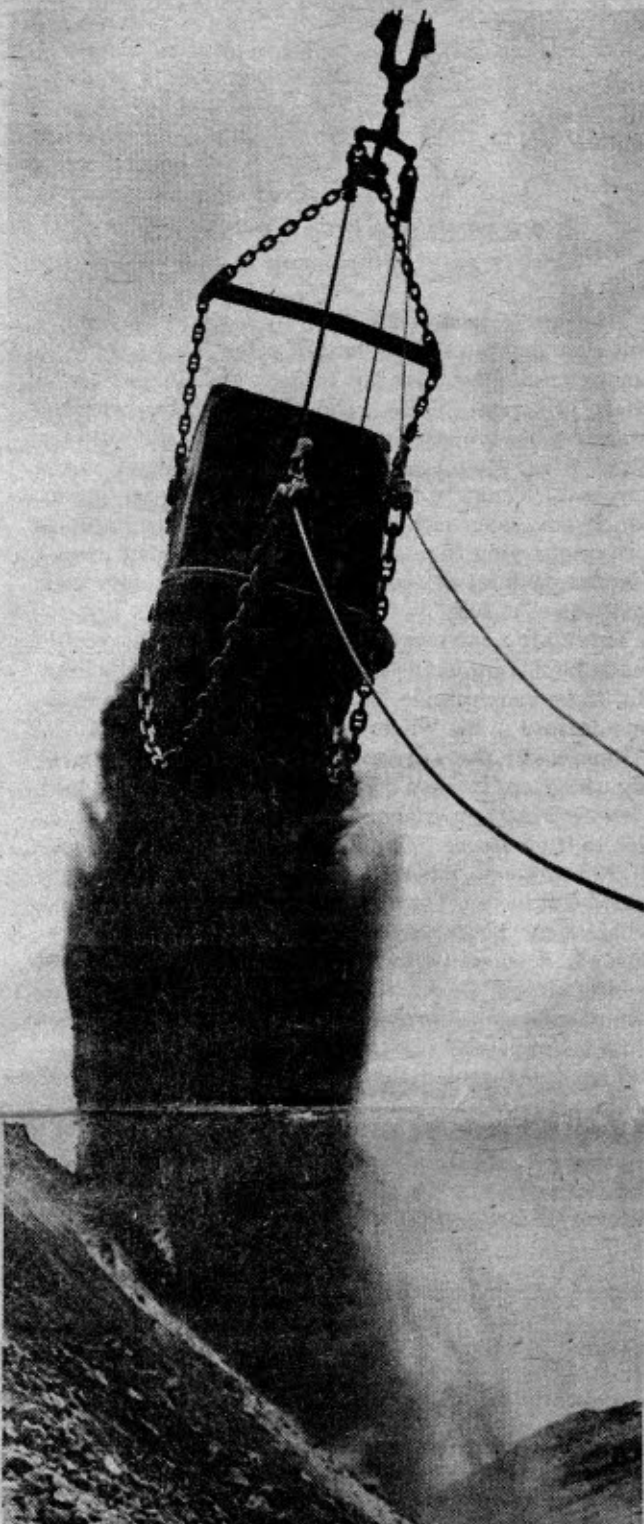


Myths characterize debate

Does the nation need western coal?



Coal dragline.

Photo by Lynne Bama

The thick low sulfur coal seams of the West are America's "ace in the hole," energy producers tell us. This vast natural resource could solve our present crisis in energy, they claim, if we remove the roadblocks to development.

If the obstacles remain, we are told, blackouts, economic stagnation, and polluted air will result.

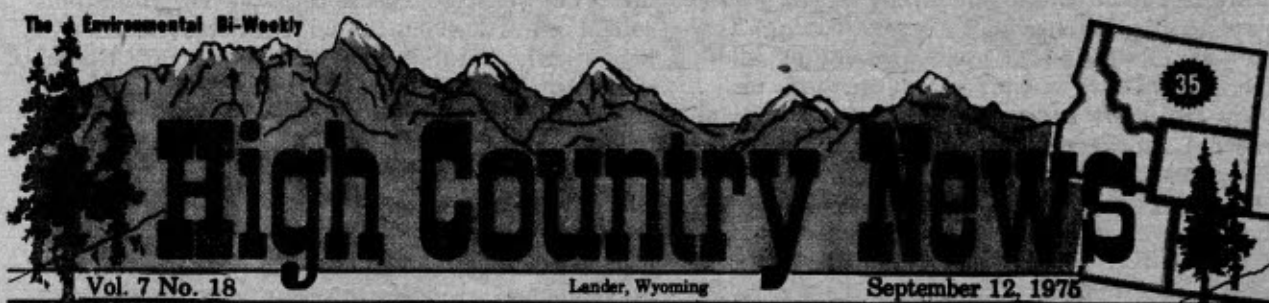
But conservationists claim that those pushing rapid development of the West's coal are not telling the whole story. Yes, there is a large amount of low sulfur coal in the West, but there is an equally valuable low sulfur coal resource in the East. This provides alternatives for the decision makers.

We are not in a position where frantic, half-thought-out resource allocation decisions must be made, environmentalists say. We have time to pick and choose which public lands should be leased for coal and which should be left for other equally important land uses. Careful planning is a must if the wild character of the West is not to be transformed into an industrial nightmare, they claim.

Our options include mining only in the East, mining only in the West, or striking a balance equitable to both regions. Within a region, we could decide to mine in one concentrated area where environmental and social problems could be confined and controlled, or we could let private industry pick where and how to develop, conservationists say.

In this issue of *High Country News* we are presenting three perspectives on opening up the West's coal reserves. Atlantic Richfield Company, a firm with plans to develop two coal properties in the Eastern Powder River Basin of Wyoming, gives us the producer's view. Dr. Robert R. Curry of the Sierra Club Research Office and Russell Boulding, a former staff scientist with the Environmental Defense Fund, offer critiques of Arco's approach and a look at alternatives.

The arguments presented here are also being considered in the halls of Congress. There, action or inaction on these issues could drastically affect our way of life in this region.



1. Arco wants West opened up

Development of Western Coal — A Producer's View
(Introduction, Executive Summary,
and Conclusion)
by Atlantic Richfield Co.

The United States must make several key decisions in the months ahead to form the framework of a national energy policy. The options chosen as components of this energy plan will undoubtedly affect the quality of the lives of all Americans.

One important decision involves the part coal will play in our energy mix and, more specifically, the rate and magnitude of western coal development. Atlantic Richfield Company owns two coal properties in the Eastern Powder River Basin of Wyoming and plans to develop the

properties, with initial production on the order of 10 million tons per year from the Black Thunder Mine. Atlantic Richfield has signed contracts with three utilities to supply coal for power generation, and favors the development of western coal for the following reasons.

COAL DEMAND TO DOUBLE

First, many energy demand-supply forecasts place U.S. coal production in 1985 at 1 to 1.5 billion tons, which Atlantic Richfield believes is a legitimate goal of our society. Achieving this accelerated production level, however, will require an approximate two-fold increase in 1974 coal production. This will be a difficult task

(Continued on page 4)

Sunlight Basin dam rejected

Sunlight Basin has been spared. The application for a reservoir permit on Sunlight Creek in northwest Wyoming (see HCN, Aug. 29, 1975) was rejected by State Engineer George Christopoulos last week.

The action killed the fifth of six filings for dams and reservoirs in the Clark's Fork River drainage. The one filing still pending is for a reservoir on the lower Clark's Fork near the Wyoming-Montana state line.

All six filings were made by Alan Fordyce and Henry Burgess, both of Sheridan, Wyo. The Sunlight dam filing and the previous rejected filings were all turned down for failure of the applicants to provide the state with detailed information about how and where the water would be used. The state set a deadline of Aug. 30 for additional information on the dam, and when none was provided, the filing was rejected.

The applicants had indicated that the water might be intended for coal development in the Powder River Basin. Christopoulos said he had general information on the use of the water, but

it was too general to meet the requirements of his office.

A similar deadline of Oct. 17 has been set for the applicants to supply additional information on their one remaining Clark's Fork filing.

Lynne Bama, a spokeswoman for the Clark's Fork Steering Committee, told the *HIGH COUNTRY NEWS* that there was no waiting time required before a previous applicant or any other person could refile on the same reservoir site. The committee plans to stay active to monitor future Clark's Fork developments and other water problems in the state. The committee is made up of local conservationists, outfitters, sportsmen and other citizens concerned about Sunlight Basin and the Clark's Fork.

Last December Congress passed a bill requiring study of the Clark's Fork for inclusion under the National Wild and Scenic Rivers Act. Federal study was held up pending possible state preservation action and should commence this December.

Sunlight Basin, Wyo.

Photo by Lynne Bama



2-High Country News — Sept. 12, 1975



URBAN WILDERNESS SPRAWL

Dear HCN:

Well, just back from a week each of backpacking in Cloud Peak and Bridger-Popo Agie Wilderness Areas of Wyoming. Here's my report and recommendations.

Crowding? Urban sprawl, practically, especially in the Wind Rivers. Passed one group near Temple Peak of 30-40 people (according to ranger at Big Sandy Opening). Trail log showed at least 150-200 people had entered wilderness per day while we were in (yes, we were there, too...), including too many groups of near 20 (three of us, all experienced). Big Horns weren't as bad, but did see one tent city of 10-12 ugly orange tents in a tight little group near Cliff Lake (which I thought was closed). Oh well...

After long evening discussions (not around a campfire), we decided that the time has come to save the wilderness areas we have left, and not necessarily add more. We felt the following policies would go far in preserving the wilderness, in approximate order of importance:

1) Limit groups to 10. Period. The hardest use comes from too many people crowded around campsites. Besides, that number of people is really offensive in a wilderness setting.

2) Ban horses. This would probably be one of the hardest changes in policy to get, horses being the traditional transportation that they are, but times change and horses

do far more than their fair share of damage. I don't have any evidence other than my own years of experience, but the horses do seem to cause the deep ruts in the trails in many places (much more than Vibram soles of hikers). One sees horse feces everywhere; trails, streams, campsites, lakes; and the smell is bad. I also feel (personal prejudice) that many people who ride in are not likely to have the respect for the land that those who carry 40 pounds on their backs do.

3) Limit or ban fires. Only after bushwacking to places where there have been no fires can one realize the damage they do. There is no need for them with small stoves available. I think the only fire building rule there should be is don't.

4) No dogs! People who have them don't realize how offensive dogs are to many others. I personally find one dog as offensive as a group of 15 people. There is the problem of fecal contamination, too. At least limit the areas where dogs are allowed.

Sincerely,
Bruce E. Wampler
Casper, Wyo.

TRAILS, HORSES DISTURBING

Dear HCN,

We must give up staying on trails. In the Pecos Wilderness (6 miles east of our house) people have worn the trails several inches deep into the soil. The Forest Service (FS) went in several years ago and widened the trails in hopes of distributing the wear over a wider space but people still walk along the same path. And one of the most destructive creatures in the wilderness is the pack animal. They wear out trails faster than people, pollute the pretty lakes, overgraze around the edge of lakes and drive people away.

An important point that I found your article gave very little emphasis is the de facto wilderness. We have several in New Mexico, and they get very little traffic. We feel that the major reason is that there is no label saying "This is a Wilderness" in it. As a result there has been a strong resistance to naming some areas wilderness because it will increase the use of them.

A classic case is the upper Conejos River headwaters just 25 miles north of the Colorado-New Mexico border. We take a trip every summer in there and usually encounter people only at the trail heads. Nearby is the San

Juan Wilderness which is receiving enough pressure to require permit access for entry now (as does the Pecos and Gila in New Mexico).

My experience has been that permits are not bad — they work well if the FS takes care of them, but the commercial outfit that took care of Grand Canyon, Yellowstone, etc. last year should be banished from the planet earth.

Sincerely,
S.R. Skaggs
Santa Fe, N.M.

WILDERNESS CODE CONFLICT

Dear HCN,

The discussion of wilderness ethics is good. We need it. But already I can see the seeds of potential division even among wilderness users. My major complaint deals with NOLS (National Outdoor Leadership School) — with the propriety of a group which has a monetary interest in the Wind River Mountains serving as a consultant to the governing agency; with the propriety of that same group, which advocates such harmful wilderness activities as foraging, trying to set up a wilderness code and even a mandatory three-day course of indoctrination into their methods of misuse.

There are numerous hikers in this country who could teach NOLS a great deal about going light on the land. But to be more specific, let me comment on a few recommendations in the Wilderness Conservation Code.

- 1) Repeatedly, the code mentions the use of fires to dispose of garbage and trash. We can do without fires, and should. Fish viscera, thrown far out into a lake, return pollution-free to their source. Extra food makes a good breakfast.
- 2) Human waste. Fills 12-18 inches deep? We have always heard 6-8 inches. The humus layer in the Winds is nowhere near 12 inches deep. And about toilet paper — burned, it leaves no trace. Touch it with a match just before burying. Does NOLS really believe that pulling up skunk cabbage to use as paper has less impact on an area than toilet paper?
- 3) Fire. It is suggested that we dig up sod, set it aside, and replace it after the fire is out. Is there any indication that this can be done successfully in an alpine environment by the majority of hikers? And covering a rock with soil... dug from where, and how can we be sure that the hole will recover? Finally, if a fire is purely for cooking, not for

HIGH COUNTRY

By Tom Bell

(Editors' note: The High Country News has been asked many times why Tom Bell, publisher and founder of the paper, chose to leave Wyoming after his lifetime of involvement here. He has written the following column to answer that question for his friends and readers.)

HCN staff members have varying feelings about religion. The column below is a personal story, and does not represent a High Country News stand.)

* * *

It was May 10, 1944. We were in a B-24 bomber high in the sky over Austria. I struggled to my feet and looked down through a red haze. I could barely see blood gushing in a stream. I put my hand to my right eye and felt the warm, lacerated flesh. In that instant a great sense of thanksgiving and relief swept over me. I had been hit by a burst of flak and knocked to the floor of the ship. My right eye was gone, pulverized by bits of metal and glass. My left eye hurt from the pieces of plexiglass blown into it. But I could think only of the joy of being alive — and out of it. I wouldn't have to fly another combat mission.

Through the shock, I had a great feeling of awe. God had mercifully spared my life and I knew it. One moment I had been looking to the right, observing the great bursts of flak. In the instant that it takes to turn your head, a chunk of metal grazed the right side of my head. A split second later and I would have been dead.

Thirty years later I was sitting in a small church building in Lander, Wyo., surrounded not by violence but the peace of Christian men and women. I rose to my feet with tears streaming down my face and gave my life over to Jesus Christ. I was filled with the same sense of thanksgiving and joy that had flooded my inner being so long ago. I was saved again.

The Bible says, "O wretched man that I am, who shall deliver me from the body of this death?" (Romans 8:24). I found that I had been spared again by the blessed hand of God, and through His beloved son, Jesus Christ. "The word is nigh thee, even in thy mouth and in thy heart: that is, the word of faith, which we preach; That if thou shalt confess with thy mouth the Lord Jesus, and shalt believe in thine heart that God hath raised him from the dead, thou shalt be saved." (Romans 10:8,9).

For 30 years, and longer, I had fought against God and His word. I had gone to Sunday School, attended church services and chapel in the service but hadn't been sincere. I thanked God on that day high in the sky, but then conveniently forgot His gift of life. I not only rejected Him and His word but blasphemed and sinned against Him. I sneered in contempt at such drivel. And though I had good friends in the ministry who were every inch a man's man, I wondered how they could believe such things as the Lord demands if you are to serve Him. Three years ago if you had told me I would be in Oregon pursuing such a drastically changed life, I would have considered even the suggestion as a delirious absurdity.

Praise the Lord, he never gives up on any of us. As it is written, "... we know that all things work together for good to them that love God, to them who are called according to his purposes." Romans 9:28).

It is one of those great mysteries of my life that I still don't know what His purpose is for my life. I suspect that all of those 30 years were not in vain. One thing I do know, I have learned much in the year and a few months since I have turned my life to Christ. I have had to ask forgiveness for all the unkind and unneeded words, thoughts and actions I have spoken or done against my fellow man. And I still have to ask again each day for I discover every day

that I am not a perfect man. Only Christ in me can make me perfect — and that will take the rest of my natural life, and probably beyond.

Yes, Tom Bell has turned religious. I know my many friends will ask themselves, how did it happen? I know that many of you out there are like I was. And you probably shake your heads in disbelief.

Very frankly and honestly, I can't tell you how it happens. I just started reading Gideon Bibles in motel rooms when I was on trips. Then I started taking a small pocket Bible with me, to study as I drove. Deep down in my heart I have always had a fear of God, I suppose because I had a fear of death, just as every other natural person has. But I couldn't quite bring myself to the humbling which it takes to reject your old self and put your faith and trust in the Lord. It takes some doing to put the "old" man away. Once done the words of the Bible take on new meaning. "Therefore if any man be in Christ, he is a new creature: old things are passed away; all things are become new." (II Corinthians 5:17).

If you wonder why I am in Oregon rather than Wyoming, I think I can tell you. I had to leave my beloved land, my loved ones and dear friends in order to draw closer to the Lord. I was driven! Strange though it may sound, I was driven as by an obsession to uproot and move far away. I can't explain to you the strange but peaceful feelings I had about it all.

Looking back, I can see God slowly but surely working in my life. He worked through my wife, through some of my friends already turned to Him, and especially through my work on High Country News. That is a story in itself which I will tell in my next column. And I think it is a most fitting story for the times in which we live.

May God bless you as He has me.

social or warming purposes, why build one? Use a stove for convenience, speed and low impact. Rather than arguing all this fol-de-rol about wood selection, fire sites, sizes and uses, we should be de-emphasizing them, not trying to ease the consciences of those who persist.

To repeat, then, the goal. To travel as if in a space capsule, adding nothing, save perhaps well disposed human waste, and taking nothing save water and air — no foraging, no fires, no skunkweed as toilet paper. It's easy to do.

Sincerely,
Jeremy Schmidt
Yellowstone National Park, Wyo.

IDAHO WILDERNESS PERSPECTIVE

Dear High Country News:

I was interested in your article of July 18, 1975, "Wilderness endangered by overuse." One's geographical location makes a big difference on one's perspective in this matter. Floyd Wilson's perspective seems based on the crowding observed in the too small wilderness areas near Denver — Rawah, Eagle's Nest, Maroon Bells. Undoubtedly restrictions are needed in these areas.

Living in Idaho, however which has the most undeveloped land left in the 48 states, gives a different perspective. There is some crowding in a few wilderness locations, such as Ship Island Lake in the Bighorn Crags and Sawtooth Lake in the Sawtooth Wilderness. This is a result of ignorance on the part of users. Other easily-accessible areas nearby remained unused for weeks because they are unknown.

Accelerated wilderness classification remains an option to disperse wilderness use because the **de facto** areas in Idaho (with a few small exceptions) are not being used already. In fact as the Forest Service hurries through their land use planning process, it is often difficult to find people who have an extensive knowledge of many of these **de facto** wilderness areas (I'm talking about roadless areas as large as 250,000 acres).

A typical example is the Herd Peak roadless area of 105,000 acres on the Sawtooth and Challis National Forests. The Idaho Environmental Council could find no one who had knowledge of the area. In their Pioneer Mountains Land Use Plan, the Forest Service proposed building a road into the middle of the roadless area (at a loss of money). The Forest Service said that while the area was pleasant it lacked high wilderness values. What could we say? We did take a week and circumnavigated the area. We saw no other party the entire time (in July) and found no evidence of man except a very poor trail system and one pile of junk at a hunting camp. The area was one of the most varied in topography, scenery, and wilderness challenge we had ever visited.

If anyone is interested in helping explore other **de facto** wildernesses in Idaho, please write to me and I'll send information. We sure need the help as the Boise National Forest just completed their land use plans, proposing to develop hundreds of thousands of acres of roadless land. Conservationists had little to offer in rebuttal to the Forest Service's contention that the areas in question were of only low quality.

Ralph Maughan
Box 4606
Pocatello, Idaho 83201

CAN'T SEE HER HILLS

Dear HCN,

Why can't I see the hills?

In the last four years there's only been about a dozen days when you could see up, away, and about into what seems to be the forever.

Seldom does the morning breeze greet you with the sweet smell of growing things or just clean, pure air to breathe.

Even fierce blizzards and violent thunderstorms bring only the stench of industrial fog and contamination.

My friends and officials assure me it's only forest fires or moisture in the air.

Editorials, articles, comments and quotes from "experts" tell me the great open spaces of the western states will never see polluted skies. With all the pollution controls and protection standards, our protective ozone covering will never suffer damage.

I'm told I should loudly laud our state and U.S. officials when they cleverly obtain lowering of sulfur dioxide emissions and extend irreplaceable time for

Editorial

Roncalio, Wirth deserve thanks

A couple of Congressmen with a real appreciation for wild lands deserve our thanks.

Rep. Teno Roncalio (D-Wyo.) has introduced bills to create three wilderness areas in Wyoming — the Glacier, the Popo Agie, and the Cloud Peak. The proposals, which were developed by citizen study teams, go beyond the usual wilderness-on-the-rocks proposals so often suggested by the Forest Service. In the case of the Popo Agie, Roncalio increased the Forest Service recommendation from 71,500 acres to 112,000 acres. "My 112,000 acre wilderness proposal includes important lower elevations, a richer variety of life zones, greater wildlife-habitat protection, and increased opportunities for use and dispersal of visitors," Roncalio says. He has taken similar care to protect a variety of ecosystems in both of the other areas.

(Now, if we could only get Roncalio to transfer his clear appreciation for Wyoming wilderness to the precious resource in Hells Canyon, where he has suggested that a dam might be appropriate. But that is another story.)

Kudos should also go to Rep. Timothy Wirth (D-Colo.) for his sponsorship of a bill to expand Rocky Mountain National Park (HR 8360). Wirth's bill would transfer the heavily used and spectacular Indian Peaks area south of the existing park from the Forest Service to the tighter management policies of the Park Service. We believe this step might help preserve a very valuable piece of Colorado. Wirth's bill would also add parts of Comanche Peak area to the north, the Never Summer Range to the west, the Deserted Village to the northeast, and Neota Creek to the northwest.

Both men will need support if they are to win Congressional approval for these fine bills. We hope you'll take the time to let them know you are behind them. —JN

other pollution controls. I have also been told it's naive to object to our West being gutted and burned here so everyone can have all the "cheap" electricity they feel like wasting.

I'm no "hard core" Environmentalist (though I suspect they are the only ones who really know the score), but **what** is that stinking blue-grey film between me, the yellow sun, the blue sky, and the green hills?

And, as yet, we have hardly any of the planned coal burning generating, gasification, and liquefaction plants for our state.

Gail O'Haver
Sundance, Wyo.

WILDERNESS LOST

Dear HCN,

Three years ago we went down Elk Creek Canyon, near Newcastle, Colo., together, and the quiet spirit of that trail-less wilderness has been with me since. I've wanted to return to Elk Creek, but circumstances always dammed my way until this August. I give you some of my observations from this weekend, for even though Elk Creek Canyon is not a "designated" wilderness it was a wilderness none-the-less.

Elk Creek no longer is the pristine beauty it was three years ago. It has aged without grace in my opinion. Those last three years seem to have spawned a new breed of wilderness "lover" who finds it difficult to pack out trash and break down a campsite properly.

When we reached the creek, the impacts really bit home! Beer cans, tab-tops, cigarette filters, and orange peels were scattered in and around the creek, apparently to lend that "homey" touch to uncivilization. People also seem to be into canned pudding and freeze-dried foods these days.

"New" campsites have sprung up at every semi-level place along the stream. It's such an easy task to dismantle a fire-stove ring, turn over the scorched rocks, and bury or cover the ashes so that others can feel like (just maybe) the site hasn't been occupied for a while. It amazes me the things people throw in a fire and think will burn.

The fishing in Elk Creek is still reasonably good, but at the rate people are killing fish, it won't last another three years. We kept enough to eat (without being gluttons), carefully released the rest, and brought none out. While



we did this, we watched adults and children keep every fish they caught, regardless of size. One group took out close to 40 fish, and another had recorded their catch of 60 on an aspen. No fisheries can sustain that kind of irresponsible pressure indefinitely.

In summary, Elk Creek has been detrimentally impacted by those very people seeking the joys of wilderness. Granted, there still are some interior stretches which remain relatively unabused, but it is not the same place that it was when we went down. In another three years of ever increasing human pressure, or even static pressure, the canyon will be just another "multiple-use" recreation area. So long, quality.

I've grown increasingly cynical and even somewhat bitter at what I've seen the "wilderness lover" do to the wild areas, designated or otherwise, in Colorado. Like anything else, it's probably only a few slobs that are ruining it for all, but even a few just **can't** be tolerated in our dwindling wild areas. And, from my experience, I truly wonder if (in actuality) it's the majority of wilderness users who have no concept of the fragility of the ecosystems they pass through — and abuse.

Jeff Todd
Denver, Colo.



Published biweekly at 140 N. Seventh St., Lander, Wyo. 82520. Telephone 307-332-4877. Second class postage paid at Lander.

Publisher	Thomas A. Bell
Managing Editor	Joan Nice
News Editor	Bruce Hamilton
Associate Editor	Marjane Ambler
Office Manager	Mary Margaret Davis
Advertising Manager	August Dailer
Circulation Manager	Georgia Nations
Design Consultant	Jeffrey Clack

Subscription rate \$10.00
Single copy rate 35¢

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Black Mesa strip mine, Ariz.

Photo by John McComb

Does the nation need western coal?

Arco. . .

(Continued from page 1)

because many problems exist which need to be recognized and dealt with immediately, such as the federal moratorium on leasing, the Sierra Club v. Morton lawsuit, and transportation limitations.

Energy demand-supply forecasts, such as the one developed by the Federal Energy Administration (FEA), point out a serious problem — expected energy demand in the U.S. by 1985 will substantially exceed expected domestic supply. This trend has been forecast even with a rapid development of alternate energy sources and the implementation of an effective conservation program. These domestic energy projections assume rapid coal development. The gap between projected energy demand and supply can be expected to widen if western coal development encounters continued obstacles.

NEED STRIPPING & UNDERGROUND MINING

Second, both underground and surface mining sectors will be needed to meet expanded coal demand. Atlantic Richfield supports the need for an expanding and economically healthy underground mining industry. The Company expects underground mining to continue to be centered in the East and Midwest, but that it will extend, to a limited degree, to the West. The FEA,

We plan to manage the rehabilitated areas for many years after mining has ended to ensure that a self-sustaining ecosystem has been established.

—Atlantic Richfield

in its Project Independence Report, estimated that underground mining production by 1985 will increase by at least 50% over the 1974 level of approximately 300 million tons. Thus, eastern mines will be hard pressed to satisfy demands placed upon them by eastern consumers.

NATURAL MARKET

Third, there exists a large natural market area where western surface-mined coal is an obvious

choice as a preferred fuel for power generation. Natural gas supplies are diminishing rapidly, oil has become very expensive, and nuclear power is experiencing delays and regulatory problems. So, coal will, by necessity, be selected to fulfill energy needs.

One view of the natural market area for Wyoming Powder River Basin coal (where the Company has its major interest) is determined by constraints of transportation systems and competition with market areas of other coal basins. In general, this area is bounded by the Rocky Mountains on the west, a line from the Powder River Basin to Chicago on the north, and the Mississippi River on the east. Depending upon assumptions made concerning the availability and cost of stack gas cleanup technology, the eastern boundary can be shifted to include or exclude the historic market area of Illinois Basin coals.

LARGE RESERVES

Fourth, proven reserves of western coal are large and the demands that will be placed on them by the natural market will be large. Western states surface coal represents 34% of total U.S. recoverable reserves and 58% of total U.S. reserves lies west of the Mississippi River. The recent Northern Great Plains Resource Program Report estimated that coal production for power generation only from the five-state area of Montana, Nebraska, North Dakota, South Dakota, and Wyoming is likely to grow from its existing level of less than 40 million tons annually to more than 150 million tons by 1985. The bulk of this coal is expected to come from the Powder River Basin. Delays in mine development will impose a hardship on electricity consumers.

Fifth, western coal has a lower effective sulfur content than eastern coal. This position is substantiated by Atlantic Richfield's core hole data base and the regional mean sulfur content comparison of the FEA in its Project Independence Report. The Company's proposed Black Thunder mine will be located in the Eastern Powder River Basin some 50 miles south of Gillette, Wyo. The Research Office of the Sierra Club has published a Bulletin on "Some Western Coal Sulfur Problems," erroneously stating that, "A reasonably conservative estimate of the effective sulfur value for Black Thunder sample yields a depth-integrated value of 1.87 (lbs. SO₂ per million Btu's) from company data." (Emphasis added).

Analysis of the 102 cores taken from our Black Thunder property indicates a mean sulfur content of .77 pounds

SO₂ per million Btu's (.33 per cent sulfur) — well below the New Source Performance Standard (NSPS) of 1.20 pounds SO₂ per million Btu's.

The company has drilled 624 exploratory and evaluation core holes covering a significant portion of the Roland seam in the Wyoming Powder River Basin. Data from these core holes provide the necessary information to make estimates about the sulfur content of coal in this area. We conservatively estimate that the Roland seam contains in excess of 13 billion tons under less than 200 feet overburden and recoverable with today's surface mining technology and economics. At least 50% of the reserves will meet the NSPS for SO₂. Thus, at least 6.5 billion tons of coal should be able to be burned without the use of scrubbers.

ASH, TRACE ELEMENTS

Sixth, ash and trace elements in western coal present no apparent control problems. Atlantic Richfield compared western and eastern coals on the basis of ash, mercury, and fluorine and reached these conclusions.

- Fly ash from the combustion of western coal can be controlled with hot side precipitators to levels well below the presently required limits. This fact has been demonstrated in actual power plant operations.
- Mercury emissions from the burning of coal are very low, in general. Emissions from the burning of western coal are lower than eastern coal.
- The fluorine content in western coal is only slightly more than in eastern coal.

SURFACE MINING ECONOMICAL

Seventh, surface mining, particularly of the thick-seamed western coal lands, is by far the most economical means of mining coal. Many coal mines in the West are expected to produce in excess of 100,000 tons per acre, while eastern coal mines will continue to produce on the average approximately 10,000 tons per acre. This method does disturb the surface. The disturbance, however, is temporary since land rehabilitation will be carried out soon after an area has been mined. The thick seams will make the rehabilitation costs relatively low on a per ton basis.

Eight, Atlantic Richfield believes that it is possible to mine the coal and reconstruct the disturbed surface so that a grassland ecosystem can be re-established. The ecosystem will equal or surpass the

productivity of the one now in existence. It is our objective to manage the reclamation project so as to speed up the occurrence of the natural interaction between organisms and their environment, thereby de-emphasizing man's role. We do, however, intend to continue maintenance until a self-sustaining ecosystem has been established.

During full production at Black Thunder, we will disturb some 180 acres per year, in producing approximately 20 million tons per year. Assuming five years to fully reclaim these lands, the maximum mine area we should have disturbed at any one time is 900 acres. Considering access roads, plant facilities, etc., this number expands to about 1300 acres. This would indicate a loss in grazing capability of only 35 cattle based upon estimates of range management professionals at the University of Wyoming. We would expect other coal producers in the Powder River Basin to temporarily disturb similar-sized tracts of land to generate the same magnitude of coal production. The energy from 20 million tons of coal is enough to provide for the electricity needs of a city of approximately four to five million.

COMMUNITY IMPROVEMENTS

Ninth, Atlantic Richfield believes that in developing its coal properties, it has a parallel responsibility to provide a positive rather than negative impact from a socioeconomic standpoint. Working through local communities in and around the Powder River Basin, such as Gillette, the Company is supporting development of suitable housing and other necessary facilities. Schools, sewage, water, health care, public safety and recreation facilities are major areas of consideration. The Company also is taking independent action to aid development. Major studies are underway to determine how to assure adequate housing. Land purchases, consultations with reputable developers and transportation systems have been and are continuing to be thoroughly investigated.

CONCLUSION

The need to utilize this nation's enormous coal resource base is unquestioned. In order to satisfy coal production estimates of 1 to 1.5 billion tons by 1985 and help alleviate this nation's energy crunch, significant contributions from both the underground and surface mining sectors of the industry will be required.

Environmental laws enacted in the late 1960s and early 1970s setting air emission standards have emphasized the need for low sulfur fuels, whether they be oil, gas, or coal. Oil and gas supplies are not plentiful and these fuels are very expensive, due in part to the practices

The need to utilize this nation's enormous coal resource base is unquestioned.

—Atlantic Richfield

of the Organization of Petroleum Exporting Countries. The factors tend to place a premium on low sulfur coal, especially of the quality found in the Powder River Basin of Wyoming. It has been demonstrated that a significant quantity of Powder River Basin and other western coal will meet the NSPS for SO₂.

Surface mining, particularly of the thick-seamed western coal lands, is by far the most economical means of mining coal. Many coal mines in the West are expected to produce in excess of 100,000 tons per acre, while eastern coal mines will continue to produce on the average approximately 10,000 tons per acre. Open pit mining does cause considerable disturbance of the landscape. The disturbance is temporary, however, since land rehabilitation will be carried out soon after an area has been mined. The thick seams will make the rehabilitation cost relatively low on a per ton basis. Atlantic Richfield expects to restore the landscape to an acceptable and visually pleasing state by recontouring, replacing the top soil and revegetating. We plan to manage the rehabilitated areas for many years after mining has ended to ensure that a self-sustaining ecosystem has been established.

The nation needs to proceed with the development of the western coal lands, especially the low sulfur coal in the Powder River Basin. Further delays at tapping this resource base will result in higher fuel costs to consumers and a deepening of the energy supply problem. On the positive side, the benefits of western coal development are significant. We can expect a decrease in our balance-of-payments deficits, an easing of the inflationary spiral, an increase in jobs and progress toward achieving energy independence.

2. Industry secrecy shrouds issues

by Robert R. Curry
Sierra Club Research Office

Development of Western Coal — A Producer's View originated through a sequence of charges by me and by others that the Northern Plains are not all that they are reported to be with respect to low sulfur coal, and that, specifically, the available data from Atlantic Richfield's Black Thunder property, among others, appears to bear out this generalization.

The Arco report has countered that the critics' charges have been overly broad generalizations and, in some cases, were based upon inadequate or non-typical data. Many of Arco's points, in this respect, are partly valid. In

The inadequacy of public data are also clearly the result of pussy-footing foolishness of the U.S. Geological Survey (and now the Federal Energy Administration) who should have been in the western states five years ago with multiphase sampling programs.

—Robert Curry

general, the available public data are grossly inadequate. This is, in part, the result of company fears with respect to proprietary information that could upset competitive advantages in upcoming federal coal lease arrangements. Arco admitted in a May 16th Denver meeting that small differences in coal sulfur contents "make or break" the competitive advantages of any given lease block.

But the inadequacy of public data are also clearly the result of pussy-footing foolishness of the U.S. Geological Survey (and now the Federal Energy Administration) who should have been in the western states five years ago with multiphase coal sampling programs designed to outline the coal sulfur, trace element, ash, and Btu values as soon as the combined considerations of air pollution and fuel shortages were apparent. Had this been done, the present coal lease posturing would be very different and the public lands would be better able to be managed to insure maximal recovery of usable fuels with minimal capital expenditures and lead times.

The Sierra Club report "Some Western Coal Sulfur Problems" drew upon open file U.S. Geological Survey drill core analyses for the Powder River Basin and upon Montana Bureau of Mines and Arco core data to show that much of the potential strip mine coal reserves of the Northern Plains were of sufficiently high sulfur content so as not to meet federal new source performance standards when burned in power plants without stack gas scrubbers. This report specifically covered the one publicly available drill core analysis for Arco's Black Thunder property, identifying the Arco core by name and indicating a calculated sulfur content exceeding new source performance standards. Other companies such as Montana Power (Colstrip) and Peabody were also named in similar context in the Sierra Club Research report.

Ultimately, Arco determined that additional sampling would be necessary to counter the Sierra Club interferences.

Arco is to be commended for undertaking a more intensive sampling program and for attempting to make their data public. Unfortunately, the Arco report does not reveal any data for their lands, but rather, includes statistical data summary. Those data, as summarized, would show that the average sulfur values for the areas sampled would meet new source performance values if we knew that those data were truly representative of depth-integrated sampling from the area. We should know the aerial distribution and location of sampling, the depth of sampling, the method of integration of the various samples taken through each depth in a given core, and how the coals are to be mixed during mining for each year's 180-acre mining unit.

Such data are presumably available to Arco, but they claim that they are not being released because of proprietary considerations relative to adjacent prospective

coal lease blocks. Such attitudes would not be necessary if there were a comprehensive federal exploratory drilling program prior to leasing. However, under current federal coal leasing restrictions, Arco's actions are quite understandable.

DATA SOURCES

Arco utilizes selected Federal Energy Administration and company data to make their points. The Sierra Club and others use other selected data to make contrary points. Both sources appear to demonstrate that indeed some low sulfur coal is available to be strip mined in the West and in the East. Arco uses U.S. coal production estimates made by FEA in Project Independence to justify western coal development, but Arco does not refute that those needs could be met in great part from eastern sources. Arco has developed marketing information to suggest to them that Northern Plains coal can fill a great need in the Midwest. These surveys appear, based upon our personal discussion with Arco, to be based in part upon the assumption that eastern low sulfur reserves in West Virginia and Kentucky are either inadequate, or simply unavailable. In fact, the western coal, being a public resource, is considered desirable for utilization in midwestern and eastern power plants because the eastern deep mined low sulfur reserves can be held by their private owners for considerably larger, long range profits if that coal is portioned slowly and classified as metallurgical coal (coal used in metal-making).

Low sulfur eastern coal of high Btu is among the most valuable fuel source in the United States. Industry is misrepresenting the magnitude of deep mine low sulfur eastern coal reserves so that pressure can be brought to bear to open the western strip mine tracts for power generation and thus allow private industry to gain control of virtually all the low sulfur reserves. This is very important, because that coal is worth considerably more as metallurgical coal if that commodity is thought to be in short supply. But today, about half the metallurgical quality coal is being burned for power generation because it is available in great excess.

THE FEDERAL IMPETUS

Even as recently as 1965, federal sources reported 74 billion tons of low sulfur West Virginia reserves, half of them recoverable. That's more than enough for the current energy crunch, touted by Arco from FEA's Project Independence Report demand figures of 1.0 to 1.5 billion tons per annum by 1985. However, the FEA stated in that report that "Most of these (low sulfur) coals... are located in the West. Low sulfur eastern coals are not as abundant, and much of what is readily mineable is reserved for the metallurgical and export markets. They are relatively expensive and unsuitable for many boilers presently in use because of their combustion characteristics."

This is also precisely the standard line of the American Electric Power company in their numerous expensive advertisements throughout the United States. The shift-to-the-West is also manifested by the Tennessee Valley Authority. This federal power bureaucracy, located directly in the center of the Appalachian coal fields, announced in 1974 that it would begin to purchase Montana coal for

Let future generations worry about the destroyed deeper coals after surface mines are completed.

some of its plants and that it would help finance a mine for Peabody Coal Company. TVA buys no significant amounts of low sulfur West Virginia coal, yet pays to transport Montana coal to its southeastern plants.

In short, diseconomics pays when public land reserves are at stake, and the current Administration seems to be playing directly into the game of favoring a few major energy industries over the small private mine developers. This is not wrong per se, in my opinion, but it does help to explain Arco's avowed marketing strategy.

Arco does admit that their proposed marketing area calculations are, in part, dependent upon scrubber technology, which could permit wider utility of higher sulfur

(Continued on page 6)

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Secrecy. . .

(Continued from page 5)

Illinois Basin coals. The scrubber arguments continue unabated today, as they did all through 1974, although I feel that the Environmental Protection Agency's side of the debate is being heard and will ultimately win out.

The American Electric Power System campaign to scare the public into believing that scrubbers will not work seems, at first, counter-productive, since AEP's eastern coal holdings are largely high in sulfur content. AEP has its greatest holdings in eastern coal in Ohio, Indiana, Kentucky, and northern West Virginia, where low sulfur reserves are scarce, but they are reported to be investing heavily in western coal and shipping facilities. New plants that they will build in Indiana are reported to have projected use of western coals and AEP is reported to be investing about \$100 million to build barges and railroad cars to ship western coal. AEP claims that low sulfur eastern reserves do not exist in sufficient quantities. They oppose use of stack gas scrubbers as "unproven" through enormous advertising campaigns.

In 1973, when AEP's six electric affiliates paid no federal income taxes on a net income of \$194,695,000 according to Federal Power Commission reports, they spent far more on "advertising and sales expenses" than on the pertinent "classes A & B research and development expenditures."

All this is because AEP has invested heavily in western coal of purported low sulfur content. In 1974, AEP is reported to have invested \$10 million in a deep mine in Utah, yet broke a contract with a Boone County, W. Va., coal company that was selling its low sulfur coal for \$8.75 per ton. According to a West Virginia legislature coal study, AEP has arranged for more western coal, including 800 million tons of Wyoming coal, than it would need for the life of all its current and proposed plants.

SURFACE MINING FIRST

Arco is to be commended for even mentioning the matter of deep mining of western coals. This is a point that the Environmental Policy Center and Sierra Club have been stressing and that has not been addressed by any major

companies or the federal government to date to my knowledge. Arco makes the true basic point that surface mining is more economical than deep mining. However, Arco makes a misleading claim that "Essentially none of the surface coal in the West can be recovered by underground methods because of roof support problems." This is technically true, but conveys the impression that surface mining thus does not preclude later deep mining when, in fact, deep mining should precede surface mining for maximal resource recovery where deeper seams exist beneath those within 200 feet of the surface precisely because of roof support problems.

Arco really didn't address that issue because, they claim, there are no deeper seams of importance beneath their Black Thunder property. In essence, the arguments

Arco has probably made more enemies among other energy development companies by releasing the opinions in their report than they will gain friends. Particularly pertinent are their findings that much of the Northern Plains coals are not low sulfur and their avowed reclamation goals. . . .

—Robert Curry

are mostly economic and partly based upon the ability of companies to gain control of larger tracts of western coal through strip mining plans rather than prior deep mining. Let the future generations worry about the destroyed deeper coals after surface mines are completed.

The strongest part of Arco's report, from the Sierra Club standpoint, is their avowed devotion to effective reclamation. Although we have not seen that they can do what they claim is their intent, they do claim that they shall "continue maintenance until a self-sustaining ecosystem has been established." That goal is commendable, as is their emphasis on natural ecosystems and ecosystem processes. If such claims could be adhered to by

contractual agreements, many of the complaints of residents of the Northern Plains and of environmental organizations would be tempered. The text on reclamation sounds good, but I would like to see them demonstrate an ability to do what they claim under the severe reclamation restraints of the Black Thunder site.

THE WORKER SAFETY ARGUMENTS

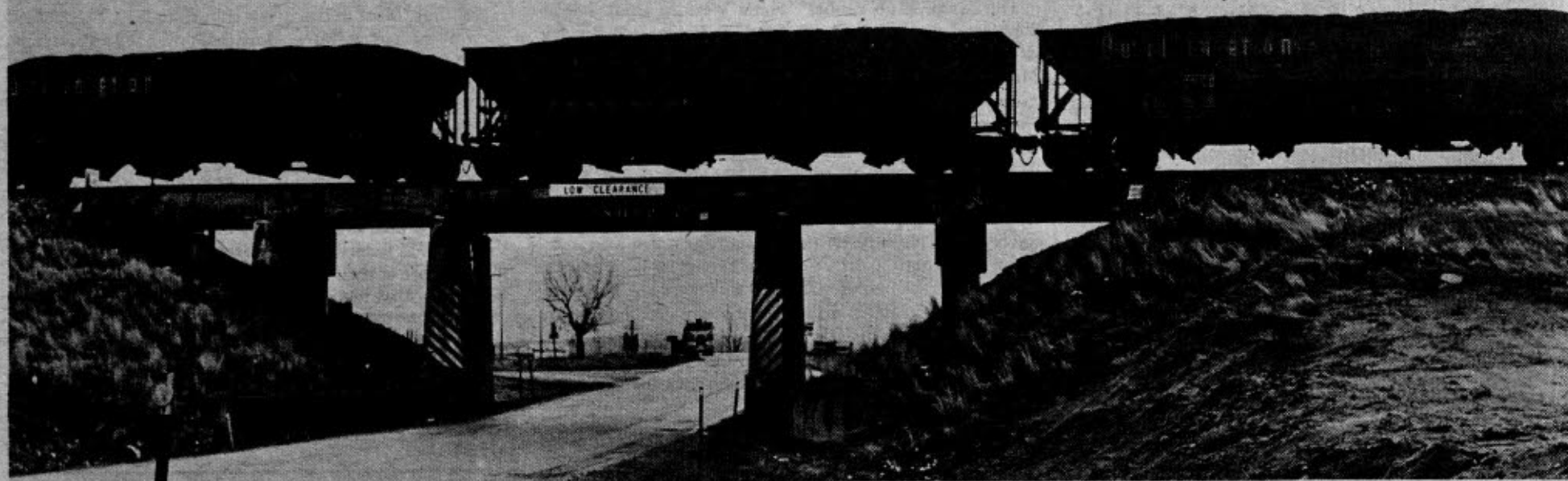
In a Denver meeting Arco repeated the federal and industry arguments in favor of strip mining the West rather than deep mining the East to provide low sulfur coal. Arco used the same worn statistical half-truths that Congress has been receiving from many sectors. In fact, if one looks at fatalities alone, strip mines in 1974 had about the same fatality rate per man-hour as did underground mines. Injuries per man-hour were greater in the underground case. Arco's claim is that underground mines cost about five times as much in terms of fatalities as do surface mines, which sounds great until one realizes that this is based upon a "per-ton" basis since strip mines are much less labor intensive than underground mines. In a nation of high unemployment, the even fatality ratio between underground and surface mines is more pertinent.

CONCLUSION

Arco is to be commended for entering into a dialog on the matter of western coal development. They have apparently collected their own data on their Black Thunder lease block and adjacent prospective federal lease blocks and feel that they now know that about half the local coal in a particular seam can be marketed as low sulfur coal. As with many other issues in the coal development field, Arco has probably made more enemies among other energy development companies by releasing the opinions in their report than they will gain friends. Particularly pertinent are their findings that much of the Northern Plains coals are not of low sulfur and their statements of avowed reclamation goals that are in marked contrast to those of neighboring developers.

Robert R. Curry is an associate professor at the University of Montana and with the Sierra Club Research Office. The above remarks are an edited version of testimony he presented to the Senate Interior and Insular Affairs Committee on May 27, 1975.

Does the nation need western coal?



Burlington Northern coal train, Gillette, Wyo.

Photo by Lynne Bama

3. Concentrate coal development and problems

by Russell Boulding

The western low sulfur coal myth is a major argument that has been used by environmentalists against massive strip mining of Northern Plains coal. The myth is that the vast majority of coal west of the Mississippi has a low sulfur content. In the Northern Plains, for example, 94% of the total coal resource is judged to be less than 1%

sulfur by conventional estimates. This is misleading, however, because most of this coal has a low heat content. Its effective sulfur content may be as high, or higher, than medium and high sulfur eastern coal. A 5,000 Btu per pound North Dakota lignite, for example, with 1% sulfur has the same amount of sulfur per Btu as a 14,000 Btu-per pound eastern bituminous coal with 3.5% sulfur.

The basic principle of non-equivalence of sulfur content of coal is obvious once it is pointed out. Surprisingly, the implications of this non-equivalence for Northern Plains coal development were not examined until 1973 when Michael Rieber of the University of Illinois published a report revising the conventional low sulfur reserve estimates.

Previously it had been assumed that most western coal could meet the Environmental Protection Agency's new source performance standard (NSPS) for power plants of 1.2 pounds of sulfur dioxide per million Btu. (This is equivalent to .6 lbs sulfur per million Btu.) Rieber, however, concluded that the coal resources in the .7% and less category in the western states were reduced by almost 85% when adjusted to the average heat content of coal burned by utilities in 1970.

The ability of Northern Plains coal to meet the NSPS for SO₂ is of critical importance to the energy industry. If it does not, its key competitive advantage over midwestern and eastern high sulfur coal is lost. It was not surprising when Atlantic Richfield, an oil company with federal

With some justification, Arco criticizes the proponents of the western low sulfur coal myth argument for drawing misleading conclusions from over-generalized data. Unfortunately, Arco does the same thing.

—Russell Boulding

coal leases in Wyoming and Colorado, released a report titled *Development of Western Coal — A Producer's View* in April 1975 countering the low sulfur coal myth argument and arguing the case in favor of strip mining western coal.

The uninformed reader will probably find the sincere and carefully reasoned tone of Arco's report very persuasive. This, combined with point-by-point rebuttals to key arguments made by the environmental movement against the development of western coal, seems to give legitimacy to Arco's position that strip mining in the Powder River Basin of northeastern Wyoming and further leasing of federal coal should commence immediately.

With some justification, Arco criticizes the proponents of the western low sulfur coal myth argument for drawing misleading conclusions from over-generalized data. Unfortunately, Arco does the same thing. For example, Arco states that 58% of the demonstrated coal reserves in the U.S. lie west of the Mississippi and that western strippable coal represents 34% of the total recoverable reserves. If we recalculate coal reserves in terms of heat content, western coal is reduced to 47% of the total reserves and western strippable reserves only 23% of the recoverable reserves.

FLOURINE, MERCURY

Arco addresses the issue of trace element emissions from power plants by calculating that a 100 megawatt power plant would emit approximately 114 grams of mercury a day burning "typical" western coal and about 163 grams a day burning "typical" eastern coal. Their conclusion is that "mercury emissions from burning coal are very low." Setting aside the question of whether it is valid to generalize from the 11 samples they based the "typical" concentrations on, let us consider what happens if we scale these emissions up to a 2,100 megawatt power plant (the size of Montana Power Company's proposed Colstrip plant). Emission of mercury from the western coal becomes 2,394 grams a day and from eastern coal 3,423 grams a day. EPA's emission standard for mercury from chlor-alkali plants is 2,300 grams a day. From this data we might conclude that emissions of mercury from large power plants burning either eastern or western coal will be high.

The results of scaling up Arco's flourine data are also interesting. A 2,100 megawatt plant burning "typical" western coal will produce 3,400 lbs. per day, eastern coal 2,800 lbs. per day, and Illinois coal 2,400 lbs. per day. The difference between western and Illinois coal is half a ton of flourine a day.

Lest I be accused of the same sort of statistical manipulation Arco has done, I should say that the amount of mercury and flourine which would be released into the atmosphere would be less than the numbers I have cited. Power plants rarely operate at full capacity and not all the flourine would reach the atmosphere. The basic point I am making is still valid. Trace element emissions from power plants are not necessarily trivial, particularly as the size of the plant increases.

Arco counters the sulfur myth argument by using virtually meaningless average values of sulfur in different coal provinces to support the statement that "the great

majority of coal which will meet the NSPS for SO₂ is in the West and, specifically the Northern Plains." The statement is further supported by listing analyses of Wyoming and Montana coal production for utility consumption in 1974. The statistics are impressive. Arco says 78% of the Wyoming coal and 48% of the Montana coal met the standard. These figures can be viewed in a better perspective when compared with coal production from the southern Appalachian coal province. In 1965 (the only year this kind of information was published) at least 73% of eastern Kentucky's production, 48% of Virginia's, and 45% of West Virginia's production met the SO₂ standard.

The low sulfur coal myth remains true to the extent that conventional estimates have grossly overestimated the total amount of low sulfur coal in the West. This does not mean, as Arco has gone to considerable expense to point out, that there is no low sulfur coal in the West. The truth of the matter is that low sulfur coal is abundant both east and west of the Mississippi. There is more than enough in either coal region to meet the demand for low sulfur coal for electricity for the next 30 years.

Perhaps Arco is correct in their assertion that stripping in the Northern Plains and further leasing of federal coal should proceed more rapidly. I agree with Arco that Campbell County, Wyo., is probably the place it should happen. If all the incremental production of coal for electricity projected by the Ford Energy Policy study in their technical fix scenario came from Campbell County, by 1985 the Wyodak coal seam would only be mined out in a mile wide strip on both sides of the Burlington Northern railroad tracks at Gillette. My agreement with Arco ends here.

WESTERN COAL PHASE-OUT

The present demand for low sulfur coal is due largely to the imperfect state of sulfur removal technology. By 1985 this technology should be refined to the point where use of midwestern and eastern high sulfur coal will eliminate the need for wasteful consumption of diesel fuel to transport large amounts of western coal to midwestern markets. A radical change in federal policy could integrate

We can have cleaner air and a relatively undisturbed Northern Plains by concentrating the environmental and socio-economic impacts in one small area.

—Russell Boulding

the mining of western coal with an environmental policy that would improve air quality and minimize the impact of strip mining in the semi-arid Northern Plains. This could be done by 1) allocating federal coal that meets the SO₂ standard to urban areas where air quality improvement is needed the most, 2) allocating federal coal that does not meet the standard to new power plants in the West with emission controls, and 3) restricting all incremental production of federal coal for electricity during the next 10 years to the Wyodak seam adjacent to BN's tracks at Gillette.

If the energy industry were willing to operate under the constraints of such an allocation scheme, perhaps further leasing of the Wyodak seam adjacent to the BN track would be justified. If not, then perhaps consideration should be given to establishing a federal coal corporation which would operate only within the boundaries of Campbell County.

Either way, we can have cleaner air and a relatively undisturbed Northern Plains by concentrating the environmental and socio-economic impacts in one small area. However, I don't think this is quite what Arco had in mind when they set out to debunk the western low sulfur coal myth argument.

Russell Boulding has done extensive work for the Environmental Defense Fund on Northern Plains coal development. He is presently working for the Indiana Department of Natural Resources as a soil scientist.

BULLETIN BOARD

ENERGY CONSERVATION WORKSHOP

The Colorado Energy Research Institute at the School of Mines in Golden, Colo., is sponsoring a public workshop Wed., Sept. 17, on energy conservation. The morning session will have speakers and the afternoon will have workshops on energy conservation in institutional, commercial, and industrial settings. There is no charge. Call 279-0300 for information.

ZION PARK CONCESSIONS

The National Park Service needs support in its decision to close all overnight accommodations within Zion National Park by the end of 1975. The facilities are now operated by TWA. Conservationists point out that there are adequate overnight facilities just outside the park boundaries. Letters should be sent to the Superintendent, Zion National Park, Springdale, Utah 84767. Hearings will be held on the park master plan in Zion Sept. 20, Kanab Sept. 22, Cedar City Sept. 23, St. George Sept. 24, and Salt Lake City Sept. 26.

IMPACT CONFERENCE

"Impact" is the theme for the Wyoming Human Resources Confederation's annual conference this year at the Ramada Inn in Casper, Sept. 23-24. Concerns over the impact of population increases, community growth, social service planning, employment, and educational services will be discussed at the two day meeting. The WHRC is a statewide group of about 300 professionals involved in providing human services to Wyoming people.

DENVER, BOULDER COURSES

Educational workshops on wilderness preservation are planned for Denver and Boulder, Colo., this fall. The series is sponsored by the Wilderness Workshop of COSC and the National Forest Committee of the state Sierra Club. The eight-part series will be held one night a week in both Denver and Boulder. The Denver sessions will be Monday evenings, 7:30-9 p.m. at the Denver Botanic Gardens meeting room starting Sept. 8. The Boulder sessions will be Tuesday evenings, 7:30-9 p.m. at the University Memorial Center, Room 157-A, starting Sept. 9. The courses will be free and open to the public. For more information contact the Wilderness Workshop of COSC, 1325 Delaware St., Denver, Colo. 80204.

GAS PIPELINE HEARINGS

Public hearings will be held in September on the draft environmental impact statement for the gas pipeline from Alaska. The proposed route that is considered in the statement goes from Prudhoe Bay across Alaska and across Canada to reach the lower 48 states. Copies of the statement are available from the EIS Task Force, Room 1538, Bureau of Land Management, Department of the Interior, 13th and C Sts., NW, Washington, D.C. Comments are due by the end of October. All hearings will be held at 9 a.m. In Montana, it will be Sept. 25-26 at the Northern Hotel in Billings. In Oregon, on Sept. 25-26 at the Bonneville Power Auditorium in Portland. In Washington, on Sept. 29-30 at the Washington Water Power Company Auditorium in Spokane. In North Dakota, on Sept. 29-30 at the Highway Department Auditorium in Bismarck. In Nevada, on Oct. 2-3 at the Pioneer Inn in Reno.

GRAND CANYON WORKSHOPS

The National Park Service will hold public meetings in late September and early October to gather public input for wilderness planning at Grand Canyon National Park. Seven meetings, all to be held between 7 and 10 p.m., will be at the following dates and places: Phoenix, Ariz., Sept. 22; Kingman, Ariz., Sept. 23; Las Vegas, Nev., Sept. 24; St. George, Utah, Sept. 25; Kanab, Utah, Sept. 26; Grand Canyon, Ariz., Oct. 2; Flagstaff, Ariz., Sept. 30. After the workshops, the Park Service will prepare a wilderness proposal which will be the subject of formal public hearings sometime in 1976.



©Carol Snow



Although trees and mud are the first choice for dam material, the beaver uses whatever is available, sometimes incorporating traps that were set for him.

My thoughts often stray to the Indian legend of how the Creator had to call upon the beavers to help build the earth. As intended, man seems to be on destroying the earth, the Creator may again have to call upon the beavers to help patch things up. The earth's future couldn't be in better paws.—Leonard Lee



Drawing by Grant Hagen from "Beaver," a 1950 Wyoming Game Commission Publication

Nature's Corps of

by Sarah Doll



The dam is often curved with the flow of the stream for added strength.

Beavers, like man, modify their environment. They have, in fact, done so much longer than man has. According to Cherokee legend, God called upon the beavers to help him finish creating the earth.

Beaver dams form lakes that provide a certain amount of protection from their non-aquatic predators, and also serve to shorten the distance they must travel on land to reach their food supply. They dig plunge holes, or tunnels from land to water, as escape routes when they must be on shore. They build lodges for security and warmth. Their most remarkable engineering projects are probably the canals; they are dug deep enough to facilitate floating logs to the lodge from long distances.

Beavers are remarkable in other ways. They are the only mammals which never stop growing, and can reach as much as 90 or 100 pounds before death. Members of the order of rodents, they are the only member of their family, Castoridae. Their most striking characteristic is the large, paddle-shaped tail, which serves as rudder when swimming, as a sign when cutting trees, and as a signalling device.

The beaver is an outstanding example of an animal's specialization to a specific environment. Its round shape minimizes heat loss; its fur consists of two layers and is well oiled; it is further insulated by a subcutaneous layer of fat. The ears and eyes can be completely sealed underwater, and the nostrils are covered by transparent membranes. Its front paws, although lacking opposable thumbs, are effective for carrying and digging. The hind feet are webbed, and the two inside nails are double, for

Photos by Don Domenick courtesy of Colorado Division

Indian legend
upon the great
As intent as
the earth, the
upon the beav-
earth's future
nard Lee Rue



Wyoming Game and Fish



The beaver's efficient round shape and thick double coat minimize heat loss in their cold environment.

of Engineers

their environment.
longer than man
nd, God called on
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provide a certain
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the distance they
food supply. They
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The ears and nose
water, and the eyes
nbrates. Its front
thumbs, are ef-
The hind feet are
are double, form-

ing a sort of comb for grooming and oiling the fur.
Their efficient use of oxygen allows beavers to stay
submerged for as long as 15 minutes.

Family ties are important to beavers; they usu-
ally stay with the same mate for life. Adults breed in
January or February, and the female gives birth in
April or May, most commonly to a litter of four. The
kits suffer a high mortality, principally from the
otter. The young are allowed to stay with the family
until they are two years old, when they are driven
from the lodge to start colonies of their own; this
prevents overpopulation and depletion of the food
supply. Average life span for a beaver in the wild is
12 years.

Enough trees are stockpiled near the lodge in the
fall to supply the beavers with bark all winter. In
warm weather, they eat whatever greenery is av-
ailable, including algae.

Nineteenth-century man's passion for beaver
hats played a major role in the exploration and
opening up for settlement of North America. Beav-
ers were trapped into near-extinction, but were
given protection in time to make a comeback early
in this century.

It is again legal to trap them in most areas, but
more and more people are recognizing their value to
man as engineers. They are being transplanted into
headwater areas, where their small dams can help
prevent floods that make large man-made dams
downstream necessary. In cold areas, their lakes
provide relatively warm areas where fish thrive.
The beaver remains man's friend, in spite of our
early persecution and our constant pressure on its
habitat.



The beaver grooms and oils its coat with a comb-like double claw on its hind foot.

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Reckoning from Washington

by Lee Catterall

The current freeze on expansion of coal development in the Powder River Basin is likely to extend into next spring, perhaps much longer.

The decision will rest with the U.S. Supreme Court after it hears arguments presented in the case brought against the government by the Sierra Club and other environmental groups.

A three-judge U.S. Court of Appeals panel in Washington created the freeze in June. It ruled the government eventually should prepare a massive environmental impact statement before allowing expansion of coal development in the four-state Northern Great Plains area.

Such a statement should be prepared when the time becomes "ripe" for development, the court said. That will occur, the court continued, once the Interior Department has completed two studies it has been working on. One — the Northern Great Plains Resource Program report — has since been completed. The other — an impact statement on the Interior Department's proposed coal leasing system — awaits completion.

The appeals court directed the case back to the U.S. District Court for oversight. Meanwhile, it ordered the department to "take no actions that would defeat the purpose the impact statement is designed to serve," thus creating the freeze.

The Justice Department this month plans to ask the Supreme Court to hear its appeal of the case. The court opens its next term in October by deciding which of the hundreds of cases at its doorstep it wants to take time to consider.

The Supreme Court could refuse to hear the case, reasoning that lower courts haven't finished with it.

Or, the court could "expedite" the case, hurrying the timetable so a Supreme Court decision could be reached by the end of this year. A department spokesman voiced optimism about that possibility. However, the government would have to show "irreparable damage" is being done while the case is tied up in the courts. That would be difficult to prove, since the freeze merely continues the status quo.

If the court agrees to hear the case, and it is treated normally, oral arguments likely would be heard in the Supreme Court early next year and a decision could come in the late spring.

That decision will be one of the most important environmental ones since Congress passed the National Environmental Policy Act (NEPA) in 1969.

Sierra Club lawyers Bruce Terris and Suellen Keiner contend that an assortment of related government actions, large and small, should be regarded as a single "major federal action significantly affecting the quality of the human environment." NEPA requires environmental impact statements for federal actions fitting that description.

The government lawyer, Jacques Gelin, argues that those actions in the Powder River Basin, including such things as coal leases, mining permits, land rights-of-way, and water diversion, while related, don't make a plan or program.

The appeals court said, in effect, that if they aren't a plan, they should be.

"Surely we are not willing to hold that the less comprehensive planning an agency plans to do, the less NEPA requires it to do," the court said.

If the Supreme Court agrees, the government will be required to prepare the impact statement. That decision would continue the freeze on expanded coal development for years.

MOVING??? Be sure to send us your old address and your new one so we can find you in our files. Second class mail, such as the **HIGH COUNTRY NEWS**, is destroyed unless you make special arrangements with the Post Office to pay forwarding postage.

Ford favors Kleppe for Interior

Thomas S. Kleppe, a former North Dakota Congressman and the present chairman of the U.S. Small Business Administration, has been nominated by President Gerald R. Ford to be Secretary of the Department of the Interior.

Kleppe, 56, if confirmed by the Senate, will succeed former Wyoming Gov. Stanley K. Hathaway in the top Interior post. The job has been covered by Interior solicitor Kent Frizzell since Hathaway resigned July 25 for health reasons.

Kleppe is virtually unknown in the natural resources field. "The fact that he has not been involved with a lot of environmental issues will be an asset," said Sen. Milton R. Young (R-N.D.) of the nomination. "He is more middle of the road."

Rep. Pat Schroeder (D-Colo.) told the **Rocky Mountain News** she was "astonished that President Ford would consider appointing a person who appears to have a non-record in environmental affairs." As Secretary, Kleppe would be top administrator of the nation's public lands, national parks, national monuments, and wildlife refuges.



Save money, energy with home insulation

(First of a series)

The biggest waste of energy in the home, and the one most costly to the homeowner, is the loss of heating and cooling energy.

Heating and air conditioning combined consume about 60% of the energy used in the average home, regardless of the type of fuel. That makes proper insulation the most practical way to conserve energy and save money on energy bills.

The federal Office of Economic Opportunity estimates that the homeowner, by insulation alone, can save \$25 out of each \$100 normally spent to heat and cool a house. At that rate, insulation pays for itself in a very few years.

The Stanford Research Institute, in a study conducted for the Pacific Power and Light Company, found that optimum insulation pays for itself in three to six years, depending on the specific location. The SRI researchers calculated savings per dwelling over a 30-year period from \$1,500 to \$9,000 and averaging \$4,000 to \$5,000. SRI predicted savings as great as 40% with optimum insulation.

R VALUES

The key to insulation is heat control — to keep warm air inside during cold weather and outside during hot weather. Heat passes through walls, windows, ceilings, and floors. Insulation can reduce this flow of heat, thereby conserving energy.

The ability of a building material to reduce the flow of heat is referred to as its "R" value. (R stands for heat transfer resistance.) Not all materials have the same insulating value. For instance, one inch of fiberglass or rock wool commercial insulation stops as much heat as 3½ inches of wood, 34 inches of brick, and 46 inches of concrete.

One inch of fiberglass or rock wool has an R value of between 2.8 and 3.8. R values of several other materials are as follows: concrete, R-.08 per inch; sawdust, R-2.22 per inch; wood siding, R-1.05; carpet and rubber pad,

Kleppe served in the House from 1966 to 1970. Joe Browder of the Washington, D.C. - based Environmental Policy Center told the **News** Kleppe "didn't have that bad of an environmental record."

In 1970, Kleppe voted against U.S. development of the SST (supersonic transport aircraft), and against the timber supply act which would have increased cutting in the national forests, Browder said. On the other hand, Kleppe voted against full funding of the federal water pollution control legislation.

A former investment banker, Kleppe was elected mayor of Bismarck, N.D., in 1950. In 1964 he was an unsuccessful Republican candidate for the Senate against Sen. Quentin N. Burdick.

In 1970, according to the **New York Times**, President Richard M. Nixon "persuaded Kleppe to give up his House seat to challenge the liberal Sen. Burdick again. Despite the infusion of \$300,000 into a state with only 350,000 eligible voters and campaign appearances by President Nixon, his daughter, Patricia, Vice-President Agnew, and Secretary of Interior Walter J. Hickel, Kleppe lost again."

In the 1970 campaign Kleppe stressed his conservative voting record and questioned Burdick's patriotism because of the Senator's opposition to the Vietnam war, a tactic resented by the voters, according to the **Times**.

After Kleppe's loss by a substantial margin, the White House appointed him chairman of the Small Business Administration. The SBA has been riddled with scandals in recent years. Some observers feel opposition to Kleppe will come over his poor management of SBA rather than his elusive environmental record.

Last year the Civil Service Commission reported improper political influence on SBA jobs. Kleppe was never held personally responsible for the SBA's improprieties, but some congressmen have demanded his resignation from SBA for alleged management deficiencies.

In 1969 Kleppe disclosed his private wealth before his Senate campaign. His holdings of stocks and bonds were valued at \$3,514,942, of which \$1.13 million was in stocks of International Business Machines (IBM) Corp., and \$273,600 in stock of Cardinal Petroleum, Inc., of which he was a director, reports the **N.Y. Times**.

R-1.23; linoleum, R-.08; any air space larger than three quarters of an inch, R-1; urethane foam, R-5.5 to 6.25 per inch; plywood, R-1.26 per inch.

Sometimes publications on insulation refer to a "U" value. The U value measures the heat loss through a construction material per unit area. The U value is the reciprocal of the R value. With insulation, the homeowner wants a high R value and a low U value to conserve energy.

OPTIMUM INSULATION

When trying to determine how much insulation to put into a house, the word "optimum" becomes the key. "Although insulation can be used to fill every space in the frame of a home, approaching the problem this way is not economical," says U.S. Forest Service architect Fred Oviatt. There is a point of no return beyond which "the fuel conserved per inch of insulation rapidly diminishes," he says.

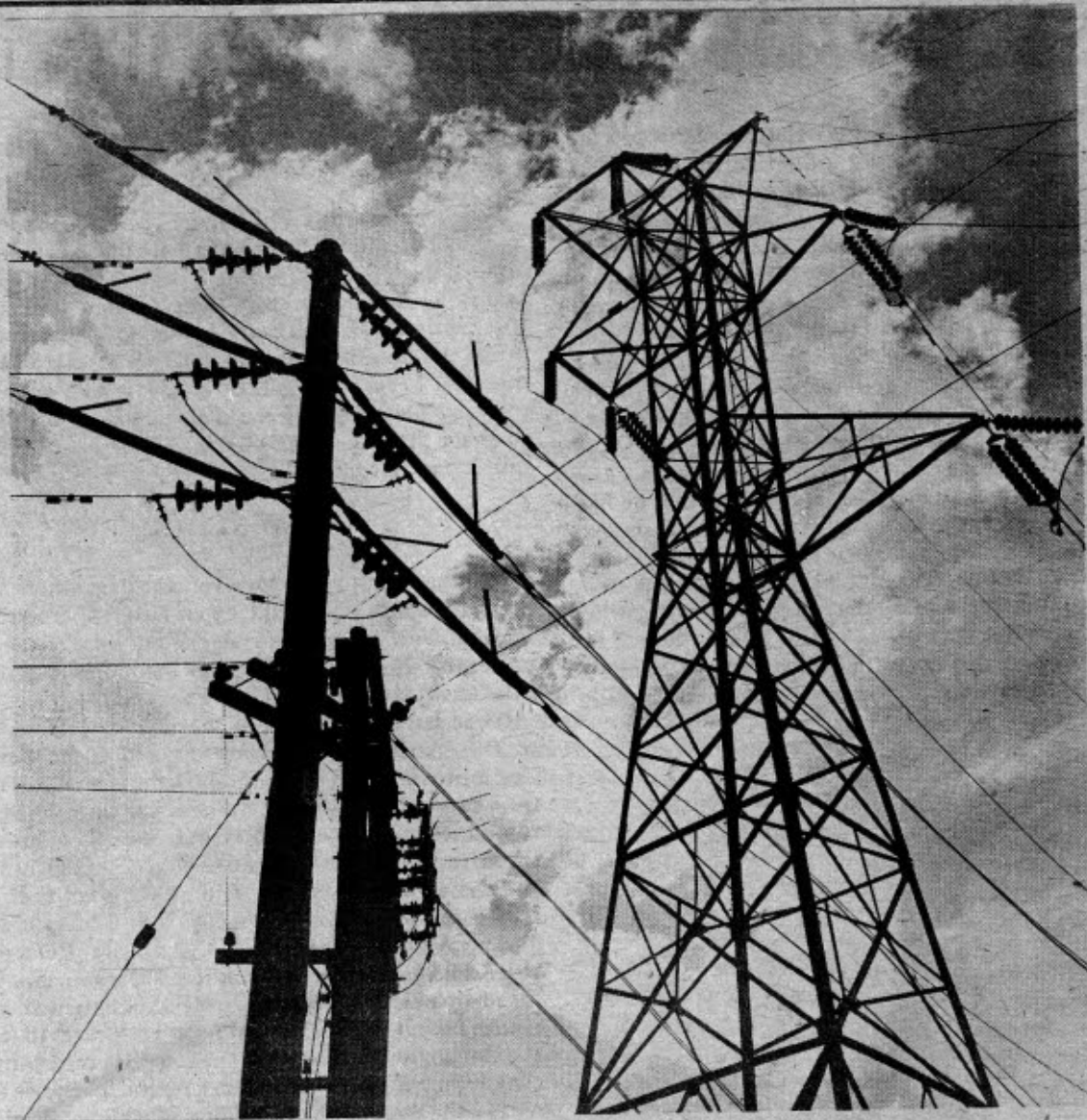
Oviatt has published a booklet, "Optimum Insulation Thickness in Wood-Framed Homes," filled with charts which weigh fuel costs and climate against insulation costs. His report is available for \$.85 from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

In the SRI study done for Pacific Power and Light Company, the researchers recommended as optimum insulation standards R-19 in the ceiling, R-11 in the walls, and R-9 in the floor. All are economically justified over a 30-year life of the dwelling, says SRI.

This article is the first in a series on home insulation. In future issues of **High Country News** we will be presenting information on how to insulate a home, which materials to choose, special problems with mobile homes, storm windows and doors, and a roundup of building codes, laws, standards and institutional incentives.

—the editors

Sept. 12, 1975 — High Country News-11



JUDGE RULES AGAINST EMINENT DOMAIN

A district court judge in Bismarck, N.D., has ruled that eminent domain cannot be used to condemn North Dakota farmland for a power line taking power outside the state. Judge Benny Graff ruled against an electrical cooperative saying he could find "no substantial benefit for North Dakota residents" from the line. The cooperative wanted right-of-way for part of a 400 mile direct current transmission line from Center, N.D., to Duluth, Minn. Graff said no North Dakota residents would get power from the line in question. The North Dakota Century Code defines eminent domain as the right to take private property for public uses, and Graff ruled that the legislature intended the public to mean North Dakotans. He also took the present legislature to task, according to the Associated Press, saying it should re-examine the power of eminent domain it has granted to a number of private enterprises. The ruling will be appealed.

Photo by Lynne Bama

The Hot Line

energy news from across the country

HALF OF LEASES NONPRODUCING. The Interior Department has prepared an internal study on coal leases which shows that 50% of the present federal coal leases have had "no past production with no plans for future production." Most of the 237 leases in this category are held by oil companies, according to *Coal Week*. Sources at Interior told *Coal Week* that there seems to be little action that can be taken against these leaseholders even though the department requires "diligent development" because no definition of diligent development has been provided.

INTERIOR'S STRIPPING REGS ATTACKED. The U.S. Department of Interior has proposed new strip mining regulations to apply to federal lands. The new regulations were printed in the *Federal Register* Sept. 4. Sixty days are provided for comment. Katherine Fletcher, of the Environmental Defense Fund, and Mike Harvey, a counsel for the Senate Interior Committee, have already commented that the regulations are weaker than the legislation passed by Congress, but vetoed by President Ford. The new regs would allow states to have stricter reclamation standards — if the Interior Secretary approves them. In reclamation and water quality sections, the regulations ask the operator to maintain quality "to the maximum extent practicable," which Fletcher charges is "weasel wording."

CLEAR WALLS ON COLD DAYS. Scientists have developed a solar energy wall that automatically controls the temperature of a home. The wall consists of a layer of heat-sensitive chemical between transparent plastic membranes. The gel gets cloudy and shuts off sunlight, just as clouds do, above a certain temperature. Below that temperature, it starts to clear, which the scientists admit could cause privacy problems since the wall would be completely transparent on cold days.

JAPAN'S IDEA OF INDEPENDENCE. Reacting to the Arab oil embargo, Japan initiated its own version of Project Independence. But unlike the United States, Japan plans to satisfy 20% of the country's energy needs by the year 2000 from alternative sources such as solar energy, geothermal power, coal gasification, hydrogen, and — if scientists find it feasible — volcano power.



Emphasis ENERGY

energy news in the Rockies and Great Plains



MONTANA WINTERIZES. A grant from the Old West Regional Commission will provide \$210,000 toward winterization of low income families' homes in Montana. To save money on natural gas and electricity for these families, the state will provide weather stripping, caulking, and roof repairs. "Rising utility bills hurt the low-income families more than others since these families tend to live in housing that does not have proper insulation," says Montana's Gov. Thomas L. Judge.

NAVAJOS DELAY GASIFICATION. The Navajo Tribal Council has postponed making a final decision on construction of two coal gasification plants on their land. The Navajos question the quality of jobs they would be given at the plants and the availability of housing and water.

OIL SHALE TRACTS EXPANDING. An oil shale developer leasing a federal tract in Colorado is working on a land trade which would secure the firm an additional 5,000 acres of federal land to be used as a shale waste dump. The Interior Department has previously ruled that a single firm can't hold two leases on federal oil shale land, but the department is preparing legislation that would allow additional leasing for dump sites. Rep. Pat Schroeder (D-Colo.) is opposed to the acquisition of additional lands because the impacts of dumping haven't been assessed in an environmental impact statement. She also says "we could end up creating a monopoly situation where a few companies would have a corner on the best land."

OIL SHALE SUBSIDY. The Oil Shale Corporation (TOSCO) is petitioning President Gerald R. Ford's Joint Interagency Task Force on Synthetic Fuels for a government subsidy of the oil shale industry. TOSCO is asking the government to guarantee loans at an interest rate of 8.5% for up to 75% of the proposed oil shale plant cost. TOSCO is also asking the government to promise to purchase all shale oil produced at a price of \$11.15 per barrel.

COLORADO COAL MORATORIUM. The director of the Colorado Department of Natural Resources has asked that the moratorium on leasing of state lands for coal mining, in effect since last spring, be extended for three months. The director, Harris Sherman, says the state needs to know long range economic, social, and environmental implications of coal development first. He says the objective isn't to stop or delay mining but to get the most from the resources while avoiding unfavorable consequences, according to a *Rocky Mountain News* story.

TRINIDAD MINE. Trinidad, Colo., may be the site of a new coal mine if Freeport Coal Co., a subsidiary of Freeport Minerals Co., New York, goes ahead with its plans on 18,000 acres of mineral rights recently purchased. Gov. Dick Lamm indicated that a rebirth of the coal industry in economically depressed Las Animas County might be brought about through a concession on the severance tax issue, according to *Coal News*.

SHELL COUNTING ON CROW COAL. Although the Crow tribe has declared its coal leases with Shell Oil invalid, the company has nevertheless concluded arrangements with a Louisiana utility for a 20 year coal contract. Shell plans to produce the coal from its Youngs Creek mine in the southeastern corner of the Crow reservation. The utility will be paying Shell on the order of \$6 per ton FOB (free on board), according to *Coal Week*. Shell is paying the Crow tribe \$12.97 per acre for leases, \$1 per acre for rent per year, and royalties which may go up to 48 cents per ton, plus possible \$200 per capita bonuses. The Louisiana utility is willing to take the risk that the mine won't be opened because it hasn't put scrubber technology into its new plant design and so depends upon low sulfur coal, according to *Coal Week*. The utility is apparently assuming that the Youngs Creek coal will be low enough in sulfur content to meet federal emission standards.

STATE LAND USE COULD HELP. State land use legislation could help the Rocky Mountain states cope with energy development, a recent report by the Federation of Rocky Mountain States says. State land use plans could be the basis on which to decide whether to lease public lands for energy development, the report says. Currently, 37% of the Rocky Mountain region is federally owned. Leasing policies on both state and federal land do not include requirements to consider general land use criteria in the award process.

12 Ducks, farmers, dams conflict in N.D.

by Paula Ward
North Dakota Representative
Friends of the Earth

"Ducks are more important than people." Ever hear that? Out here in Duck Country, U.S.A., in the middle of the Migratory Waterfowl Flyway, some pompous individuals who think they're more important than ducks mutter that phrase at least once a day.

Like the Water Users, whose ritual chant is "Use it or lose it," the opinion of many residents of the Souris Loop in North Dakota is wrapped up in their own chant: "Ducks are more important than people." It is meant as a slap in the face to anyone with concern for the environment.

The simplicity of the mental attitude is all part of the "march of progress." In other words, if it makes money, do it. Push anybody or anything out of the way. The dollar is the altar at which America worships. What has this to do with ducks? Or eagles? Or fox? Or deer? Or any wildlife?

WATERFOWL COMPLAINTS

In the Souris Loop, farmers have reason to complain about the migratory waterfowl. Mallards, blue-winged teal, coots, and all their feathered cousins just happen to converge on North Dakota when it's time to harvest wheat. The result is that the birds, hundreds of thousands of them, descend on a field for a free meal. This year will be a tough year for the farmer because the duck population is higher than it has been for several years. Although the U.S. Fish & Wildlife Service is trying to implement programs to help the farmer offset his loss, one might as well admit that it's going to be extremely difficult, especially in the Flyway.

However, that is still no reason for a farmer to show little regard for life — any life.

At a recent meeting of a group of Souris Loop landowners, the above issue was discussed. One farmer whom I know well said he takes the time to move a nest out of the way, rather than mow it down. Another, embarrassed to admit it, said he has done that for years, but whenever a neighbor saw him move a nest, the neighbor would laugh and ask him what he was doing that for. "I guess they think I'm crazy or something," he said.

Another landowner told me a story a few days later that

Forest Service asks for comments on plan

Hearings will be held next week on proposals for the future use of the National Forest resources for the next 45 years. Most of the hearings will be held on Thursday, Sept. 18. A detailed list follows below.

An assessment of the resources and the demand for them and a program for action have been prepared and are summarized in a 127 page document which is available from Forest Service offices.

Eight different options are being considered. They range from managing the lands with little further development to full development of timber, recreation and other resources.

Under the full development alternative, the primary goal would be holding down consumer prices by increasing supplies of timber, range forage, and developed recreation. At the other extreme, the "go-slow" alternative would leave the most options open for the future by managing and developing the resources the least. This includes only limited increases in wilderness classification as well as less timbering than is presently being done. The other six alternate program directions range between the two extremes.

Written comments can be submitted through Oct. 15, 1975, to Chief, Forest Service, U.S. Department of Agriculture, Washington, D.C. 20250.

The hearings will be held in:

Montana at the Missoula City/County Library at 9 a.m. on Sept. 18-19.

Colorado at the Denver Public Library at 9 a.m. on Sept. 18.

Arizona at the Phoenix Civic Plaza at 2 p.m. on Sept. 18.

Utah at the Salt Palace in Salt Lake City on Sept. 18 from 2-5 p.m. and from 7-9 p.m.

California at the Bank of America Building in San Francisco at 9 a.m. on Sept. 17-18.

Oregon at the Bonneville Power Authority in Portland at 9 a.m. on Sept. 23.

added another dimension to this issue of "ducks or people."

"Once when I was plowing a field for my father," he said, "I noticed the nests in the field. We liked to hunt, and so I cared something about those unhatched eggs. Instead of moving the nests, I just mowed around them. When I had finished mowing the field, my father asked me what in blue blazes I thought I was doing? 'Look,' he said, 'you left all those little islands out there!' So I explained to him about the nests. 'Well, if you think you saved those ducks, you're wrong. Take a look at the sky.' I looked — and right then I was pretty confused, because I saw the hawk, and I understood what my dad was trying to tell me, but at least I hadn't killed those ducks."

What his father pointed out to him was that he had actually made it easier for the hawk to spot the nests, and so he was reasoning that one way or the other, he was responsible. We talked about this problem for a long time, until the landowner told me that he could justify mowing around the nests.

"Man can control his actions, but when it comes to Nature. Man shouldn't fool around. We might think we've



Mallard drake.

Photo by Tom Baugh.

controlled a river by putting a dam on it, for example, but just wait a few years. Mother Nature will show us how little regard she has for our foolish attempts."

In order to manage the thousands of acres of marsh units, a dam was built. Lake Darling Dam, operated by the U.S. Fish & Wildlife Service, backs the water of the Souris River into a 23-mile long lake. The primary purpose of this reservoir is to supply water to the marsh impoundments in the Upper Souris National Wildlife Refuge and in the lower refuge, the J. Clark Salyer.

The Burlington Dam, proposed by the Corps, threatens the destruction of the entire Upper Souris NWR, since the design pool level of the Burlington Reservoir would back water over the marsh units and the existing Lake Darling Dam. At the maximum design pool level, Burlington Dam would put 26.8 feet of water over the spillway at Lake Darling Dam.

Because of the threat to the Upper Souris Refuge, and the probability that the Lower refuge would be damaged from increased flooding, the U.S. Fish & Wildlife Service is opposed to the Corps' plans. Residents of the Souris Loop didn't believe this when it was first made public, because they felt that the "wildlife people" were surely working hand-in-hand with the Corps of Engineers. In fact, they couldn't imagine a more "powerful" agency than the Fish & Wildlife Service, and many of them have remarked to me more than once about the "power" the agency must have. After all, land was taken for the refuges.

BURLINGTON BOONDOGGLE

The irony in this story is that those landowners I mentioned earlier are fighting a proposed Corps of Engineers

dam. The Burlington Dam is being planned for one purpose only, that of controlling flooding on the Souris River.

So where is the irony? Well, for years, the landowners in the Souris River Loop have harbored bitter feelings against the U.S. Fish & Wildlife Service. Back in the '30s, two major national wildlife refuges were established on the Souris River. Rich river-bottom land that once produced outstanding crops of hay and wheat was turned into marshes. For the Souris Loop residents, this was a bitter pill to swallow. Nothing could have seemed more illogical to them than the purpose the "wildlife people" had in mind: duck production.

NEW ALLIES

In June of this year, however, the landowners in the Souris Loop did an abrupt about-face. They're still not "siding" with the "wildlife people" but some of them are reviewing the old bitter feelings and wondering if they can "trust" the Fish & Wildlife Service.

It can safely be stated that the majority of landowners in the Souris River Loop are opposed to the Corps of Engineers proposed Burlington Dam. The reason is not that two national wildlife refuges are threatened. The reason is not that over 700 acres of floodplain forest are threatened in a state that ranks 50th out of the 50 states in total acres of woodland. The reason is not that Lake Darling provides so many people with fishing, boating, and picnicking, or that the J. Clark Salyer Refuge provides canoeing and trails to hike on. The reason is not that there are nearly 300 species of birds to be sighted on the Souris Loop Refuges. The real reason is the fact that once the Burlington Dam is built, the federal government will own or control nearly the entire length of the Souris River within the State of North Dakota. What is not flooded by the Corps will be taken by the Corps and given to the Fish & Wildlife Service to replace a lost refuge.

Sadly, many of the people who mutter sarcastically that "Ducks are more important than people" don't realize yet that the Fish & Wildlife Service is an ally in this fight against the Corps. In a sense, the farmer who mows down a mallard hen's nest is just as immoral as the Corps of Engineers, whose projects destroy good land and push people and wildlife out of the way.

When people have true concern for their fellow-man, that concern is also reflected in other ways. If we are stewards of this Spaceship Earth, we care about ducks and people . . . not "ducks or people."

Anyone interested in fighting the Corps of Engineers' proposed Burlington Dam can help by joining: Citizens United To Save The Valleys, Route 6, Minot, North Dakota, 58701. Five dollars will get you a membership card and a newsletter subscription.

Report from Alaska

by Gregory Capito



Newspaper accounts indicate that a number of workers on the Trans Alaska pipeline are reporting environmental offenses. For example, a pipeline worker, born and raised in Fairbanks, related that her supervisor directed her to deliberately spill oil onto the snow. An oil spill report was then promptly filed. This was done on a regular basis in order to keep pollution control authorities from getting suspicious.

In southcentral Alaska near Isabel Pass, a worker reported last fall that lighted flares were being placed into beaver houses to drive the animals out so that they could be shot. This was being done to clear the area for construction of a landing strip.

A water hauler on the North Slope witnessed the dewatering of sections of the Sag (Sagavanirktok) River by drilling companies. The water obtained was used to supply drilling rigs which need 45,000 gallons a day to operate efficiently. The dewatering of this stream in the winter, played havoc with aquatic life.

As these accounts indicate, people working on resource development projects are concerned about protecting Alaska's wild areas. In some cases, anonymous reports such as these have led to enforcement actions by federal and state officials.

Western Roundup

WYOMING WILDERNESS

Rep. Teno Roncalio (D-Wyo.) has introduced proposals for three wilderness areas in Wyoming: the Glacier (196,000 acres which include Gannett Peak shown at left), the Popo Agie (112,000 acres) and the Cloud Peak (256,576 acres). Each proposal took conservationists' recommendations into consideration and is larger than the acreage proposed for wilderness classification by the U.S. Forest Service.

IDAHO WILDERNESS

In Idaho, conservationists are working for formal designation of the largest wilderness remaining in the U.S. outside of Alaska. The proposed area, the River of No Return Wilderness, would include 2.3 million acres of existing primitive areas in central Idaho. The River of No Return Wilderness Council (Box 844, Boise 83701) is fighting an Administration proposal which would cut the protected acreage by one-half.



Photo by Finis Mitchell



Photo by Ernie Day

Harbor Lake and Fish Fin Ridge in the Idaho Primitive Area.

Wild horse grazing poses problems

A Bureau of Land Management roundup of 75 wild horses near Tonopah, Nev., was interrupted this summer by the Nevada Agriculture Director, who claimed the mustangs are state property. The action came as a surprise, because the roundup had the backing of Gov. Mike O'Callaghan. The horses were being removed because they were destroying valuable rangeland, and were to be given away for noncommercial use, according to roundup supporters. Agriculture Director Tom Ballow stepped in because he said some of the horses belonged to ranchers in the area who were afraid to reclaim them because of possible fines or grazing fees. Ballow has asked the Interior Department to waive any fines or trespass fees against the Nevada ranchers.

In Utah, BLM officials claim that a wild horse herd in the southwestern part of the state is growing too fast and that a roundup may be necessary. Amendments to the 1971 Wild Free-Roaming Horses and Burros Act which will facilitate such roundups are under consideration by a House subcommittee. The amendments would permit the use of aircraft and land vehicles to control horse and burro populations and would permit the sale of excess animals to buyers. Mrs. Velma B. Johnston ("Wild Horse Annie") told Rep. John Melcher (D-Mont.) at public hearings in Billings last month that "statements of 'population explosion' are premature, speculative, and highly prejudicial and reflect an insidious campaign to discredit proponents of protection, management and control of wild horses and burros."

USFS leases oil, gas near Glacier

Oil and gas leasing is starting on the west side of Glacier National Park. An Environmental Impact Statement released at the end of June recommended 165,681 acres of Flathead National Forest at the edge of the park be opened up for exploration and development. The development, plus a proposed Canadian coal mine on the park's northern border, and Blackfoot Indians' claims to the east constitute "triple jeopardy at Glacier National Park," says the National Parks and Conservation Association. An article detailing the three threats and possible park defenses appeared in the association's Sept. 1975 magazine, which can be obtained from NPCA at 1701 Eighteenth St., NW, Washington, D.C. 20009.

Denver's diversion plans blocked

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The Denver Water Board's long range plans to nearly double the Denver area's water supply through transbasin diversion were halted, at least temporarily, by a court appointed water referee early this month. The board claimed rights to 250,000 acre-feet of water in the western part of the state for diversion across the Continental Divide.

The water referee said it was beyond the authority of Denver to appropriate water to serve areas outside its city limits. He also said that Denver had failed to demonstrate a definite intent to appropriate the water.

Denver's claim to the water was contested by the Colorado River Water Conservation District of Glenwood Springs, Colo., and the U.S. government. The city has lost battles with Western Slope interests before in lower courts, but has successfully appealed nearly all of those decisions.

District Court Judge Charles Stewart, who appointed the water referee in this case, will review the case in several weeks. If he upholds the ruling, the water board plans to appeal the case to the Colorado Supreme Court.

Big Sky denies it's in big trouble

A representative of Big Sky of Montana, the \$20 million ski resort started by Chet Huntley, has denied reports that Big Sky is about to fold because of the slump in its real estate sales. Although Gustav F. Raam admitted that condominiums are not selling and construction has stopped for two years, he said the resort has, in the interim, shifted its emphasis to a blitz recreation promotion. Raam, who is the chairman of the resort board, said that the resort was fortunate enough to have six big companies behind it: Chrysler Corp., General Electric, Continental Oil, Burlington Northern, Montana Power, and Northwest Orient Airlines. About 200 of the 600 condominiums that have been built remain unsold, and some of the present owners are trying to sell their condominiums. When construction resumes, almost 2000 more condominiums will be built. Big Sky is part of the "ski strip" that would occur if Ski Yellowstone is approved. The strip would reach from Big Sky to Jackson Hole, Wyo.

Clean air rules to limit developers

Proposed air pollution control measures in Colorado could stop all new development in Denver, opponents say. The state has proposed that large new developments which would generate auto traffic and air pollution obtain a permit from the Colorado Air Pollution Control Commission. Those which generate enough to contribute to a violation of federal air standards would not be allowed. The rules were written by the Colorado Health Department in response to state legislation passed in 1973. In metropolitan Denver, which is already in violation of federal laws, theoretically new development couldn't be allowed. Exceptions could be made, according to the rules, for socially and economically desirable developments, however.

Olie Webb of the Colorado Association of Commerce and Industry criticized the regulations, saying they would tend to produce sprawl. George Pring, attorney for the Environmental Defense Fund, defended the rules with a question: "Are we going to sit here in one of the respiratory ailment hotspots of the nation and continue to hand out free lunches to developers?"

The Colorado Air Pollution Control Commission began public hearings on the matter Sept. 4. Commission chairman Dr. James P. Lodge, Jr. said, "The question to me isn't whether we need to control future growth. It seems to me we must say to ourselves at what size level does new construction of a shopping center, coliseum, parking garage, subdivision, or other large project reach the point where it needs to be looked at from an air pollution standpoint," Lodge said. "We are not in the business of no growth."

The proposed state rules were inspired by the U.S. Environmental Protection Agency's talk of controlling indirect sources of air pollution. Recently the EPA seems to have backed off requiring such rules, however.



ENDANGERED TROUT SUCCEED

The Paiute cutthroat trout shown above is among the first three creatures to successfully breed their way off the endangered species list, the U.S. Fish and Wildlife Service has announced. A service spokesman said the event "ushers in a new era in wildlife conservation work." Other species no longer endangered are the Lahontan cutthroat trout (a native of Nevada), and the Arizona trout. The Endangered Species Act, which provided protection for these fish, was passed in 1969.

Photo by Ken Genz

14-High Country News — Sept. 12, 1975



It's almost mid-September — and there's a feeling of hushed expectancy in the air. The last vestige of summer lingers, and autumn waits hesitantly to make her glorious appearance. The aspens are still green, but there's a subtle change in their shading, and a few of the most precocious are starting to dapple the higher hills with sunny spots of gold. The undergrowth can wait no longer — wild geraniums dot the ground with scarlet and yellow; taller bushes and shrubs are patches of orange, red and mauve against a backdrop of evergreens.

The air is crisp and clean, even during the warmth of mid-day. The tall timothy at the side of the house is silver with frost in the early morning, as are the yellow-brown grasses in the meadow. Wild asters cover the ridge across the creek with lavender shadows.

It's almost impossible to stay indoors even long enough to do the few necessary household chores. The other day we made quick work of them, packed a cookout lunch, and took ourselves and our fishing gear up Elk River for the day. It mattered not one bit that no one caught any fish — we found a big patch of thimble-berries for dessert! (We also had plenty of weiners.) I spent a lazy, comfortable afternoon sitting on a hard rock in mid-stream, with the sun warming my back and reflecting from the sparkling water with an almost hypnotic effect.

Perhaps we savor each moment of every day because we know that it will soon be time to leave this beloved place and return to the every-day world. Up here, one doesn't feel that a morning is wasted if it is spent lingering over after-breakfast coffee at the picnic table back of the house, watching the bluejays devour the crumbs of last night's corn bread! Nor did it nag at my conscience to stack the dirty dishes on the table after dinner last night, so that I could accompany a couple of my favorite young people on a leisurely boat ride around the lake. (In fact, it worked out beautifully — by the time we returned, others had done the dishes and left the kitchen sparkling!)

Meanwhile, we had watched the sunset reflected in the still waters of the lake. Feathery clouds turned to gold, then apricot, and finally to purple, streaked with red. Three sandhill cranes skimmed over the willows at the upper end of the lake, and as we turned toward the shore, two ducks swimming ahead of the boat were silhouetted against the shadowy ripples of their wake. The stars were just starting to show as we reached the welcome warmth of the house. It had been another beautiful Indian Summer day.

Soon the hillsides will turn gold and orange, and then the chill fall winds will strip them of their color and later, the deep snows of winter will cover them. We will all have departed by then — reluctantly going back to our every-day worlds.

But the most beautiful thing about nature is its constancy. There will always be another Indian Summer!



Book review

Gifford Pinchot

by M. Nelson McGeary, Princeton University Press, Princeton, New Jersey, 1960. 481 pages. Photographs.

Review by Peter Wild

On the first Earth Day, April 22, 1970, 20 million people across the United States paused to consider their future in the light of the nation's abused resources. However, unlike Athena springing from the head of Zeus, neither that remarkable occasion nor the conservation movement leaped full-blown from the public's consciousness.

To the contrary, because our natural riches seemed inexhaustible, the very idea of using them with care was slow in coming. It wasn't until the last third of the 19th century — roughly 100 years ago — that a handful of patriotic men, in their time considered to be radicals, looked beyond reigning laissez-faire practices and into the future. They saw that the nation could not survive traditional patterns of resource exploitation.

Among them was Gifford Pinchot, who campaigned for wise stewardship of forest lands. To follow Pinchot's career is to view much of the shift in attitudes taking place between the last century and the present. The story of his struggles provides a good background for the general development of the conservation movement, as well as some delightful insights into the character of a feisty idealist.

Gifford Pinchot was born in 1865 into a fashionable and monied Pennsylvania family. Despite his financial independence — or perhaps because of it — he became one of those selfless men whose lives are devoted to public

delightful insights into the character of a wealthy but hardheaded idealist

causes. After graduation from Yale, he announced to his father that he wanted to become a forester. "What's that?" his father replied. "That's why I am going to be a forester," Gifford shot back.

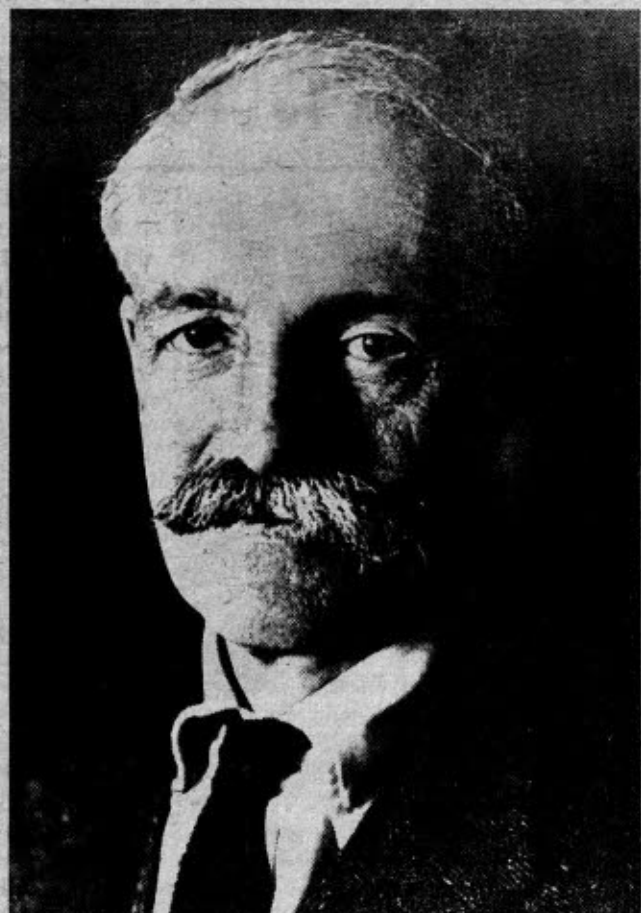
In the late 1800s the United States virtually had no silviculturists. The nation's timber supply was plentiful; the profession was considered unnecessary. Young Pinchot, however, looked over millions of acres of stumps taking the place of forests and saw a coming timber famine.

To prepare himself for his career he sailed for Europe, where cautious husbanding of woodlands had been an economic necessity for generations. There he studied under Dr. Detrich Brandis, Germany's authority in the field. Yet upon return to this country in 1890 he found himself in a curious position. At the age of 25 Pinchot was the most highly trained professional in a profession that did not exist.

Fortunately, the following years were marked by beginning awareness of the need for conservation. Pinchot took a series of forest-related jobs, becoming in 1898 President McKinley's head of the Division of Forestry, a weak agency at the time, one without any forests to administer. He made up, incidentally, his own civil-service examination for entrance into the position, because no one in the government was competent to prepare a test in the area.

Upon McKinley's assassination in 1901, Theodore Roosevelt moved into the White House. Much to the nation's gain, the new President's conservation ardor matched Pinchot's. Together the two robust friends urged through Congress a bill establishing the U.S. Forest Service.

As a forester Pinchot emphasized wise use of resources and was somewhat bewildered at people such as his friend, John Muir, who believed in preservation for its own sake. Nevertheless, as first head of the new and powerful agency, Gifford Pinchot set an example of stewardship and public dedication that would cause the leaders of the present Forest Service to blush. Backed by the President, idolized by his men, he despised political expediency and the maneuverings of monied timber interests; instead he inspired the service with what he saw



Gifford Pinchot
Photo courtesy of U.S. Department of Agriculture

as a near holy cause, sustained yield from the forest domain. Such zeal created enemies. The Taft Administration fired him, but he left behind a sterling precedent and established bases for future conservation work by others.

Thereafter, Pinchot became increasingly involved with politics. He realized that permanent change, whether in conservation or in social issues, could take place only through reforming a system that favored the short-term gains of the few over the lasting benefits to the many. Twice he served as the progressive governor of Pennsylvania; he spent the remainder of his life, and, it should be added, much of his personal fortune, working for liberal causes.

Along with his fire, Pinchot had faults, faults which in retrospect make fascinating reading. He was quick to take insult; though superb when in full control of the reins, he did not work well with others as equals; he tended to overreact — all shortcomings which kept him from nomination to the U.S. Presidency, his lifetime desire. With one quick thrust he could turn an old friend and political ally into a lasting enemy.

During the 1930s the Department of the Interior, urged on by exploiters, tried to gain control of the Forest Service, then as now under the Department of Agriculture. Familiar with the giveaway policies of Interior, conservationists fought the transfer. Pinchot resisted the move by launching a bitter personal attack on its cranky Secretary, Harold Ickes, instead of pursuing a wiser, more moderate course.

Additionally, he was a teetotaler, a man with stern principles and gentlemanly mein, reminiscent to some of values left over from the 19th century.

Yet in an age, much like our own, in which the pork barrel was the country's unofficial national symbol, his integrity and fierceness of purpose was what the progressive movement needed. Perhaps with the growing interest in conservation a biographer will shed some new light on this complex figure, one of its founders. In the meantime, the McGeary biography is recommended for its objectivity and analysis. Though presently out of print, it can be found in many libraries. Other readable versions of the Pinchot story are available, including Martin Fausold's *Gifford Pinchot: Bull Moose Progressive*; Harold Pinkett's *Gifford Pinchot: Private & Public Forester*; and Pinchot's own view of his stormy public career, *Breaking New Ground*.



In addition to his fire, Pinchot had faults. He was quick to take insult. He did not work well with others. He tended to overreact.

Urban activist Pauline Utter

Pauline Utter, a resident of Casper, Wyo., believes that the urban environment is the one that affects the most people in this country — and that it is important to keep it livable. "What most environmentalists don't realize is that if you make the urban setting more livable, then you take much of the pressure off of wilderness," she says.

Utter considers herself a social activist. Although the term had never occurred to her, she agrees that the label "urban environmentalist" also describes her mission.

"Everybody can't live in the wilderness. People have lived in groups of some sort throughout the history of man. Living in an urban environment shouldn't have to be a degrading experience," she says.

To maintain the quality of life in the city — and to prevent its being a degrading experience — she believes the urban environmentalist must pay attention to not only clear air, clean water and open space, but also to less traditional environmental concerns such as adequate housing and preserving a "feeling of community."

Utter brought these concepts with her from Denver where she worked with the League of Women Voters

don't conform with districts set up to provide water and sewage disposal, schools, police and fire protection, and transportation. In fact, boundaries for some areas are so obscure that the residents themselves don't know who should be serving them.

Utter finds the LWV an effective medium for tackling tough problems. "The League offers each individual the opportunity for both becoming an informed voter and becoming active in the democratic process. It's set up in such a way that the expertise is shared, which increases the possibility for success. There's no way each person can be an expert in all fields," she says. She believes other organizations could function better if they would follow the LWV's example, rather than concentrating all the knowledge at the top.

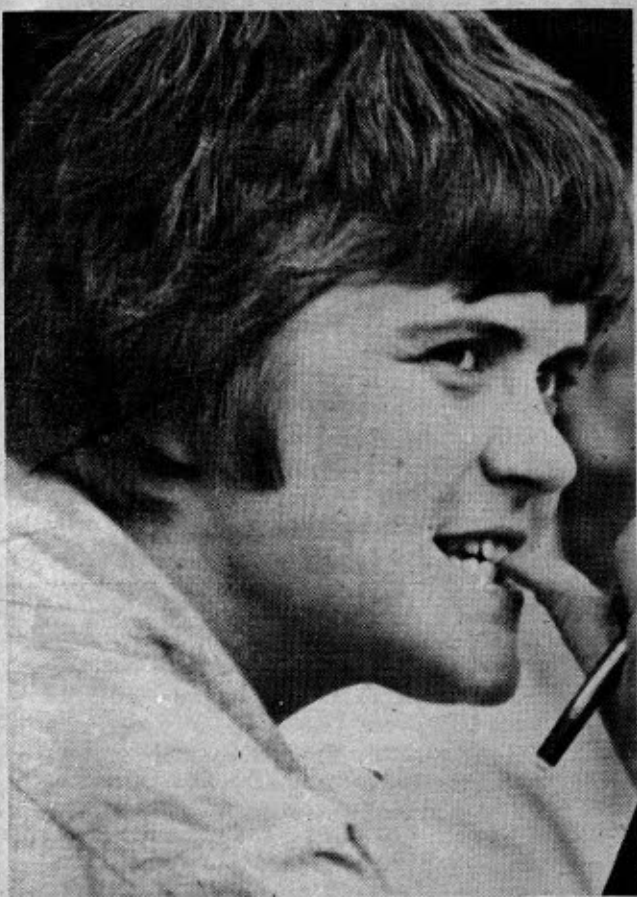
Through the LWV, Utter has become active in the democratic process at not only the local level but also at the state, regional, and national levels. She is the LWV's environmental quality chairman for the Casper chapter, land use chairman for Wyoming, and is on the national LWV energy task force. She is also the northern coordinator for the Mountain Plains Coalition of LWV.

The orientation and priorities that she brings with her from her LWV experience sometimes bring her into conflict with members of environmental organizations. As a director of the Wyoming Outdoor Council, she seeks a broad-based group and consequently is very conscious of public relations — whether it's a decision about where to base the council or whether or not to take a controversial stand. She's critical when others ignore social issues. A fellow environmentalist, who usually is allied with her on most issues but who opposed her on one, told her, "You're the most bull-headed woman I know."

What about conflicts between her citizen watchdog work, which requires between 40-60 hours per week and lots of traveling, and her work as a wife and a mother of three children? Part of the answer has been involving her family in her activities. When she was lobbying with the Wyoming Citizens Lobby, she took her school-age children with her to see the legislators at work. "The most valuable thing for kids from the first grade up is on-the-spot visits to the legislature and to committees," she believes. Utter herself still remembers how impressed she was when her parents, both first generation Americans, took her to Washington, D.C., at the age of seven.

The children are immersed in the environmental movement at home, too. When their mother's in the kitchen, she's often on the phone discussing a problem with another citizen activist while she makes dinner. And the Utter door is always open to other Wyoming environmentalists who need a place to stay after attending meetings in Casper. The children fall asleep to the drone of voices hashing out new strategies.

Utter's dedication as an urban environmentalist is motivated by her feeling of obligation to assure that her children have as many options open to them as possible. She is hoping her children will also become involved, as they grow older, in preserving options for their tomorrows. —MJA



Living in an urban environment shouldn't have to be a degrading experience. Pauline Utter

(LWV). While staying with the League, she has also become active in Wyoming environmental efforts because of her concern about the lack of strict controls on development of natural resources of the Rocky Mountain states.

She started with the League in Billings, Mont., working on revamping the state constitution. Then she and her family moved to Denver, where a key issue was the proposed Interstate 470, an issue that encompasses most of the priorities Utter lists for the urban environmentalist: clean air, open space, and the feeling of community.

The LWV was involved in opposing I-470 at least six years ago, Utter says, before anyone else. By advocating another superhighway, proponents of I-470 are avoiding transportation alternatives which could ease air pollution problems in Denver, according to the LWV. The LWV also objects to I-470 because it promotes urban sprawl.

Promoters claim the interstate strip would provide open space, which is a LWV goal for the urban environment. "They thought we could sit at picnic tables in the median and watch the cars go by," Utter supposes.

The issue is still hot in Denver although the governor has vetoed it; some court action is expected before it is resolved.

She sees the I-470 turmoil as an example of the tough problems that an urban environmentalist and anyone else involved in big city issues face. Casper and Billings are both small enough not to have their problems complicated by mixed governmental jurisdictions. But in Denver, county lines and the various suburbs' boundaries

Eavesdropper

environmental news from around the world

LOONEY LIMERICKS

by Zane E. Cology

Coal mining was stopped by the judge,
So now the draglines can't budge.
We don't think it's a shame,
'Cause we almost became,
Forty-nine states and one smudge!

BLM ORGANIC ACT CHANGED. The most recent changes in the proposed Organic Act for the Bureau of Land Management (BLM) make it "unacceptable" to the environmental community, according to the national Sierra Club News Report. The new version was prepared in the House. Livestock permittees would get mandatory 10-year permits with almost automatic renewals. The new print of the bill also reinstitutes the old BLM Grazing Advisory Boards for BLM districts. The boards had been replaced by multiple use advisory boards.

A RETURN TO THE DIRTY THIRTIES? Trees that were planted across the Great Plains as windbreaks to prevent wind erosion following the dust bowl era are being removed now, a General Accounting Office Report points out. Many farmers and ranchers believe that other conservation measures can substitute for windbreaks in preventing erosion. Many remove windbreaks to make room for irrigation systems or for more crops. The GAO suggests a cost-sharing windbreak renovation program to be carried out by the counties.

CORPS EARNS CONSERVATIONISTS' PRAISE.

The U.S. Corps of Engineers has earned praise from conservation groups for its present campaign to clean up the shorelines around the 360 lakes it has created since the 1930s. The new shoreline policy calls for restricting public recreation and private-permit activity to certain areas. The rest would be returned to its pristine state. Presently, there are some lakes where there are an average of a half-dozen docks per mile, according to the Associated Press. Existing permits for docks, boat houses, duck blinds, and water ski jumps will be allowed until the persons holding them either die or sell the facility.

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16-High Country News — Sept. 12, 1975

Readers keep HCN afloat for another year

If you're a HCN reader, we consider you a stockholder in the company. We believe you deserve the facts about our finances. Not to bore you, we hope. But to give you a deeper understanding of the operation and to ask for your help and advice. Here's the way things went for us from July 1974 to June 1975:

The paper seems to be weathering recent stormy financial times fairly well. Ten dollar subscription checks are what keep us alive — and people still seemed to have at least that much to spare. Printing costs rose 35% and postal costs rose 33% over last year, but nevertheless our income just about matched our outgo.

About \$32,000 came into the paper. \$33,000 went out. That puts us \$1,000 in the hole, but over \$3,000 of the outlay was used to pay back debts, and we have a small cushion in the bank to absorb the difference.

Fearing the worst, we cut back during the last year. We paid four, rather than five full-time workers, used the phone sparingly, and paid no travel compensation to reporters. Those measures saved us about \$5,000, a sum which absorbed the increased printing and postal bills. Staff salaries remain at the \$300 a month level for full-time workers and at minimum wage for part-time staff.

How did hard times affect our various sources of in-

come? Predictably in a recession, contributions dropped most dramatically. Two years ago readers sent \$5,600 in contributions. Last year we took in about \$2,000 less. Income from subscriptions, our real bread and butter, was down just slightly from \$26,000 to \$25,000. We were aided by two new sources of income: newsstands and advertising, which combined brought us \$1,000.

We are proud to have survived the year. We learned that we can get along on less. But the figures are no basis for optimism about the future of the paper.

Fortunately, small signs of health have appeared in the end-of-the-summer statistics. Summer usually means a financial lull. We all take a two-week vacation to let the daily dribble of checks mount up into a respectable pile. But this year, the season did not coincide with a drying up of funds.

To the contrary, in mid-September, we have the highest number of subscribers in our history — 3246. In addition, we have 35 newsstands around the Rocky Mountain region offering another 200 copies for sale. Another small encouragement is the fact that our renewal rate seems to be creeping up. Two years ago, about 58% of our readers stayed with us. This year's renewal rate is 62%.

The most encouraging factor of all is the number of

people who have been willing to give their time and talents to the paper lately — people like Peter Wild, Rob Pudim, David Sumner, Sarah Doll, Bob Lewis, Holly Merrifield, Carol Snow, Ernest Linford, Lynne Bama, Jeff Clack, Dick Randall, Jack McLellan, Gary Nabhan, Finis Mitchell, Charles Nations, and Ann Zwinger. In the past six months they have filled the paper with writing, photos, cartoons, and artwork fit for much more prosperous and prestigious publications. Dedicated people of Lander have also lifted our spirits and our chances for survival by spending evenings at our office helping us mail out sample copies. Continued support has also come from Central Bank and Trust and the **Wyoming State Journal** in Lander.

We've a number of plans which we hope will make next year a very solid one — a year when we can pay our debts, compensate the staff for travel, use the telephone freely for digging and checking, and reach enough readers to make a difference for the future of the region:

1. We've decided to hire a full-time person at \$300 a month to coordinate all fund raising efforts. Because the worker will have to earn his or her keep in increased income, we'll begin on a six-month trial basis. Our own attempts have met with some success, but there hasn't been enough extra time to put a sustained effort behind them.

2. We'll continue searching for more newsstands. We've found it's a good way to spread information — and a good way to find new subscribers. Do you know of a store that might be interested in selling HCN? While there's probably no big money in it for them, there's no risk either. They pay us 15 cents and keep 20 cents for each copy they sell. Unsold copies can be returned for full credit.

Could you help us find a newsstand or two? Let us know and we'll send the details.

3. We've found that mailing out sample copies helps us reach many potential subscribers. Last spring the solid efforts of some Lander volunteers brought us 220 new readers. This year we're determined to begin sooner and work harder on the sample sending effort. Do you know of people who might be interested in receiving a copy? A list of your friends or your club members would be another boost to us.

4. We have shipped a 48-page magazine to the printer which rounds up a sampling of some of the best material printed in the **High Country News** in its six-year lifetime. We can't predict exactly when it will be out. It's been in the works for over a year and printing schedules are baffling. But since it has timeless material about the Rockies, fine photos, and a fancy cover, we're hoping it will circulate conservation information among a wider audience than we've ever been able to reach before on newsstands.

5. We are setting up a **High Country News** foundation so that readers who wish to make tax-deductible contributions to our cause may do so. While we await legal approval, we are making arrangements with an existing foundation to act as a conduit for any of our readers who wish to contribute to our research efforts and qualify for a tax deduction as well. We'll have details on that next month.

As you can see, we feel there are a number of ways to work toward a solid financial base. We aim to try all of them — and we'd welcome your comments about other schemes.

Friends of High Country News

We'd like to thank the people who have made monetary contributions to the paper in the past six months. They are listed below:

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