired an environmental consulting firm headed by former astronaut Walter M. Schirra, Jr. The firm, SERNCO Inc., will prepare a statement which assesses the impact of the coal gasification plant and mining operations planned for Wyoming by the two companies. Panhandle will build the gasification plant somewhere in eastern Wyoming. The plant will be supplied from the companies' jointly owned coal in Campbell County.

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Western Energy Co., a subsidiary of Montana Power Co., has been found in violation of Montana's new strip mining and reclamation law. Montana Land Commissioner Ted Schwinden says he has recommended a fine of not less than $8,200. The company was cited for violations involving drilling activities. It said it misunderstood the term "prospecting."

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Wyoming Sen. Clifford P. Hansen offered an amendment to the National Energy Emergency Act which would have exempted federal leases for energy resources from the environmental impact statement process for one year. The EIS is required under the terms of the National Environmental Policy Act. Hansen's amendment was defeated 64-21.

Colstrip Units 1 and 2 of the Montana Power Co.'s coal-fired, steam generating installation are under construction near Colstrip, Montana. Each unit will have a generating capacity of 350 megawatts. MPC has now paid $1.3 million for a permit to construct and operate Units 3 & 4 of 750 megawatts each. The huge sum was paid to the State of Montana under the terms of the new Utility Siting Act. That act is a measure designed to regulate the planning, construction and operation of energy generation and conversion plants in Montana. The tax is based on the total cost of the completed facility.

Emphasis ENERGY

in the Northern Rockies and Great Plains

The **Powder River Basin Resource Council** (Box 146, Buffalo, WY 82834) has unanimously endorsed the Mansfield Amendment to the federal strip mining act passed by the Senate. At its first annual meeting in Sheridan, Wyoming, recently, the Council also urged the adoption of similar language in the House. Another unanimously approved resolution called for orderly development of Wyoming's coal resources in a program to guarantee that the state's agricultural industry would not be damaged by mining practices.

At an earlier meeting in Gillette, Wyoming, the Council heard advice on what not to do in leasing land for coal. Landowners were told to beware of loosely worded contracts, and to seek competent legal advice.

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Pacific Power & Light Company says it is considering the addition of a fourth 500-megawatt unit to the Jim Bridger Power Plant. PP&L says it is discussing the additional generating unit with the Bonneville Power Administration. Three 500-megawatt units are now under construction at a site near Rock Springs, Wyoming. Reliable sources have told **High Country News** that as many as six generating units may be on the drawing boards. The 36-inch diameter pipeline now under construction to the Jim Bridger site could sustain generating capacity up to 3,575 megawatts.

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Utah Power & Light Co. has announced it is ready to seek approval for the addition of two new units to the Naughton Plant near Kemmerer, Wyoming. The units would have a capacity of 430,000 kilowatts each. The existing plant is 710,000 kilowatts and the addition of the proposed units would boost the size of the plant to a total of 1570 megawatts.

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Plans for the largest air-cooled electric generating plant in the world were presented at a public meeting in Gillette, Wyoming, this month. The plant, to be jointly owned by **Pacific Power and Light** and **Black Hills Power and Light,** would generate 330,000 kilowatts of electricity. The air-cooled plant would use about one-tenth of the water that a conventional water-cooled plant would use. Construction of the plant will begin in May of 1974 and should be completed in three years.

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Basin Electric, a consumer-owned cooperative electric utility, has announced that final plans for a coal-fired, 1200-megawatt, steam-generating plant will be announced within the next few months. Planners say the plant will probably be built near Wheatland, Wyoming, where several ranches have already been purchased as a possible plant site. Coal for the plant would be hauled from Wyoming's Powder River Basin by the Burlington Northern Railroad. Water would be supplied from a proposed reservoir on the Laramie River or the Wheatland Irrigation District.

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The head of the energy task force for the **Northern Great Plains Resources Program** doesn't see why the program study isn't called "what it is — it's a coal study." The Department of the Interior insists that the resources program is giving equal weight to all resources. The study involves four states with massive coal reserves — Wyoming, Montana, and North and South Dakota; and Nebraska — which has been suggested as a site for large coal-burning power plants. Environmentalists have criticized the program for its lack of emphasis on the existing resource base of the area: agriculture, forestry, recreation and water. Walter Dupree says that the region doesn't have any other economically significant resources of the magnitude of coal.

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Five states in the Northern Great Plains may be producing 362 million tons of coal by the year 2000, **John VanDerwalker** says. VanDerwalker is the new manager of the Northern Great Plains Resource Program. "Even at that rate, economically feasible coal will last about 100 years," he says.

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Amax Coal Co. says it plans to triple the production of coal from its Belle Ayr strip mining operation south of Gillette, Wyoming. The goal is to produce 10 million tons per year by sometime in 1977. At that rate of production some 50 acres per year would be disrupted. The mine is expected to last for 35 years. All of the coal is committed to out-of-state delivery.

The Hot Line

across the country

The **Federal Power Commission** National Gas Survey says five, large, high-BTU coal gasification plants could be in operation by the end of 1980. Those could be followed by 11 more by 1985 and a total of 36 by 1990. The Survey estimated cost of pipeline gas (made from strip mined coal) at $1.30 per million BTU by 1980.

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A spokesman for **Continental Oil Co.** says the last link in technology required to convert coal to high quality, pipeline gas has been perfected. Jim Landers says a test conducted in Scotland last month showed that coal gas could be up-graded to the heat content of natural gas. Landers says, "The process is ready for commercial use right now."

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Kentucky Gov. Wendell Ford says he would be willing to make state funds available for a coal conversion demonstration plant somewhere in that state. Ford and Kentucky Congressman Carl D. Perkins have been corresponding with Interior Department officials on the possibility of such a plant. They cite large coal resources and a manpower reservoir.

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Southern California Edison says it is interested in getting other utilities, railroads, and oil and coal companies to form a consortium for development of a pilot coal liquefaction plant. The demonstration plant would have a planned capacity of 25-30,000 barrels per day and use 10-15,000 tons of coal daily.

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John Quarles, Deputy Administrator for the Environmental Protection Agency, says he fears some environmental legislation will suffer as a result of the energy crisis. He cites strip mining, land use planning, and toxic substances.

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The **Ohio Board of Unreclaimed Strip Mined Lands** has estimated it will take 95 years and $283 million to reclaim all abandoned strip mine lands in the state. It estimates it will take an additional $440 million to reclaim lands disturbed by deep mining. The estimate was based on a study of various watersheds affected. The study estimates the average cost for reclamation of a single acre to be $1370.

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Last year, the **Soil Conservation Service** estimated that an area of land the size of New Jersey, some 7,820 square miles, had been disrupted by strip mining operations.

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Sen. Adlai Stevenson of Illinois has introduced legislation which would create a federal oil and gas corporation. Such a corporation would explore for, develop, and produce oil and natural gas from federal lands.

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Major oil companies aren't saying what they have in mind for **geothermal energy** but a number of them are gearing up for a rush on federal lands. Such companies as Gulf Oil, Phillips Petroleum, Union Oil and Standard Oil of California are said to be waiting only for federal guidelines on leasing before rushing into this new energy source.

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The **petrochemical industry** is predicting a 15% reduction in petroleum feedstocks could cause a nationwide loss of $60 billion and the loss of one and a half million jobs.

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The hydrogenation of coal using heat from nuclear power plants is going to be the subject of a two-year, $650,000 research and development program. **Gulf Oil Corp.** and **Stone & Webster** are going to team up in a program to gasify coal. The gasification process could increase the yield of pipeline gas some 30% over systems which use coal for both the process heat and the feedstock.

by Verne Huser

Why stop hiking just 'cause the snow blows? The snowmobile has changed a lot of attitudes about the rigors of winter, but even faster-growing than snowmobiling are cross-country skiing and snowshoeing, not only in Jackson Hole, where a few "kooks" have been engaged in such activities for decades, but all over the nation, east and west.

Theoretically, cross-country skiing in this country grew out of transplanted Swedes and Norwegians and Finns in the Midwest, but during recent decades it has been popular in New England and the Pacific Northwest and in mountaineering areas. Ski mountaineering probably gave the industry a big push, but it is on its own now and growing almost as fast as bicycling (bicycle sales last year very nearly outstripped automobile sales).

According to a recent survey, 91% of all cross-country skiers are over 25 as compared to 64% of downhill skiers. Some 53% of all cross-country skiers are over 35. Interestingly enough, cross-country skiers seem to be more highly educated than downhill skiers (89% college educated compared to 51%), and the ski tourer is more likely to be in a higher income bracket (55% of cross-country skiers, 38% of downhill skiers are in the above-$15,000 category).

This last figure may seem unusual because downhill equipment may cost as much as several hundred dollars and cross-country gear — complete — may run less than a hundred. High-income skiers can certainly afford downhill gear, but they seem to prefer cross-country skiing, perhaps because touring takes you away from the rush and bustle of everyday life more than downhill skiing with its lift lines and parking problems and its crowds of people.

William J. Lederer, co-author (with Joe Pete Wilson) of the best-selling book on the sport, **Complete Cross-Country Skiing and Ski Touring,** took up the sport at 56. He points out in the introduction to that book that while he was middle-aged and not particularily athletic and had had no previous skiing experience, he had learned to "get around fairly well on skis." He found too that "in some instances, the middle-aged skiers — because of their more relaxed pace and high motivation — were able to go longer distances with less noticeable fatigue than the younger people."

He suggests that if you can walk, you can cross-country ski, and I agree. You can set your own pace and determine your own distance, building up gradually. It could involve no more than the less-than-a-quarter-mile tour to the Blacktail Pond Overlook in Grand Teton National Park to see the wildlife — just barely off the road but missed by 99.9% of the winter visitors to the park. Snowmobiles are outlawed along the Snake River during the winter, but on skis or snowshoes you can take in all the wonders of nature on its own terms and without causing much disturbance.

Even here in the Salt Lake City area there are dozens of ski touring possibilities: parks and golf courses right in the heart of the city, the commercial ski areas (many are now developing cross-country trails) and the national forest lands. The Sierra Club (Uinta Chapter) and the Wasatch Mountain Club recently published a list of touring areas in the Wasatch Front, even rating them for distance and difficulty.

I personally do most of my touring at Mountain Dell Golf Course just 15 minutes from the heart of the city. It is overrun with snowmobiles, but by getting out early and by dropping down into the canyon I can avoid the smell and the noise of those mechanical creatures. I cross the creek and immediately find the tracks of deer and elk, of racoon and varying hare (snowshoe rabbits), of beaver and magpies. I've found an active beaver colony with at least three lodges, and the 'coon tracks suggest dozens of those delightful denizens of the stream-side community.

Trouble Besets Leopold Wilderness

by Don Campbell

At the southern extremity of the high country, in Southwestern New Mexico, another wilderness is in trouble. Until the eleventh hour the wilderness review process on the proposed Aldo Leopold Wilderness was moving along slowly and smoothly. Public hearings were held in Truth or Consequences and Silver City in December of 1970. Finally on October 19th of this year a hearing was held before John Melcher's Subcommittee on Public Lands of the House Interior Committee.

Conservationists who travelled to the hearing in Washington thought that the controversy would center around the acreage differences between the 188,179 acre proposal of the Forest Service and the Conservationists' proposal of 231,737 acres, but that was not to be. The copper mining interests showed up to object to the establishment of any wilderness at all.

Of course Aldo Leopold's name is familiar to most people who are involved in the wilderness movement. He was one of its founders and philosophers. He began his career in the Forest Service in New Mexico in 1909. In 1922 he travelled in the Gila-Black Range region and subsequently persuaded the Forest Service to establish, in 1924, the world's first wilderness unit of 750,000 acres which embraced, in those days, both the present Gila Wilderness and the Aldo Leopold proposal. The proposed Aldo Leopold Wilderness is an overdue tribute.

By northern standards the proposed wilderness is dry, desert-like country. It embraces the crest of the Black Range which rises from desert country in the Rio Grande Valley to the 10,000 foot crest covered with spruce. Its eastern face is cut by deep canyons with sun-dried south facing walls and shady ponderosa pine stringers along the canyon bottoms. Water is scarce. Dry canyon walls are interrupted by spectacular rock outcrops and spires. The primitive nature of this land has been protected for decades within the Black Range Primitive Area, and there can be no question as to its wilderness calibre.

But troubles have developed at the last minute in the long review process. Representatives for Phelps-Dodge (a major copper producer) objected to wilderness designation on the basis of a "hypothetical deposit" of porphy copper beneath thousands of feet of volca rock. The industry argument is based on the abundance of copper in nearby areas where the ore is not buried under thousands of feet of mountain. The alarming aspect of their position is that they have no hard evidence of their "hypothetical" ore body. The hard evidence would have to come from extensive exploratory drilling. Questioning by Chairman Melcher revealed that Phelps-Dodge had never gone to the trouble of conducting such exploratory operations in the Black Range.

The industry's "hypothetical deposit" argument has some frightening implications for other wilderness proposals. It is one thing to be up against a known mineral deposit of known worth. Then at least the opposing forces can weigh mineral potential against wilderness quality. But to be up against an "hypothetical deposit"? Through all of this the U.S. Geological Survey mineral examination of the Black Range concludes that there are "no minable mineral deposits" in or near the proposed Aldo Leopold Wilderness.

At this stage in the review process Congressman Harold Runnels is the key. The Ho Committee is awaiting the will of the lo Congressman. If anyone is interested in helping the wilderness proposal over the last few hurdles, write to the Honorable Harold Runnels, House Office Building, Washington D.C. 20515. A copy of the letter, or a separate letter, could be sent to: The Honorable John Melcher, Chairman, Public Lands Subcommittee, House Interior Committee, Washington D.C. 20515. The House bill number for the Aldo Leopold Wilderness is HR 5422.

Western.....Roundup

BLM Moves on Land Planning

The Bureau of Land Management in Colorado has announced its own land-use plans for the 8.5 million acres of public land under its control. The BLM said it acted after waiting a year for the Colorado Legislature to come up with state legislation on land-use planning. In announcing its decision, the BLM said, "As the subdividing and building continue . . . Colorado's great outdoors is fast becoming a great indoors. Roads and power lines feed the developments. Unplanned corridors crisscross the land like a giant net to seine out and discard natural beauty . . . Colorado's mountain lands are being sold and subdivided at an unprecedented rate — too frequently with little or no thought of the consequences ....The proliferation of roads and homes in fragile and formerly isolated environments and the destruction of wildlife habitat, roadless areas and other valuable resources have emphasized land use as the number one problem facing the residents of Colorado." The BLM cited specific instances in which developers had used public land to further their own ends.

Coming to Grips in Colorado

Colorado's Land Use Commission has submitted a plan aimed at guiding and balancing growth and development over what it calls 'the five Colorados.' The plan would divide the state into five planning and management districts — Front Range, high plains, south central, mountains, and northwest. The LUC says this natural grouping should give the state some flexibility in coming to grips with land-use problems. It said the state should have powers over major land-use and growth decisions, but it also said the state should try to respect the traditional rights of local government and private landowners. Governor John Vanderhoof praised the report.

Developers Howl in Montana

Land developers in Montana have gone all-out in efforts to beat down proposed regulations for the subdivision control act. They have been actively joined by chambers of commerce fearful of economic effects if subdivisions are controlled. The proposed regulations would require an environmental impact assessment on each subdivision project. The assessment would show location of surface and ground waters, and outline the precautions to be used against such possible hazards as floods, earthquakes, mudslides and landslides. Additional information would be required in relation to wildlife, native vegetation, and historical features. The developer would also have to set forth plans for fire protection, roads, utilities, schools and parks, water supplies, and sewage and garbage disposal.

A Pregnant Situation in Idaho

Idaho's Wood River Valley may grow from a present population of 7,000 to as much as 24,000 in the next ten years. That is the prediction of the Blaine County School District from a recent study. Some 40% of present school enrollment was found to be from families who moved to the area in the last five years. New students were found to be from 27 states and six foreign countries. California led the list, with about seven times more new students than runners-up Washington and Utah. The Wood River Valley includes Sun Valley, Ketchum and Hailey.

Jackson Hole Grapples with Density

Wyoming's Jackson Hole is still grappling with high density development. Recently, the Teton County Commissioners asked Gov. Stanley K. Hathaway to okay a 120-day emergency density resolution. The governor refused, suggesting the resolution be made an amendment to a County Subdivision Resolution. This the commissioners did, to be in effect for a 20-day waiting period. A public hearing on Dec. 11 will take up the proposed density resolution as well as future planning needs of the county.

EPA Turns Down Runway Extension

The Denver regional office of the Environmental Protection Agency says expansion of the Jackson Hole Airport is "environmentally unsatisfactory." EPA is not opposed to the safety improvements which includes a parallel taxiway but says extending the length of the runway to accommodate jets is unacceptable. EPA says it is opposed to the runway expansion primarily because of the noise factor, but also cites real lack of need for the extension, and lack of land use planning in the county.

The wild horses didn't know it but as of Nov. 15, they were free to roam unmolested across the plains and prairies of the West. That was the deadline under which claims could be made for ownership of wild, free-ranging horses. The Bureau of Land Management in Wyoming announced it had received 30 claims for a total of 765 horses. In Utah, there were only eight claims by four people and one of those was Kent Gregersen, vice president of the National Mustang Association. Gregersen says he filed for ownership of 150 horses in Utah, and another 150 in three BLM districts in Nevada. There is an estimated 608 wild horses in Utah and 5,000 in Wyoming.

Meanwhile, in Montana the BLM finally was able to find homes for 32 wild horses culled from the Pryor Mountain herd. Because the Pryor Mountain Wild Horse Range was becoming overgrazed again, the BLM felt the herd of 140-150 needed to be reduced. Fourteen persons were selected to receive the 32 animals. Country western singer Patricia Elley was allotted 19 of the horses after she bought land in Colorado to run them on.

Rainbow Bridge Flooding Opposed

Sixteen states have entered the Rainbow Bridge case in pleadings before the U.S. Supreme Court. A "friends of the court" brief has been filed on behalf of New York State. Joining it are five other states, including Idaho. Florida has been joined in a similar brief by nine other states. They contend that a circuit court ruling allowing water from Lake Powell to enter Rainbow Bridge National Monument would set a dangerous precedent. Kenneth Hoffman of the Florida Attorney General's office says, "In our opinion the decision of the Court of Appeals for the 10th Circuit could result in a precedent allowing despoliation of our national monuments and parks, allowing encroachment of those parks because of industry and other demands."

Utah Gov. Calvin Rampton has sent letters to the 16 governors of the states in the proceedings. Utah and Colorado entered the case as intervenors on the side of the government. The defendants are the Bureau of Reclamation and the Department of the Interior. Both states say the water allocated to them under the Upper Colorado River Compact would be jeopardized if Lake Powell is not allowed to fill to capacity.

Briefly noted . . .

Colorado Gov. John Vanderhoof says development of coal and oil shale may require a re-examination of the Colorado River Compact in regard to water allocations. He says, "The people of the Upper Basin states cannot ignore the fact that, in this era of energy crisis, they may well become a new Arabia. The large-scale extraction and conversion of such resources as natural gas, coal and oil shale will require immense amounts of water."

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Wyoming Gov. Stanley K. Hathaway told the first meeting of the new air, water, and land quality boards of the Environmental Quality Department, "I really believe that the air is purer in Wyoming than it was 20 years ago or 10 years ago." As for water, he said, "One of the greatest polluters of water in Wyoming is mother nature herself."

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The Idaho Wool Growers Association opposes any "additional set aside to the Wild Rivers' system streams" in that state. Recently, the Wyoming Stock Growers Association and the Wyoming Conservation Commission opposed inclusion of segments of four Wyoming rivers in the study category of the Wild and Scenic Rivers System.

Thoughts from the Distaff Corner

by Marge Higley

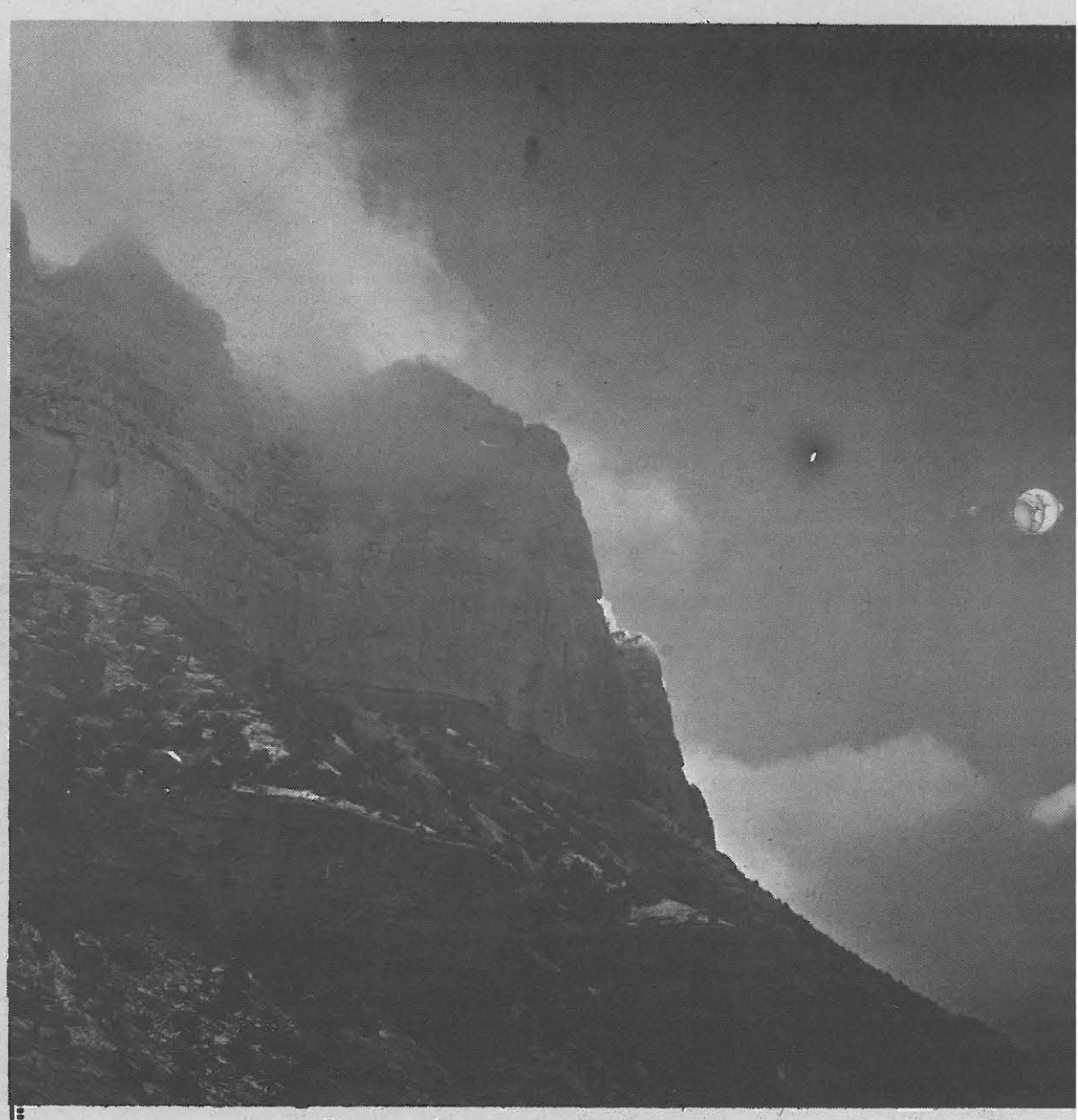
'Twas the month before Christmas, when all through
the nation
Rumors were stirring, causing great agitation.
The TV's were tuned to the newscasts with care—
Word was, that St. Dick would soon be seen there.
Awaiting the broadcast, I started to nap, and
My mind drifted back over all that had happened.
To Haldeman, Erlichman, Agnew and Dean,
And tales of an office burglary scene.
The Senate hearings, a record-breaker
With questions pressed by Gurney and Baker,
Montoya, Inyoue, an indignant Weiker,
And Chairman Erwin — himself no piker!
Now out of it all, there arose such a clatter
That a growing percent figured something's the matter.
Gone are Ruckleshaus, Richardson, Cox;
St. Dick then promised: "no more shocks."
Nine Watergate tapes — but two of them missing;
Now another one has eighteen minutes of hissing.
Judge Sirica, asking Miss Rosemary Wood
To explain it all, please — if she possibly could!
I awoke from my nap, gave the TV a click,
For I knew in a moment I'd soon see St. Dick.
In living color, did he appear,
And said, "Let me make myself perfectly clear!
The press is just trying to cause a sensation —
It's time to get back now, to running the nation.
Forget the tapes — there's an energy crisis,
And a fuel shortage, and higher prices.
"Drive slower," St. Dick did plead, with passion —
"Gas is a lot of trouble to ration.
Lower your thermostat six degrees,
And pray that this winter won't be a deep-freeze.
Park your car, and stay home awhile.
Might try that, myself," he said, with a smile.
"Now here is what I've decided to do —
I'll leave it all up to you, and you.
I'm sure the results will turn out fantastic.
If not, then later, we'll do something drastic."
He waved his arms, gave a victory sign,
And repeated his vow, that he'd not resign.
Then — sure that he, and the nation, were saved,
He helicoptered off to Camp David.
Did I hear him say, as he faded from sight,
"Merry Christmas to all, and to all a good night."?

Eat January

"Eat January" is the name of a 1974 recycling calendar. "Someday soon," reads the first page of this calendar, "you will be able to eat January." The reason: the page, printed with special vegetable inks on disolving, cellulose stock, can be biodegraded instantly. Scientists are now working on a multitude of such uses for the 50 million tons of food residues generated by American homes each year.

"Eat January" presents, in a uniquely creative and beautifully artistic manner, the present and potential recycling methods for common materials in our waste streams. Each month highlights a separate source of waste — paper, glass, rubber, plastics, etc. and presents suggestions on recycling. Throughout the calendar, the accent is on in-home recycling ideas. April treats textiles and can be recycled into a doll pattern. May becomes a game. November highlights the uses of paper and turns into wrapping paper. December punches out as a Christmas card, and so on.

Calendars are available from R.P.A. Products, Inc., 44 Brattle Street, Cambridge, Mass., 02138. Individual calendars are five dollars each. Bulk orders are cheaper. Happy eating.



. . . Once again
Do I behold these steep and lofty cliffs,
That on a wild secluded scene impress
Thoughts of more deep seclusion; and connect
The landscape with the quiet of the sky.

WORDSWORTH: Tintern Abbey

The Year of the Soyburger

No-meat and low-meat meals may be commonplace in the future. As our population grows and prime agricultural lands are covered with houses man will have to go lower down on the food chain to derive his protein sources.

Dr. U. D. Register, professor of nutrition at the School of Health at Loma Linda University in Calif. says, "By 1980 they (Americans) will be buying $2.5 billion worth of meat analogs (meat like products processed from spun fibers of soy protein, wheat, and other formulated vegetable proteins). Today, meat analog sales are up to $150 million."

Register points out that "70% of the world's population today subsists on diets in which only five to ten per cent of the calories come from animal protein. In the western diet, 35% of the calories come from empty calories, such as sugar and fat."

A major problem for potential vegetarians is that a meatless diet is devoid of foods from which an important vitamin, B12, is derived. No practical B12 is present in plant foods, except for a seaweed that is part of the Japanese diet. B12 deficiencies will not show up in all vegetarians, Register notes, but to be safe he suggests including fortified soybean milk in your meatless menu.

Daily protein requirements for men is said to be 65 grams, and for women, 55 grams. But even this amount may be twice what is actually needed, according to MIT scientist N. S. Scrimshaw. His studies indicate that less than 30 grams of protein daily are all that is required for normal activities. Dr. Register says that a careful selection of plant proteins will provide 30 grams of protein per meal.

Coalition Opposes Nixon Program

Fourteen environmental groups including Friends of the Earth and Common Cause have united to oppose weakening anti-pollution laws. The coalition is worried that a frantic Congress faced with discontent from home over the energy crisis will soften environmental laws.

The coalition charges the Nixon Administration with capitulating to long-sought corporate goals. They feel Nixon's energy program is anti-environmental and anti-consumer.

As an alternative, the coalition recommends the following measures be taken; 1) equalization of utility rates for small and large users, 2) adoption of auto and appliance efficiency standards, 3) shifting freight from truck to rail, 4) using waste to make heating oil, and 5) limiting advertising of high energy-consuming products.

Longer term goals involve expediting antitrust action against major oil companies, subsidizing mass transit, expanding deep mining of coal and expanding recycling.

The coalition holds that only after all other measures fail should pollution variances be granted.

Book Review

Autumn of the Eagle by George Laycock

Charles Scribner's Sons, 597 Fifth Ave, New York, NY 10017.
Illustrated with photos. $6.95

Review by Bruce Hamilton

"To watch an eagle is to be transported as if by magic quickly and surely back into a time when waters still ran clean, skies were clear, and forest, fields, and streams were sanctuaries to abundant wild creatures," writes George Laycock in his new book, **Autumn of the Eagle.**

Laycock invites his readers into the wilderness world of the bald eagle. His sections on natural history depict scenes that even dedicated bald eagle watchers have seldom witnessed. Imagine watching a pair in courtship:

"They soar out on the afternoon thermals and rise together so far above the earth that the human eye sees only two distant specks among the clouds. Then, with the rushing winds slipping over their wings, and their bodies under perfect control, the bald eagles sense their power and taste the full excitement of spring. Suddenly one of them rolls over and, flying upside down far above the earth, extends its curved yellow talons in invitation to its mate flying directly above it. With feet extended, the birds touch, their talons intertwine and lock together, and the bird on top rolls over, trading places with its mate; they then cartwheel on set wings over and over toward the earth. Up and over they pinwheel down the spring sky until it seems they will crash to earth."

The eagles' nest building habits are equally majestic. Unlike other birds which pick and scratch at the ground for nest building material, the eagle collects its branches on the wing. Eagles swoop low and lift up sticks without landing. "But on occasion," Laycock points out, "the nest-building eagle sees an attractive branch still attached to a tree and, flying at top speed, extends its feet, cracks and breaks the limb from the tree, and flies off triumphantly with it to its nest."

While watching or reading about eagles in their natural habitat may remind us of the value of a healthy environment, the conspicuous absence of eagles is a constant reminder of the cost of pollution and man's disregard for nature. In 1782, Congress chose the bald eagle as the national bird. In that year, it is believed that the bald eagle nested in the present location of each of the 49 mainland states. Today the same bird is poisoned, harassed and shot illegally from aircraft. There are no longer mated pairs living in 27 states: Alabama, Arizona, Arkansas, Colorado, Connecticut, Delaware, Georgia, Indiana, Iowa, Kansas, Kentucky, Massachusetts, Mississippi, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Oklahoma, Rhode Island, South Dakota, Utah, Vermont or West Virginia. Eagles in most other states "enjoy scant if any success in producing young."

Critics of Laycock may call him an alarmist and point to the abundant populations in Alaska. With all these birds serving as a breeding population, why all this talk of extinction and concern for a few poisoned eagles?

But Laycock's perspective is one that spans decades and centuries. "Extinction," he writes, "does not come in an instant. It comes in pockets, beginning perhaps with a single territory, where conditions change over weeks or years from optimum, to bearable, to intolerable." Laycock draws on many examples from Lake Erie to Florida to illustrate this point. The story is a ominous one.

In Wyoming, and in other parts of the high country, predator poisoning and outright eagle hunting are the major threats. Laycock treats this danger in some detail, devoting an entire chapter to the recent assault on Wyoming's eagles by Van Irvine, Herman Werner and company.

Autumn of the Eagle relates these and other events important to the decline of the eagle. Laycock has drawn on the world's bald eagle experts to piece together this comprehensive work.The story is fascinating and anguishing. The message is urgent. I highly recommend this book to all those interested in conservation and natural history.

Shop for Mileage

For people who are thinking of buying a new car, it may be wise to bear in mind the fuel shortages and shop around the high-mileage cars. For those who are so inclined, the Environmental Protection Agency has some useful information. They've already done the shopping, and any local office of the EPA can give information regarding the fuel efficiency of most American cars and foreign imports. For the record, the most efficient cars on the road today — in terms of fuel economy — are the Honda Civic, the Toyota Corolla, the Datsun 210, and the Chevrolet Vega. They all get around 24 miles per gallon, or better. : :

EARTH NEWS

Eavesdropper

LOONEY LIMERICKS

by Zane E. Cology

Just who do we think we're hoodwinking?
Into piles of rubbish we're sinking —
Everything is discarded,
Thrown away, or junkyarded.
It's time to recycle our thinking!

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The House Appropriations Committee has torpedoed Project Sanguine, a Navy project of immense environmental impact. The project involved buried cables over a wide area. First planned for Wisconsin, the project was then moved to Texas, after a storm of protest. The committee said the Navy should "pursue other means of communicating with submerged submarines."

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A Bureau of Reclamation report says a $20.5 billion proposal to divert water out of the Mississippi River to the High Plains of Texas and eastern New Mexico is unfeasible. It says the project would cost more than it would be worth to the nation.

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The Tokyo Motor Show, an annual event since 1951, has been called off for next year. Sponsors say part of the reason is growing anti-car sentiment. Last month's show drew 1.2 million visitors.

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Experts in the National Audubon Society and from state agencies believe the downward trend in bald eagle populations may be halted. And they cite the fact that DDT in fresh water fish has declined drastically as an encouraging piece of evidence that young eagles may not be so severely affected. However, all concerned say it is too early to tell if the national bird is out of immediate danger.

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Dr. James Enderson, biologist at Colorado College, says the peregrine falcon may be on the way out. He cites pesticides in the birds preyed upon by the falcon. The pesticides are "almost 200 times higher than you find in most animals." He says there are now only 14 nests in the Rocky Mountain region and none east of the Mississippi.

A CONSERVATION PORTRAIT:

Vim Wright, COSC President

"I **really** saw a bird for the first time right over there," she said, pointing to a bush in the backyard of her home in Denver. "It took me an interminable time to learn birds."

V. Crane "Vim" Wright, the vibrant outspoken president of the Colorado Open Space Council (COSC), was moved to enter environmental movement by a fascination and appreciation for nature.

Wright's interest in birds led to her participation in the fledgling Denver Audubon Society. In the mid-1960's her interest was largely confined to natural history.

Activism came later, in 1969, over what lawyer-writer Joseph L. Sax has called "undoubtedly one of the most extraordinary lawsuits yet to arise in the area of environmental litigation." The case involved the plan to subdivide the land that is now set aside as Florissant Fossil Beds National Monument.

Wright had heard a speaker at the Denver Audubon meeting describe the plight of the privately owned fossil beds near Florissant, Colo. There, embedded in thin layers of shale 34 million years ago, rest examples of plant and fish remains that are among the finest anywhere in the world. An expert from the U.S. Geological Survey has said that the Florissant Fossil Beds are "to geology, paleontology and evolution, what the Rosetta Stone was to Egyptology and the Dead Sea Scrolls (were) to Christianity."

National monument protection was well deserved, but the bill was held up in Congress. By June 1969 the proposal had passed the Senate, but strong, pro-development Rep. Wayne Aspinall was sitting on the bill in his House Interior and Insular Affairs Committee. Meanwhile, a group of real estate developers had purchased the tract and were moving with great speed to begin development.

By July, an ad hoc citizen group, calling itself Defenders of Florissant, filed suit in U.S. District Court to halt development until Congress acted on the pending legislation. The judge ruled against the granting of a temporary injunction, saying no legal standard permitted him to restrain this private use of private land.

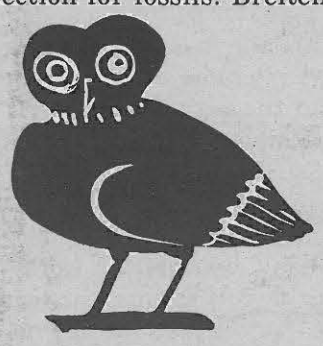
The judgement infuriated Wright. She had been writing then Rep. Aspinall and the Sec. of Interior Stuart Udall and getting nowhere. To her the next step was clear. She was going to go down to sit in front of the bulldozers.

"It was easier then than it would be now to be militant," Wright said. "I wasn't representing any responsible group. . . it was a totally private action. I tried to get all my pregnant friends and their little children to join us."

The district court decision was appealed. The day of the appeal Wright and her friends and other sympathetic people from the region converged on the site.

"I had my hair done, put on jewelry, a nice dress and high heels. We all camped overnight, knowing the bulldozers would be coming in the morning if we lost in court."

The appeal was argued before a three-judge panel headed by Judge Jean S. Breitenstein. Breitenstein asked, "But what statue does this excavation violate?" The plaintiff's lawyer, Victor Yannacone (an early Environmental Defense Fund lawyer whose other cases include early DDT cases and the Florida Everglades Airport action), admitted there was no direct statutory protection for fossils. Breitenstein



continued, "What right have we to control the use of private land unless there's a nuisance perpetrated by the owners?" Yannacone answered, "Your honor, if someone had found the original U.S. Constitution buried on this land, and wanted to use it to mop up a stain on the floor, is there any doubt in the mind of this court that they could be prevented?"

The Appeals Court granted a restraining order. Wright never had to face a revved up bulldozer. The case was re-argued all summer. On August 20, 1969, Public Law 91-60, established the Florissant Fossil Beds as a protected national monument.

"In those days," Wright recalls, "the movement was different. I can remember how involved all of us used to be on a unified issue. Everyone turned out because the issues used to be fewer."

"With the coming of the environmental impact statement (National Environmental Policy Act of 1969) that's all changed," Wright says. She believes the statements have brought many more government actions under public scrutiny.

A brief look around her house makes that point clear. The desks are piled deep with documents covering oil shale leasing, the Two Forks Dam, predator control, the state land use bill and a myriad of other subjects.

The avalanche of issues requires a new kind of environmental volunteer organization. "You can't have a large organization run by a few people any more. More and more people want to actively participate," says Wright.

After Florissant, Wright worked hard to become the Denver Audubon representative to COSC. She was elected president of Denver Audubon and helped guide the Denver group into a strong political force with national prominence. Today she serves on the National Audubon Society's Board of Directors. In 1972 and again in 1973 she was elected president of COSC. COSC has served as a model environmental coordinating council whose effectiveness and political clout is respected throughout the West. Last year COSC hosted a coordinating council summit meeting to share ideas with other groups.

"I think every state should seriously consider a coordinating council," says Wright. "We must get out of the brush fires — get a state, and then a regional perspective. We're hoping other states will pick up the idea."

COSC does have its problems, and Wright is one of the first to admit this. She doesn't think COSC has a way to fully use volunteer energy. She also is worried about the poor communication between environmentalists on the eastern slope (front range) of Colorado, and those on the western slope. COSC has tried holding monthly meetings in different parts of the state in addition to its monthly Denver meetings. It has also held workshop sessions on specific topics (wilderness, water, oil shale) around the state. Next step may be sending tape recordings or video tapes to remote areas.

"One of the dullest things we have to do is fund raising," says Wright. But the money is coming easier to COSC recently.

"Last year we didn't know if we'd be able to pay the phone bill," she confesses. "This year we supported a very comfortable lobbying effort."

Wright's energy has focused lately on the federal oil shale leasing program. COSC spearheaded a national coalition of outdoor and environmental organizations that lambasted the Department of Interior for its ill-planned, premature push to open up the West's oil shale deposits to exploitation.

It's hard to say where Vim Wright will turn up next. Maybe fund-raising for the COSC state lobbyist. Maybe in court over oil shale. Maybe taking time off to look for Sandhill Cranes — though she's doing too much for Colorado to have much time for bird walks anymore.

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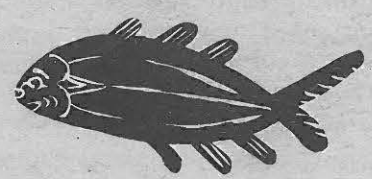

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