

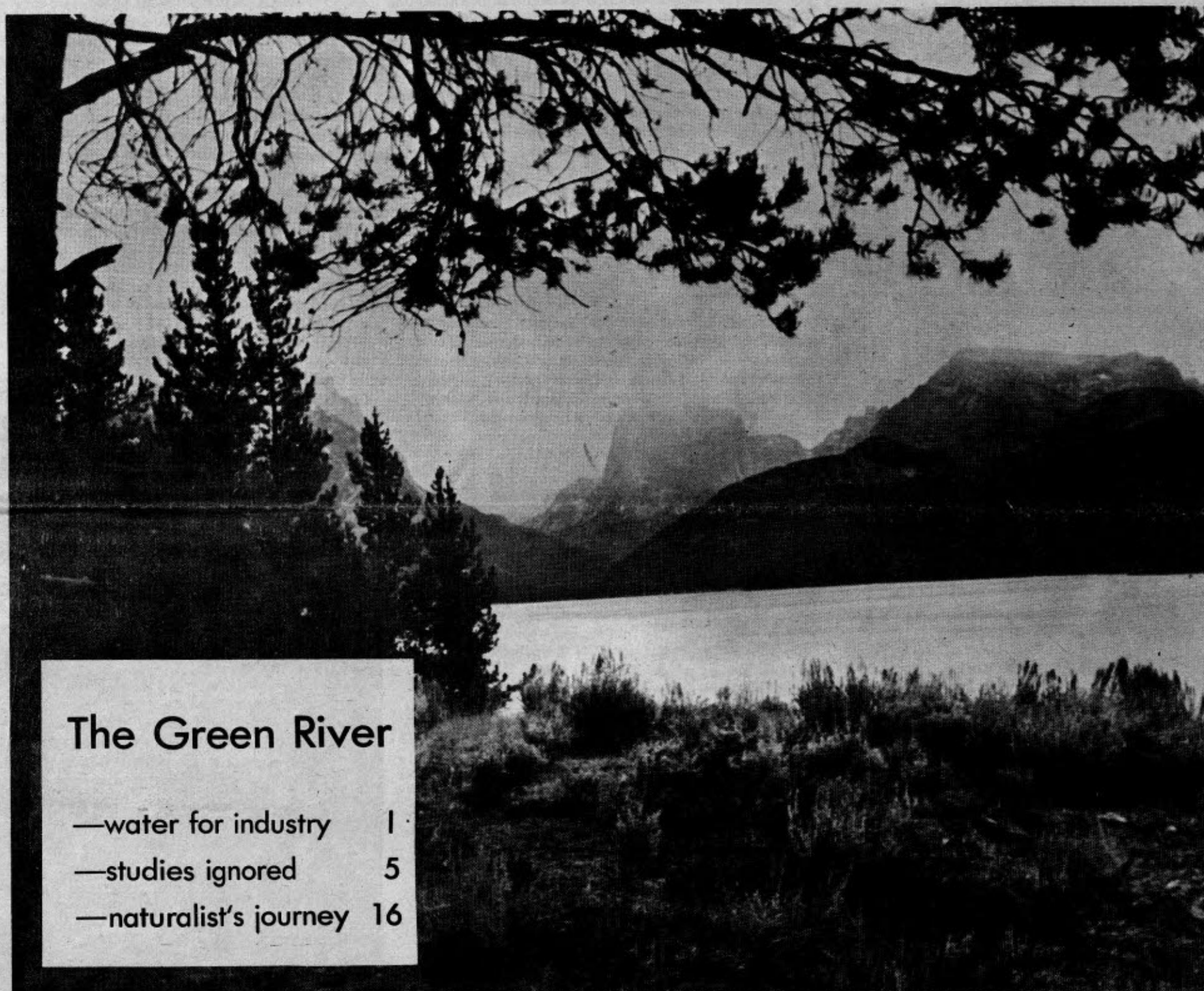
The Environmental Bi-Weekly

High Country News

Vol. 7 No. 13 35¢

Lander, Wyoming

Friday, June 20, 1975



The Green River

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Wyoming to sell Fontenelle water

'Irrigation water' all goes to industry

by Ann H. Zwinger

After the low winter waters and the ice cover, the Green River widens and sweeps the winter debris down to Fontenelle Reservoir. The river begins in March to quicken with early runoff from the Wind River Range, and by April and May the river comes alive.

In a year of late runoff (like 1968) the flows are low, in the 500 cubic feet per second (cfs) range. More often broader flows of around 1,200-2,400 cfs occur, bringing fresh water downstream in a swiftening current.

The upper river, with its alternating cobbled bottoms

and sandy reaches, willow thickets and buttercupped banks, and cliff-defined shoreline, is one of the liveliest stretches of river in Wyoming — or as far as I'm concerned — in the West. Beautiful to canoe, a delight for trout fishermen, a haven for the myriad ducklings and goslings that hatch every spring, a source of good water for the high ranches that line its banks. Irrigation water is taken out for the lush hay meadows along the river and returned downstream.

Sometimes the river banks have been artificially channeled, or small cobbled weirs shoot water into irrigation ditches. But the river itself, in its natural rushing and

going, visually and aurally overwhelms these man-made changes. What one remembers is the fresh vitality of a free-flowing healthy river.

Until Fontenelle Reservoir. At the entrance to Fontenelle the current slows and drags, the river banks become mud flats stalked with dead cottonwoods — the same reach that the Hayden Expedition found delightfully green and refreshing — and the river becomes a lake, laid with a cross chop that makes canoeing hazardous. Silent running is replaced with outboard motors. Willowed banks disappear in stagnant mud flats or a

(Continued on page 4)

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Letters

OAHE OPPONENT

To the Editors:

I am presently working with Dr. George Piper, president, United Family Farmers, in the fight against the Bureau of Reclamation's massive Oahe Irrigation Project. Many of you are aware of this 380 million dollar boondoggle, I'm sure, and the environmental destruction it promises if it is ever completed. Upon completion, 16,060 acres of prime South Dakota wetlands will be drained. Present Bureau plans also call for the channelization of 120 miles of the meandering James River, a scenic prairie stream which offers valuable habitat for many species of plants and animals.

Socially, the project also promises to be a disaster. In the process of diverting water through 214 miles of open ditches from the Oahe Reservoir near Pierre, S.D., 60 farmsteads will be totally destroyed, and hundreds more will be disrupted by open canals (ditches) and reservoirs.

Despite strong opposition towards the project in this state, the Bureau of Reclamation plans to blindly proceed with initial canal construction this summer. As many of you who have ever been in contact with the Bureau know, once they spend a certain amount of money on a project, it is very difficult to stop them so questions which yet remain unanswered might be resolved.

We in South Dakota are proud of our land, water, and other natural resources. We find the Bureau's present Oahe Irrigation plans inconsistent with this view. To counter the Bureau's canal plans, we are sponsoring a "STOP THE DITCH RALLY" on June 28 on Medicine Knoll, the site of the first proposed cut. I would like to invite all readers of HCN to join us on Medicine Knoll on June 28, to help us give notice to those responsible for the Oahe Irrigation Project that under no circumstances will we allow the prairies of S.D. to succumb to the senseless draglines of the Bureau of Reclamation.

Sincerely,
John McDermott
Brookings, South Dakota

(Editors' note: For more information on the "STOP THE DITCH RALLY" see the story on page 12.)

BROOM-TAILED HORSES

Dear High Country News,

I am a rancher here in the coal country in southeast Campbell County. I also think like you in most matters concerning the environment. However, being a rancher trying to make a living in the sheep and cow business, I cannot agree in any way with your stand on predators and wild horses.

I have the same right to make a living if I can, as you. If someone keeps stealing some parts from your press and you can do nothing about it, what would you feel like if some one who knows nothing about it jumped in and blocked every move you made to protect your property?

Ranchers and farmers have paid the up-keep on public lands for many many years. They have also paid the price for supporting public owned coyotes and broom-tailed-hammer-headed horses running through their livestock and stomping cows and calves. There is more wild game today than there ever was.

If farmers and ranchers were like you paint them, there would not be any wildlife for any one to worry about. As I have said, I like your stand on most matters, but until you change on predators and wild horses I cannot be one of your subscribers.

Sincerely,
Robert Mackey
Gillette, Wyo.

ANTI-BUSINESS

Dear High Country News:

I feel one of the real reasons for the present recession is the combination of the anti-business feeling in this country, and the almost hysterical environmental push in recent years. Sure we need to protect the environment, but not at the expense of destroying a large part of the free

enterprise economy of this nation by doing too much too quickly.

Eagles and coyotes are a good example. There are more eagles and coyotes in my area than I have ever seen and I am 43 years old and have lived here all my life. They are putting most of the sheepmen out of business and now cattlemen are losing calves and our deer herd has been cut in half largely from coyote losses, which is hurting the hunting business.

The hysteria present now in this environmental movement is one of the greatest dangers to the future of our nation. I am and always have been a conservationist and concerned with our environment, but also am a realist as to what makes this nation and economy work.

We need men like Stan Hathaway in positions such as Secretary of Interior as he will take the middle road as this usually is the most workable way to keep this great nation on the right track.

Sincerely,
Marion H. Scott
Gillette, Wyo.

ALMOST CANCELED OVER HATHAWAY COVERAGE

Dear HCN,

For years I have tried to promote your paper and its ideas. However when you spread Stan Hathaway all over its pages with his damnable ethics and desire to ruin Wyoming and all it stands for, I almost wrote a scorching letter and canceled my subscription. One bad mistake can be forgiven. If you laud him again that is the end as far as I am concerned.

Sincerely,
Mae Urbanek
Lusk, Wyo.

WHY BRING BAD NEWS?

Dear Newsers,

Why do you tell me about places like Ski Yellowstone? Why do you send things into my life which made me so angry that I have to put my HCN down before it bursts into flame? Why do you bring bad news?

Because there are wealthy people from Pennsylvania who want to make mucho bucks building "playpens" for the rich, that's why. Because there are still people who can't see the value in the earth as it is now.

A while back I decided that heaven is a place where there aren't any things like this going on. It surely looks as though we have a long way to go before we have anything approaching a heaven on earth. No, I guess it's better to say that we have a long way to go before we stop destroying our heaven on earth.

The question which I still can't answer is, do people build things like this because they don't see what they really mean? Or do they flat out not care? Perhaps both. It varies in varying situations, I'm sure.

So now it's time to write more letters. It's really funny to sit here and think, "This will take more of my time, I hate writing letters, etc.," then remember you all up there working till 10:30 at night writing. If we all were as dedicated as you are, perhaps you wouldn't have to serve the important function you do, and could spend your time celebrating what you must now protect.

George Jones
Casper, Wyo.

RATIONAL THINKING

Dear HCN,

I had never seen your publication until last week when an associate showed it to me. In reading through it a question came to mind.

One of your readers from Cuyahoga Falls, Ohio is most distressed by oil well drilling rigs as well as strip mines. He also states that he has vacationed every year for 50 years "touring" Wyoming, Colorado, New Mexico, etc.

From his dislike of oil wells, I am positive he would not have driven on this "touring" and he probably doesn't

have a car as that would have meant a hole in the ground to mine the iron ore. So how long did it take to ride his horse from Ohio on all this "touring" he did? I sincerely hope in earning a living all his life he has never used any fuels, metals, wood products, paper that would cause any change to the way nature created things.

Yours for rational thinking,
John D. Strasser
Hacienda Heights, Calif.

ART STIRS MEMORIES

Dear Friends,

Enclosed is our check for \$12.00. This will cover our subscription for one more year AND one of the Bob Lewis Bighorn Prints.

We have always felt that the art work in your paper is one of its outstanding features and while we know Mr. Lewis is not responsible for all of it, it will give us pleasure to have this print as a reminder of the excellent work done by these talented people.

It will also be a constant reminder of the experiences we have had in Wyoming fishing, camping, and backpacking. We hope to be out there in August to do more!

Keep up the good work.

Fred A. Malo
Munster, Ind.

TOM BELL'S STUDENT

Dear Editors,

Tom Bell was my Junior High school science teacher in Lander and a profound influence in my life. My husband and I have been reading my parents copies of *High Country News* for some time now and have decided to send in for a subscription of our own. If I can ever help in any other way (not excluding coming back to Wyoming!), I'd be more than willing.

With sincerest regards,
Wendy Budrow Joseph
Cupertino, Calif.



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Editorials



June 20, 1975 — High Country News-3

Predators, poisons pose problems

Ranchers have a problem — coyote predation. Conservationists have a problem, too — communicating on a rational level with ranchers about coyotes. Just recently **High Country News** received two letters to the editors from ranchers near Gillette, Wyo., chastizing us for our stand on predator control (see letters section of this issue). Yet to our knowledge, HCN has never had a public stand on predator control.

The problem seems to be that each protagonist in the controversy over coyotes likes to paint his supposed opponents as the most extreme of extremists. Pro-coyote extremists make ranchers out to be evil men who would kill every coyote, bobcat, and eagle on the face of the earth and make the sheep our national bird. Anti-coyote extremists say environmentalists won't let ranchers protect their flocks and herds by any method so they might as well be raising coyotes.

Neither perspective is accurate. Both are unproductive attitudes that will only lead to more ill-feelings and a solution satisfactory to no one.

Now is the time for science and common sense to rule a controversy that has been dominated by opinion and distorted facts for too long. Perhaps most of all this is the time for open-mindedness. If we cannot listen to each other, we will never be able to resolve this conflict.

Here is how HCN stands at this time on the subject of predator control. We are willing to accept criticism for this stand, and we are willing to amend parts of it, if we can be shown that it is unjust. We welcome letters on this important issue.

1) Some coyotes and other predators do kill livestock. Some means of predator control is warranted. We favor selective removal of individual offending animals.

2) The coyote is not an endangered species. It is increasing in number and expanding its range into the East Coast and even into downtown Los Angeles. Killing individual coyotes that cause damage to livestock will not endanger the species. However, other livestock predators whose numbers are critical should not be killed to protect stock. Eagles, red wolves, grizzly bears, and others that may cause conflict should be separated from stock — either by transplanting the predator or by removing the domestic animals from the predator's native range.

3) Predator poisoning has caused more damage than it has done good. Returning to a day when poisons were more easily available will not solve ranchers' problems, we believe. In the heyday of predator poisoning in the 1960s, coyote numbers continued to increase, predation levels did not decline, and the sheep industry in the U.S. continued to drop in volume.

What the poisoning campaign did succeed in doing was: a) kill off large numbers of non-target animals including eagles, dogs, bobcats, bears, hawks, and songbirds, b) rally a strong force of anti-poisoning environmentalists

— a force strong enough to convince the President to ban the use of predator poisons on public lands, c) arouse a new interest in trying to find more acceptable means of coyote control — research that is still being conducted today.

4) The Environmental Protection Agency was negligent when it did not prepare an environmental impact statement before banning predator poisons from interstate commerce. This was a "major federal action significantly affecting the quality of the human environment" which the National Environmental Policy Act defines as the criteria for deciding whether or not to prepare an impact statement. (See story on lawsuit on page 13.)

5) We need research and development on every front when studying coyote-livestock predation prevention. Any search for one tool that will end the problem is probably a futile search. Poisons were not the answer — coyotes are so adaptable that some researchers believe we may have selected for a super poison-avoiding coyote by relying on poisons. Similarly trapping, olfactory repellents, or more intensive animal husbandry will not likely be the single answer. Ranchers will need a bag of tricks, a broad spectrum of tools to out-fox the coyote. One such tool may be a highly-selective, humane coyote poison. Research

should be conducted on that front, too. The coyote is a problem that is here to stay — what we must search for is an approach that keeps predation losses within acceptable limits and protects important public resource values.

6) The ranchers' problem is more than a coyote problem. We suspect that even if predation losses were brought down to a zero level, ranchers would still have trouble showing a fair profit for their labor. Ranchers need a new economic strategy and a new relationship with consumers in this country if they are to survive. If ranchers were taking home a fairer price for their labor, they might be less antagonistic towards predators. —BH

Now's your chance: write

Citizens and state legislators should submit their suggestions for a regional energy policy to their respective governors. A meeting will be held of the Western Regional Governors Energy Office in Santa Fe, N.M., on July 28. The regional policy will hopefully be finalized there, according to Colo. Gov. Dick Lamm in a story in the **Rocky Mountain News**.

"It is impossible in my mind to maximize the centrality of energy to Colorado's future," Lamm said. "In many important aspects, it IS Colorado's future."

Energy is obviously the central issue for the region as a whole, and now is the time to help shape it. —MJA



"GOT TO WATER MY (GIGGLE) PLANTS. "

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Box K, Lander, Wyoming 82520

Fontenelle ...

(continued from page 1)

sun-baked and bleak artificial shoreline. Wildlife is sparse.

MISCALCULATION

Ostensibly this reservoir was planned for irrigation, along with recreation, power, and industrial uses. The original conception of irrigating 70,000 to 80,000 acres was reduced in 1959 to 58,000 acres, and in later projections, to 34,000 acres. The truth of the matter is that no water from Fontenelle Reservoir is used to irrigate a single acre. (The Seedskadee Experimental Farm just below the dam, whose huge pumps sit at the river's edge, takes water directly from the river).

To irrigate effectively from Fontenelle Reservoir would require the building of an extremely expensive canal system. In addition, much of the land below the dam is so full of alkali that water returned to the river would pollute it. As if plagued by miscalculation from the start, even the dam itself came close to failing when pressure from the first full reservoir in the fall of 1965 opened a 40-foot hole that required \$2,800,121 worth of repairs.

Judged as an irrigation reservoir, Fontenelle is useless. But because Fontenelle water is not used for irrigation, its capacity became available for "consumptive industrial uses." Since the estimates for irrigation potential were made well before the dam was built, and the only hydroelectric power derived from the dam supplies the small maintenance town of Fontenelle, one could become suspicious that irrigation was merely a ploy and that the true intent was to provide water for industrial users.

As for recreation, Fontenelle, with its one trailer site in the blazing sun, isn't the water recreationists' dream playground of Wyoming.

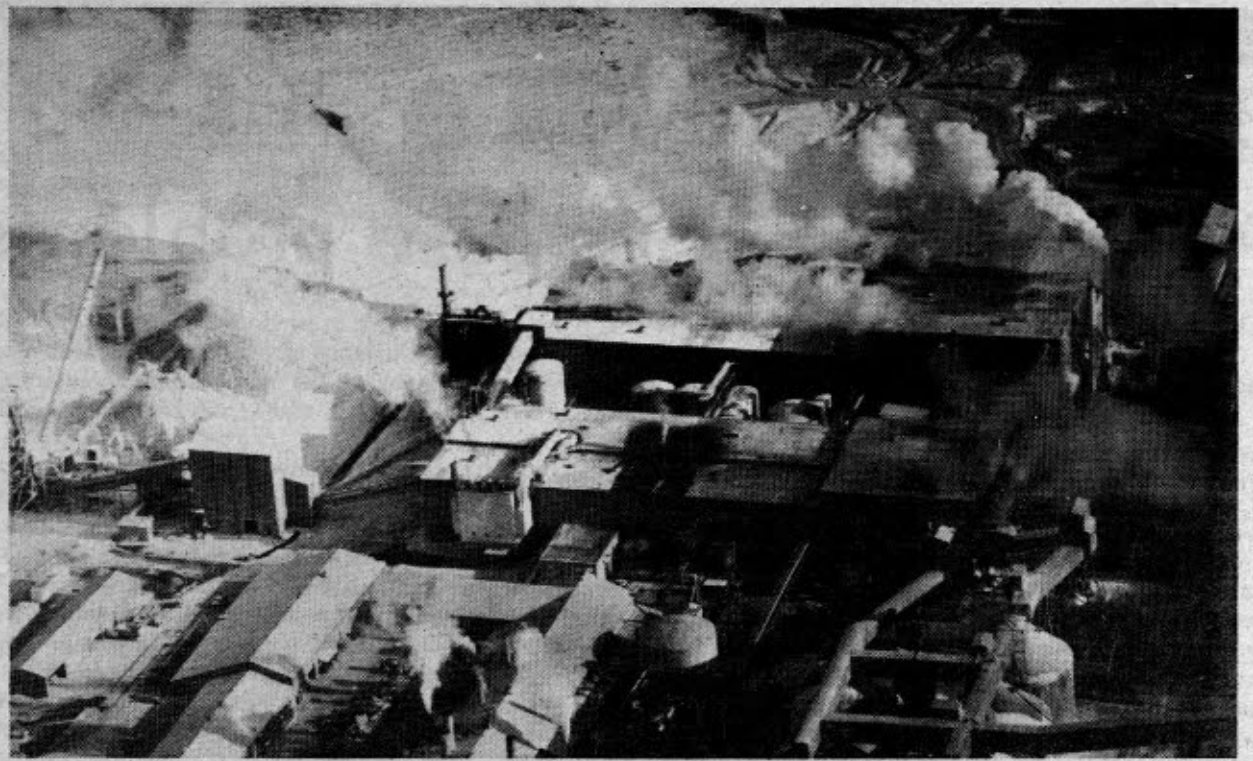
Presently the State of Wyoming buys 60,000 acre-feet (a-f) from the Bureau of Reclamation which administers the reservoir: 35,000 a-f goes to Pacific Power & Light and 25,000 to Sun Oil Company. The PP&L water goes to the Jim Bridger Power Plant northeast of Rock Springs. Sun Oil has not put its water to use yet.

Since the building of the dam, additional requests for water from Fontenelle have been made — an incredible total of 224,000 a-f. The requests come from energy and trona producers: Rocky Mountain Energy (a subsidiary of the Union Pacific Railroad), 75,000 a-f; El Paso Natural Gas, 50,000 a-f; Pacific Power and Light, 30,000 a-f; Colorado Interstate Gas, 30,000 a-f; Texas Gulf (trona), 5,000 a-f; FMC (trona), 5,000 a-f; Stauffer Chemical (trona), 2,000 a-f; Allied Chemical (trona), unspecified amount; Church and Dwight (trona), unspecified amount. There is one request for an out-of-basin use of water: 27,000 a-f requested by Wyoming Rural Electric for use in the Platte River Basin.

The lure of more revenues from these sources plus the attraction of more industry, has led the state to contemplate selling an additional 125,000 a-f — 60,000 a-f from stored water in Fontenelle and 65,000 a-f from direct flow on the Green River. The reasoning is twofold: it would aid Wyoming economically, and it would be a safety measure against losing Green River water to Lower Colorado River users downstream.

The Colorado River Compact seems to epitomize water use in the West, in its unrealistic evaluation of water supply. Written in 1922, it assumed a greater supply of water than is available and, as a consequence, stirred up a political brouhaha that has politicians of Wyoming proclaiming a "use it or lose it" policy for Wyoming. In point of fact, water is guaranteed to Upper Basin states, but politicians are fond of pointing out that the growth in Arizona and California will soon be arbitrarily commanding Wyoming water, a powerful psychological argument.

This concept of using Green River water in-state was forecast in a two-volume report written in 1972 by the engineering firm of Tipton & Kalmbach, Inc., of Denver, **Engineering Report on the Development of Presently Unused Water Supplies of the Green River Basin in Wyoming with Particular Reference to the Feasibility of Providing Additional Reservoir Storage.** In this report, a Plains Reservoir and a Lower Green River Reservoir (about 20 miles above the town of Green River) are discussed. Emphasis is placed on the former, which would have problems of evaporation and salinity. The latter would involve expensive dikes to protect the Big Island Refinery.



WATER FOR TRONA. Among the interests vying for Fontenelle water are the trona companies in southwestern Wyoming, including Texas Gulf, FMC, Stauffer Chemical, Allied Chemical, and Church and Dwight. Above is the Stauffer Chemical operation about a mile east of the Green River. Trona is sodium carbonate, which is converted into pure soda ash and used in the manufacture of glass and chemicals.

Tipton & Kalmbach forecast (p. 15) that "there is no doubt that the mineral industry will soon supplant agriculture and livestock as the dominant element in the economy of the basin. Although the use of water for industrial purposes presently is but a small fraction of the amount of water consumed by agriculture, it is expected that by the end of the century non-agricultural uses of water, including amounts which may be exported out of the basin, will represent nearly 60% of the total water consumption . . . the cost of major new water developments will be such that agriculture will be unable to compete with the mineral industry for the use of water."

REDUCED FLOWS

Increased industrial use of water means either further damming of the Green River or increased storage capacity for Fontenelle Reservoir. If an additional 60,000 a-f were sold, flows in the Green River below the dam would be reduced — considerably at certain times. To study the effects of such a decrease, flows were withheld in increments during September of 1973, to 1600, 800, 500, and 300 cfs. The findings were published in a 1974 report issued jointly by the Wyoming Game & Fish Department and U.S. Bureau of Sport Fisheries and Wildlife, **The Fontenelle Green River Trout Fisheries — Considerations in its Enhancement and Perpetuation, including Test Flow Studies of 1973.** The report was concerned mainly with the trout fishery below the dam.

The upper part of the river above Fontenelle is an excellent natural trout habitat. By LaBarge the river has warmed and clouded enough to prevent trout from thriving there. In the slower-moving water "non-game fish" flourish.

The river below Fontenelle Dam was originally this kind of a stream. Now, with the dam holding back and retaining the silt that was originally carried downstream, the reach below the dam is fairly clear and cool enough to maintain trout. However, exceptionally long stretches of "flat water" or "rubbly-glide" exist between pools, unlike the closer alternation of pools and riffles that exist in normal trout stream habitat. These flat stretches are difficult for trout because of the shallow depth and faster currents; large fish that can handle the currents are generally too large to utilize the shallow water. Therefore the report suggests installations of large boulders or cement "apartment houses." The suggestion of such devices points out that once manipulation of a natural situation begins, the adjustments to maintain it are legion.

The test flow studies recommend 800 cfs as providing "the most balanced habitat diversity" — i.e., maintaining a trout habitat and all the necessary supportive organisms. At this flow, the report predicts, "there are a few riffles which must be portaged and some exposed shoals and mudflats which detract from the esthetic appearance of the stream." The 800 cfs flow would possibly favor smaller trout over larger, but would not disrupt the fishery capacity. The study recommends a short term sediment flushing flow of 1,600 cfs. This is comparable to a beginning runoff situation; by comparison, flood proportion flows are in the 7,000 cfs range.

Lower parameters are a winter survival flow of 500 cfs with "an emergency short-term winter survival flow of 300 cfs." The latter is not unreasonable in view of natural stream flow reductions in December, January, and February, but this is the only time of the year that such flows do exist naturally.

At the time of the reduction of flows in September, 1973, the **Rock Springs Rocket** (October 2 and 9, 1973) carried articles describing the replacement of river by mud flats and noting that such a low flow would "jeopardize the quality of the drinking water of the people of Rock Springs and other communities." Ranchers up the river complained of water being lower than intake pipes, rendering irrigation systems useless.

It is quite clear from a biological standpoint that should additional water be sold from Fontenelle Reservoir, certain flows should and must be maintained below the dam. Asked for his support of a 300 cfs minimum, which would be inimical to aquatic life at any other time of year than winter, then-Governor Stanley K. Hathaway was reported in the **Billings Gazette** (May 2, 1974) as calling "this unreasonable and there would not be much water in storage for sale if this was the position."

The Bureau of Reclamation's **Final Environmental Statement and Proposed Contract for Sale of Municipal and Industrial Water from Fontenelle Reservoir, Seedskadee Project, Wyoming**, appeared in September, 1974. As per Hathaway's statement, there are no adequate guaranteed minimum flows written into the contract unless one so interprets Article 9 of the proposed contract that states "at least 50 cfs (will be maintained) in the river at the U.S.G.S. Green River, Wyoming, gaging station so as to assure water supply for fish and wildlife populations in the Green River between the gages and Flaming Gorge Reservoir." Pragmatically, a flow of 500 cfs is needed to operate the 10,000 watt power plant at the base of Fontenelle Dam, but this is scarcely more than a negative assurance.

The report states (p. 71) that there should be no significant change in water quality parameters in the Green River although some increased salinity is anticipated!

This **Final Environmental Statement** of some 400 pages devotes 2½ pages to "Unavoidable Adverse Effects" in a cavalier summary that merely mentions air pollution from industry, soil and vegetation disturbance from surface mining spurred by water sales, destruction of wildlife habitat, and overcrowded and disruptive living conditions brought on by the industrial boom. Flow studies were limited only to the reductions' effect on trout.

The **Final Environmental Statement** seems to be another one of those self-serving declarations by a government that has ample money to devote to aggrandizing its own views. First we see the free-flowing Green River dammed for an irrigation project that never irrigated an acre. Now we see demands to reduce the river to a rudimentary riffle and use the water to spawn polluting water-consumptive industry in an unpolluted water-short region. This is more than an insult against the trout. If these plans are allowed to proceed there will be no more Green River for trout — or for people.

Green River suffers

BuRec contract ignores fish study

June 20, 1975 — High Country News-5

by Larry Edwards

Late last December, a water sale contract foreclosing the future of a section of the Green River was signed by then-Interior Secretary Rogers C.B. Morton and then-Wyoming Gov. Stanley K. Hathaway. The act was the climax of years of negotiations between the Bureau of Reclamation (BuRec) and the state.

For \$11.4 million dollars the state purchased from the federal government 60,000 acre feet of water per year (a-f/y) from Fontenelle Reservoir and will purchase 65,000 a-f/y from direct flow of the Green. The state, in turn, will sell this water to industrial users. All of the water will be diverted directly from the river at locations somewhere between Fontenelle Dam and Flaming Gorge Reservoir. Under terms of the contract, the minimum flow at the Interstate-80 highway bridge will be approximately 300 cubic feet per second (cfs). Additional contract water will be diverted below the bridge. The contract guarantees a minimum flow in the river below Green River city of only 50 cfs.

A TRICKLE

Three hundred cfs isn't much river. Even during the drought of 1934 — the driest year of record — the low flow was 350 cfs. A "river" flowing 50 cfs would be a mere trickle. It could be, for example, four inches deep and 25 feet wide with a two mile per hour current. Diversion points have not been selected yet, but up to eight miles could have a 50 cfs minimum flow and up to 65 miles could have a 300 cfs minimum flow.

To determine the impact of low flows on the fishery, on recreation, and on wildlife, the U.S. Bureau of Sport Fisheries and Wildlife (BSFW, now called the U.S. Fish and Wildlife Service) conducted two flow studies — one in 1964 and one in 1973. River flow was intentionally reduced at Fontenelle Dam to 400, 300, and 200 cfs in the first study and from 1,600 cfs to 800, 500, and 300 cfs in the second study. At each flow rate the river was carefully observed from the ground and the air.

The 1964 study did not make clear the fact that, at best, a 300 cfs flow is an emergency short-term survival flow which can be tolerated for no more than 30 days. The intent of the contract was to reduce flows to a level com-

mensurate with perpetuating the fishery. But the contract was based on a misinterpretation of the 1964 flow study.

The second study clarified the ambiguity of the first. It also made some very definite minimum flow recommendations — a winter survival flow of 500 cfs November through March and a minimum fishery production flow of 800 cfs the remainder of the year. These minimums were required to be equaled or exceeded at least 78% of the time. They were selected primarily to perpetuate the fishery, but are also needed to protect wildlife habitat and provide for recreational use of the river.

On canoe trips at flows below 800 cfs portaging becomes necessary. Since a large portion of the river is shallow riffles, it would not be hard to imagine portaging one-third of a 73-mile trip at flows much below that level.

DEIS COULDN'T WAIT

The second BSFW flow study was conducted in Sept. 1973, and the report on it was scheduled for release the following January. In the meantime, BuRec's Salt Lake office issued its draft environmental impact statement (DEIS) and held a public hearing on the proposed contract.

BSFW had determined that its original study was not sufficient and that an additional major study of the river was necessary. Since the proposed contract was based on the first study, it is strange that BuRec did not delay completion of the DEIS a few months so that any new information could be included.

The Final Environmental Impact Statement (FEIS) was released six months after the report on the second flow study. It made only passing mention of the report and failed to make any comparison between the BSFW recommended minimum flows and anticipated contract flows.

Flows under the contract are totally inadequate to maintain values normally associated with rivers. BSFW states that flows must not fall below its recommendations more than 22% of the time. December through February of a mean flow year under the contract terms, these minimums will not be satisfied 70% of the time above the I-80 bridge and 100% of the time below Green River city. Over the entire mean year, minimums would not be satis-

fied at these respective locations 45% and 69% of the time. Similar figures for a drought year would also be critical. BuRec refused to supply information on anticipated drought year flows.

WHY IGNORE THE STUDY?

Why? I contend that BuRec discovered that the contract had been based on misinformation. Rather than re-open the lengthy negotiation process with the state to provide for adequate flows, as was the intent of the contract, BuRec decided to conceal the problems with the contract and ramrod it past the public.

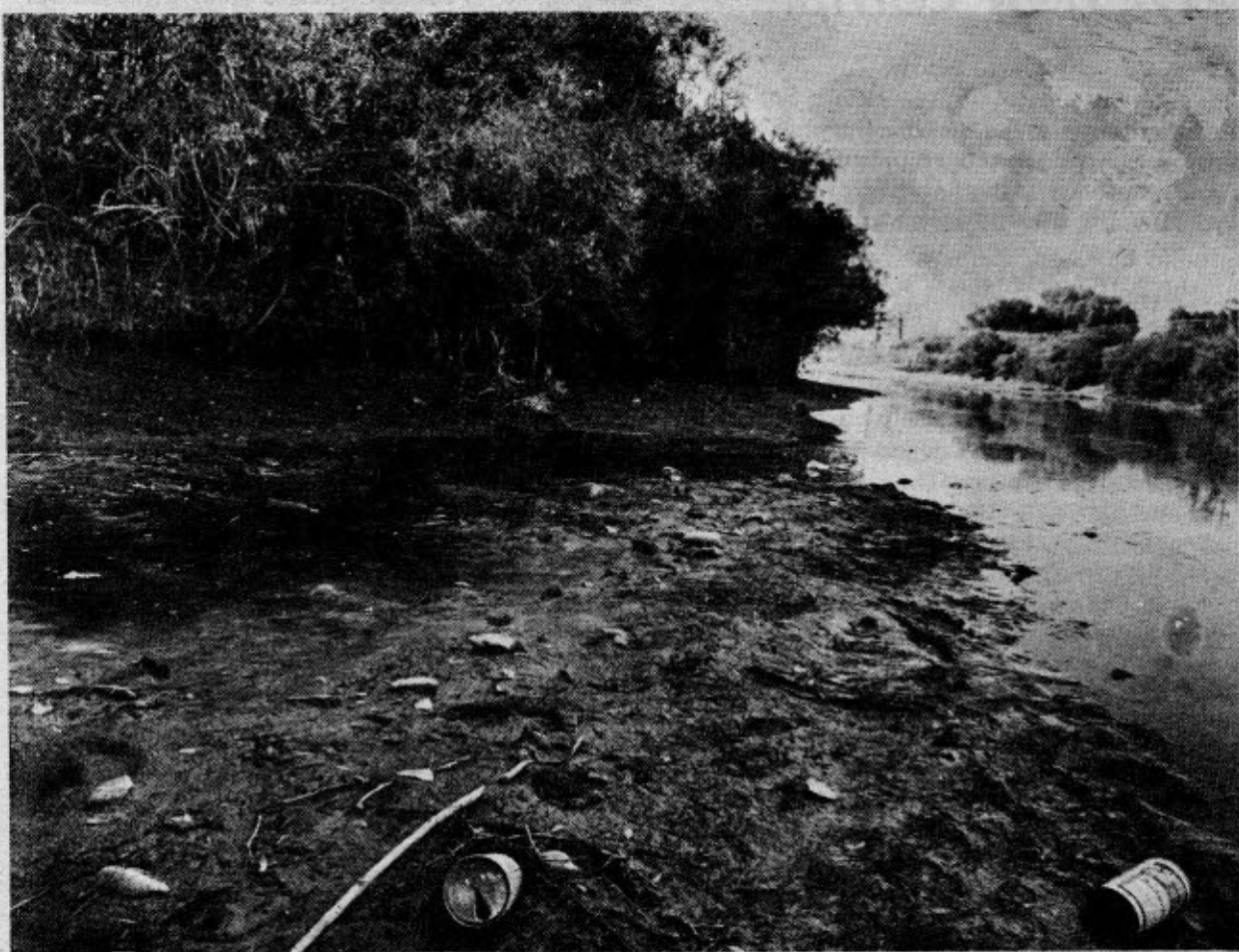
The EIS for the proposed contract was rife with promotionalism. Impacts were incompletely assessed, viable alternatives were not considered, and the section on mitigation of impacts was heavily padded.

The only alternatives to the water sale contract discussed were non-use of the water and construction of yet another reservoir. BuRec failed to mention viable alternatives which had been called to its attention. One alternative which was not considered would have been to let all contract water flow the entire reach to pumping stations at the head of Flaming Gorge Reservoir. This plan would essentially eliminate all contract impacts on the

(Continued on page 12)



Above, a map of the Green River as it flows through southwestern Wyoming. Under the terms of the new Fontenelle contract, water will be diverted somewhere between Fontenelle Dam and Flaming Gorge Reservoir. The minimum flow at the Interstate-80 highway bridge will be approximately 300 cfs. Below Green River city the contract guarantees a flow of only 50 cfs, even though a 1974 Bureau of Sports Fisheries and Wildlife study recommended a winter survival flow of 500 cfs November through March and 800 cfs the remainder of the year. To perpetuate the fishery, these minimums would be required at least 78% of the time, BSFW said.



A MERE TRICKLE. This photo shows a 300 cfs flow on the Green River near Green River city. Under the terms of the BuRec's Fontenelle water contract, a flow of only 50 cfs would be required below Green River city — "a mere trickle," says Larry Edwards in his article in this issue. Under the terms of the contract up to eight miles could have a 50 cfs minimum flow and up to 65 miles could have a 300 cfs minimum flow, Edwards says. This picture was taken in September of 1973 when authorities lowered the flow to test the effects on fish life and other uses.

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Hathaway avoids promises

by Lee Catterall

Stan Hathaway emerged from his Senate test free of any substantive commitments to Congress, having artfully sidetracked any attempts to box him into promises he might have regretted.

While many observers of Hathaway's confirmation hearings before the Senate Interior Committee were left with the impression he had taken hard positions on specific issues, such was far from the case.

Some senators on the committee came to realize what had happened only after seeing the printed record of Hathaway interrogation. His detractors on the committee hollered foul play, but the root of their distress was not any underhandedness by Hathaway, but rather his skill at answering questions without saying a great deal.

"Though he appeared to make significant commitments, a careful analysis of those commitments reveals they are not air-tight and leave ample room for later changes of heart," Sens. James Abourezk (D-S.D.), Floyd Haskell (D-Colo.) and Richard Stone (D-Fla.) fumed in their opposition statement in the committee's report to the full Senate.

After the hearings, Sen. Lee Metcalf (D-Mont.) could be heard reciting a commitment from Hathaway to make strip miners of federal coal replace their divots in the

same way the strip mining bill put together by Congress had specified. The Interior Department has drafted much weaker regulations.

Hathaway made no such commitment. Actually, he said only that he would "come as close to the standards in that bill as I could."

Hathaway was thought by some observers to have endorsed the strip mining bill, and there were charges of betrayal when he later endorsed President Ford's veto of it.

Asked by Abourezk if he would recommend the President sign it, Hathaway actually gave only "a qualified yes. The qualifications and reservations are with respect to the economics of the situation and with respect to the productivity of coal." Those were the two justifications for the President's veto.

"He has carefully left himself an 'out,'" the three senators charged, "which he has demonstrated he is willing to exercise at the drop of a hat."

Hathaway called the land use bill pending before Congress "a good bill," and added he is "an advocate of land use planning." When Haskell asked if he would recommend the President sign it, Hathaway said "yes," but quickly added, "subject to the money restraints."

Hathaway treated written questions from senators not on the Interior Committee in the same way. Sen. John Tunney (D-Calif.) wrote a series of questions to Hathaway on the issue of oil leasing off the nation's coasts.

This column showed Tunney the answers Hathaway had prepared for him. Tunney scanned them, went limp, and finally whispered to a staff aide in an incredulous tone, "He doesn't say anything."

Rarely has a cabinet nominee been so closely interrogated and asked to make such specific commitments on issues. Hathaway's ability to deftly sidestep commitments and yet seem forthright exasperated some committee members and was a major reason for the opposition to him.

However, by undergoing several days of long hearings without saying anything, Hathaway assured himself a wide latitude from Congress on what policies he may choose as Secretary of the Interior.

Ferruginous hawk study now complete

by Carol Snow

A recent study on the breeding ecology of the ferruginous hawk (*Buteo regalis*) in northern Utah and southern Idaho has been completed by Richard Howard. The Department of the Interior ferruginous hawk as "status undetermined." It is also on the National Audubon Society's Blue List, which includes species that are suffering population declines or range diminution, but are not presently of sufficient rarity to be considered endangered.

Howard's study indicates that these hawks breed in remote areas and readily desert their nests as a result of human disturbance. The Raft River Valley in Idaho and Curlew Valley in Utah support substantial populations of ferruginous hawks, but their nesting habitat in these areas may be threatened. Proposed land uses such as geothermal exploitation and conversion of large tracts of land into intensive agriculture pose problems. Increased disturbance, loss of habitat for nesting sites and reduction of major prey populations (jackrabbits and rodents) could have detrimental effects on hawk density and breeding success, he says.

Howard's study also indicates that some habitat manipulation might benefit these large hawks if carried out properly. In certain areas, nesting habitat could be enhanced if juniper chaining was done in a manner that left small islands of junipers, and if the trees along the perimeter of the chained area were thinned. In the case of crested wheatgrass plantings, a minimum of 20% of the total area should be left in its present vegetation in the form of five to ten acre islands scattered throughout the treated area.

Eavesdropper

environmental news from around the world

LOONEY LIMERICKS

by Zane E. Cology

In the Western states, lest too much water be spilt
To a southerly place, we develop full tilt.
Dams store it for us.
But what I abhor is
Our state has to live with what's built and its silt.

WASTEWATER REUSE. Only 10% of the total public water supply is needed for drinking, cooking, and other uses that demand high purity, according to Daniel Okun, an environmental engineer at the University of North Carolina. Okun suggests using water from polluted rivers or waste water reclaimed from municipal sewage systems to meet certain industry needs, flush toilets, and irrigate lawns and parks. He says this recycling concept should catch on as shortages approach and water nears its "true cost."

FAST FOOD ANALYSIS. A typical meal from a fast-food chain restaurant provides adequate protein, but is heavy on calories and deficient in several essential nutrients, according to the May issue of *Consumer Reports*. People who eat regularly in fast-food chains should make sure their other meals include beans, leafy greens, yellow vegetables, and a variety of fresh fruits, CR says.

SF BAY STOPS SHRINKING. By 1965, San Francisco Bay had been dredged and filled to a point where it was reduced by one-third its original size. At the time, the bay was shrinking at a rate of 2,300 acres per year. Today the shrinkage has finally stopped and has actually reversed. Last year 83 acres of the bay were filled, but 357 acres were returned to tidal action, according to *Conservation News*.

UNDOING AUTOMATION. Energy shortages and rising fuel costs could reverse the trend toward automation, according to Dr. Bruce Hannon of the University of Illinois' Center for Advanced Computation. Hannon says that the energy shortage will cause industries to encourage energy conservation which will increase the number of jobs rather than create unemployment. Using cheap energy to replace manual labor is already a diminishing trend, according to Hannon.

ANTARCTIC ICE WORLD'S MAID. The Antarctic may be a balancing mechanism of nature, removing some forms of pollution from the atmosphere, two Washington State University researchers say. The scientists say the frozen continent may function as a giant precipitator as air warmer than the ice mass deposits water vapor containing trace gases.

OK FOR WOMEN, NOT FOR CATTLE. The administration would not oppose a legislative ban on diethylstilbestrol (DES) as growth stimulant for cattle. However, the Health, Education and Welfare director, Caspar Weinberger, implied that a proposed moratorium on the use of DES as an emergency "morning after" contraceptive pill is not necessary. DES is suspected to be cancer-causing. A Senate health subcommittee approved legislation recently that would ban the use of DES as a growth stimulant in cattle feed and would place a one-year moratorium on its use as an emergency contraceptive.

WASTES HELP SOLVE SHORTAGE. Environmental Protection Agency Administrator Russell E. Train said the 120% rise in prices for commercial fertilizer since 1973 may make the use of materials such as feedlot wastes and municipal sludges an economic necessity in the future. Train said the use of organic waste could not solve all the fertilizer problems, but said they could satisfy about 6.5% of national nitrogen requirements.

Breeder faces new challenge

The Liquid Metal Fast Breeder Reactor (LMFBR) is expected to undergo a challenge in Congress this month focusing on mounting costs, delays, and heavy environmental criticism.

Funding for the controversial project, which has increased in total cost from \$3.3 billion to \$10.6 billion since 1968, is included in the authorization bill for the Energy Research and Development Administration (ERDA). The ERDA bill will reach the floor of the House of Representatives on Thursday, June 19, and the floor of the Senate a week later.

In the House, Rep. Lawrence Coughlin (R-Pa.), along with Reps. Donald Fraser (D-Mich.), John Seiberling (D-Ohio), Richard Ottinger (D-N.Y.) and James Weaver (D-Ore.), will be spearheading efforts to cut back on the LMFBR program. In the Senate, Senators John Tunney (D-Calif.) and Lee Metcalf (D-Mont.), will be heading the effort.

Rep. Coughlin will offer an amendment to cut the LMFBR from a project, or life-long, authorization to an annual authorization. It would also mandate a study of the LMFBR by the Office of Technology Assessment, and would forbid ERDA from contracting for long lead time equipment for the Clinch River Breeder Reactor during the coming fiscal year. The same amendment will be offered by Sen. Tunney in the Senate.

The breeder reactor, which produces more plutonium than it burns as reactor fuel, is being touted as the solution to future electrical supply problems. Proponents of the LMFBR assert that, through the recycling of the plutonium bred in the breeder, the United States will be able to extend its usable domestic supplies of nuclear fuel for hundreds of years.

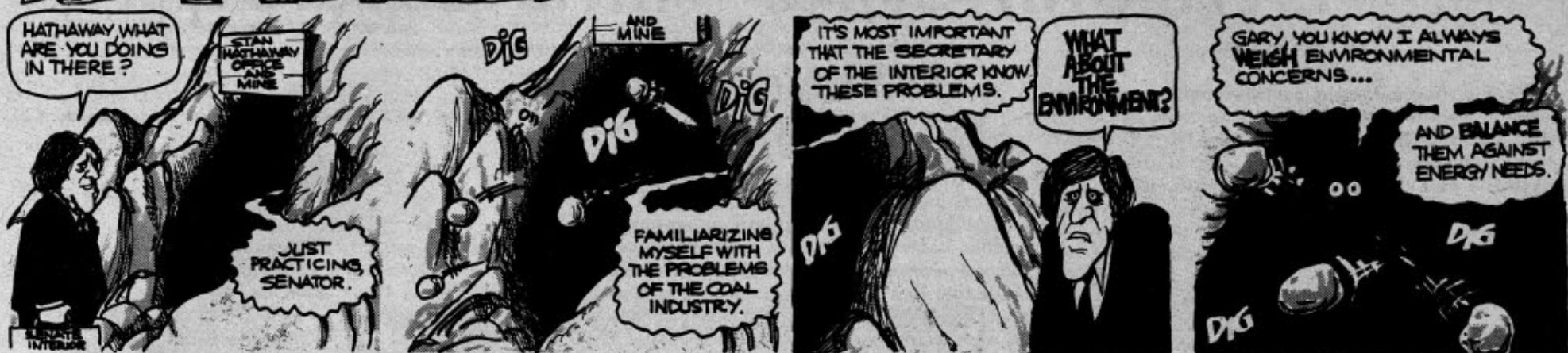
Environmentalists have been highly critical of the breeder and the Clinch River demonstration plant for years. They point out that the breeder's plutonium is one of the most toxic substances known to man. It can cause cancer in infinitesimally small amounts, and is dangerously radioactive for at least 250,000 years. Critics are also concerned about possible sabotage. About 15 pounds of plutonium is sufficient to make an atomic weapon.

The Ford Administration is supporting a shift in research emphasis from the experimental breeder reactor toward more intensive development of conventional nuclear power, according to the Associated Press. Commerce Secretary Rogers C.B. Morton told reporters this was the main topic at a weekend meeting in early June of the cabinet-level Energy Resources Council.

"What may be happening is that the administration is preparing to sacrifice the breeder's short-term budget to ensure its long-term survival," a June 2nd *Wall Street Journal* account indicates. "By reducing its money request for this year, ERDA may be seeking to defuse congressional opposition and increase the chance that Congress will endorse the project."

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STATE OF THE UNION



"State of the Union" is a regular strip cartoon by HCN cartoonist Rob Pudim and Paul Danish. It appears in about 12 newspapers in Colorado.

Senate confirms Hathaway for Interior, 60-36

On Friday, the 13th of June, former-Wyoming Gov. Stanley K. Hathaway was sworn in as Secretary of Interior. The Senate vote to confirm President Gerald R. Ford's nomination of Hathaway was 60 to 36.

Earlier the Senate had rejected, 40 to 54, a motion by Sen. Edmund Muskie (D-Maine) to send the matter back to the Interior Committee for further hearings to clarify Hathaway's position on strip mining legislation. In committee hearings, Hathaway had expressed, with some reservations, general approval of the congressionally-approved strip mine bill. But after the committee had approved his nomination and the President had vetoed the bill, Hathaway supported the veto.

Before the full-Senate vote on Hathaway, a report on the Interior committee's hearings on the nominee was made available to Senators. In a break with tradition, the report incorporated an extensive discussion of the opposition to Hathaway. The four committee members who opposed the nomination listed three basic areas of concern in their minority report: 1) the nominee's lack of candor and his attempt to mislead the committee, 2) the nominee's unwillingness to commit himself on major policy and legislative issues facing the Congress, and 3) the nominee's poor resource management record and views. The four opposing Hathaway were Sens. James Abourezk (D-S.D.), John Glenn (D-Ohio), Floyd Haskell (D-Colo.), and Richard Stone (D-Fla.).

Leading the floor fight against Hathaway was Sen. Gary Hart (D-Colo.).

In Hathaway's swearing in address, he said the nation had learned that natural resources must be consumed with care but "that we cannot rely on conservation alone

to provide the energy security we need" to sustain economic growth, according to a United Press International account.

"We must develop, in a prudent and rational manner, more of our domestic energy resources. At the same time,

there is an equally urgent need to preserve and restore the quality of our air and water and land," he said.

"These tasks will challenge us all," he said, "but I am confident that the department possesses the expertise and the capability to carry out our mission effectively."

BULLETIN BOARD

WILDERNESS STUDY PROJECT

The Wyoming Outdoor Council (WOC), the Wilderness Society, and the Wyoming chapter of the Sierra Club are working together this summer to gather data on potential wilderness areas in Wyoming. They plan to look at priority roadless areas in National Forests and Bureau of Land Management lands. They hope to form local groups around the state. "We need help," says Bart Koehler of WOC. "If you have the time and interest to get out in the hills this summer to study your favorite area, please contact us, and we'll fill you in on the details." The people to contact are: Larry Edwards, Box 5805, Bates Creek Route, Casper, Wyo. 82601 or Bart Koehler, Box 2661, Jackson, Wyo. 83001.

FIRE IN THE FOREST

Wonder about the Park Service's new ideas about fire? Yellowstone National Park Superintendent has announced the completion of an Environment Assessment Study for the proposed new Fire Management Program in the park. Copies of the EAS are available from: EAS, Yellowstone National Park, Wyo. 82190. Comments are due July 15.

CHINA MEADOWS — LYMAN PROJECT

Construction of the China Meadows Dam to supply irrigation water for Wyoming and Utah will be one alternative discussed at a public hearing on the Lyman Project to be held July 23 in Mountain View, Wyo. Other storage sites and the abandonment of any further development of the project will also be considered. Copies of the draft environmental statement on the project are available from Regional Director David L. Crandall, Bureau of Reclamation, P.O. Box 11568, Salt Lake City, Utah 84111.

WILDERNESS WALKS — COLORADO

The Colorado Open Space Council's Wilderness Workshop has planned an outing every weekend this summer from June 14 to September 20th. Their Wilderness Walk Program is a series of one-day and overnight educational walks into some of Colorado's important and controversial de facto wilderness areas. They are led by Wilderness Workshop members who are familiar with the areas and the issues. The walks are free and open to the public. All walks will be limited to 15 people. For more information write the workshop at 1325 Delaware St., Denver, Colo. 80204.

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Environmental films catalog

The following catalog of environmental films is not meant to be a definitive listing nor an endorsement of these particular films. From time to time **High Country News** hears about various films that are available and we wanted to pass this information along to you. Some of these films are available for free. Most of these films have not been reviewed by HCN so we are not in a position to offer recommendations.



West Virginian Bob Gates shooting footage around Lake DeSmet, Wyo., for inclusion in his film **IN MEMORY OF THE LAND AND PEOPLE**.

Outlaw strip mining

People who attended the Wyoming Environmental Congress, the Montana Alternate Energy Conference in Billings, or the Strip Mining Seminar at the University of Montana last spring and summer will probably vividly remember a young filmmaker from West Virginia who showed audiences around the region his startling film on strip mining. **IN MEMORY OF THE LAND AND PEOPLE** showed draglines big enough to hold three Greyhound buses, acid mine drainage, houses surrounded by unreclaimed spoil piles, and permanently scarred hills and people in Appalachia. The filmmaker, Bob Gates, was a chemical engineer from Charleston, W. Va., who quit his job to work to "outlaw strip mining" because "I was disgusted with strip mining and what it was doing to my state."

When Gates was West, he showed people a working print of the film to raise money for its completion at the same time that he was shooting western footage to include in the finished product.

Because people who saw Gates' film were so impressed with it, **High Country News** contacted Gates to find out how the film is progressing. Gates answered, "I have added the western material that I needed, some other additional material, and have tightened it up as much as I can to its present form as a 50 minute edited double system workprint. I am ready to get on with the final production work so that it can be released, rented, shown, loaned, and so on — but until I materialize \$5,000 to \$7,000, such is not possible. So, since I have no money at all currently, it is sitting on the shelf except for a few personal showings. I think that when Congress finally kills the strip mine bill, I will write some more letters in a final attempt to raise some outside funding."

This is not an opportunity to rent a film, this is a chance to help get one off the editing shelf and into circulation where it can do some good. If you can help, send money, ideas, names etc. to Bob Gates, 1117 Virginia St., Charleston, W. Va. 25301.

TAPS for Alaska

A SENSE OF PRIVILEGE . . . A FAREWELL TO ALASKA is a film about the Trans Alaska Pipeline System (TAPS) and its impact on the land and the people. Filmmaker Jay Coggeshall of Denver walked 500 miles of the TAPS route to make this film documenting the route's wildlife, native villages, and construction camps. The film is a personal statement, a plea for preservation in a battle that has been largely lost. If enough people had seen Coggeshall's film and other presentations on what we were losing when the Congress approved TAPS, we might have been able to stop the pipeline's destruction. The filmmaker says, "America is not suffering from an energy crisis, but from a spiritual crisis." Alaska fills Coggeshall's spirit, and he hopes it will do the same for those who see his film. Rental is \$30 from Jay Coggeshall, 461 High St., Denver, Colo. 80218 (He is back in Alaska filming a new movie so you may not get an immediate response.) Purchase is \$375 from Carousel Films, 1501 Broadway, N.Y., N.Y. 10036.

Terrible news

THE TERRIBLE NEWS is a film about man's role in the web of life and how he is destroying the delicate balance of nature. The film focuses on environmental pollution in Montana showing denuded mountains, livestock weakened by fluoride pollution, and other aspects of man's insensitivity to the consequences of his actions. Copies of this film are available from Swain Wolfe, Bitterroot Films, Hammond Arcade, Missoula, Mont. 59801.

Redwoods

Not Man Apart, the Friends of the Earth newspaper, reports that there is a "superb film on the redwoods controversy" now available for distribution. The film, **VANISHING REDWOODS**, by Harvey Richards, is available from The Emerald Creek Committee, Box 4133, Arcata, Calif. 95521.

Endangered species

Students in the Department of Fishery and Wildlife Biology at Colorado State University have prepared a 30 minute color television program on endangered wildlife in Colorado. **A NEW DAWN** features the grizzly bear, prairie chicken, peregrine falcon, bald eagle, timber wolf, and black-footed ferret. The program was aired on Denver television stations, and it is available for showing as a public service feature on other stations anywhere in the nation. For more information contact : Office of Audio Visual Services, Colorado State University, Fort Collins, Colo. 80521.

RIGHT TO LIVE, a 30 minute slide-tape presentation on endangered and uncommon wildlife found in the national forests, is available from Spectrum Studios, Inc.,



905 S.W. Alder St., Portland, Ore. 97205. Cost for purchase is \$64 for reel-to-reel tape and \$59 for cassette.

Mark and Marty Stouffer of Aspen, Colo., travel all over the country filming threatened and endangered species in their native habitat. **BIGHORN!** is the Stouffers' award-winning study of the Rocky Mountain bighorn sheep — following a band of bighorn through the seasons. **BIGHORN!** rents for \$25 and sells for \$350 from : Stouffer Productions, P.O. Box 15057, Aspen, Colo. 81611.

Trashy movies

Environmental Action magazine lists three new visual programs aimed at educating citizens and government officials concerning waste problems:

USE IT — USE IT UP focuses on materials conservation, and solid waste management problems and causes. For information on rental, write Northern California Committee for Environmental Information, P.O. Box 761, Berkeley, Calif. 94701.

NO-DEPOSIT-NO-RETURN — WHAT'S IT COSTING ME? is a 17-minute slide show on recycling v. refilling, litter, energy requirements of packaging, Oregon's bottle bill, and what citizens can do. The script alone costs \$1; script and 57 slides, \$30; script, slides, and a tape, \$40. Available from David Hanselman, 208 Revere Rd., DeWitt, N.Y. 13214.

PORTRAIT OF A SAN-MAN interviews collection workers on the job and emphasizes solid waste problems in urban areas. Environmentalists and city sanitation officials offer opinions on urban trash problems and solutions. This 15 minute film is available from the Environmental Action Foundation, 1346 Connecticut Ave., N.W., Room 720, Washington, D.C. 20036 for the price of postage.



A scene from Stouffer Production's "BIGHORN!"

Legal crime

A LEGAL CRIME is an exposé of how the 1872 mining law legalizes hard rock miners' misuse of the land. Mining can have a brutal impact on the land and wildlife, and proper controls are impossible under existing law. Rental is \$30, sale price is \$315 (with a 10% discount to environmental organizations). Contact: Frontier Films, 2223 Spruce St., Billings, Mont. 59101.

North Dakota source

The North Dakota Geological Survey has several slide-tape shows available to groups. Among the programs available are: **RECLAMATION OF MINED LAND, COLORADO ROCKIES**, and **THE STORY OF ENERGY**.

River revival

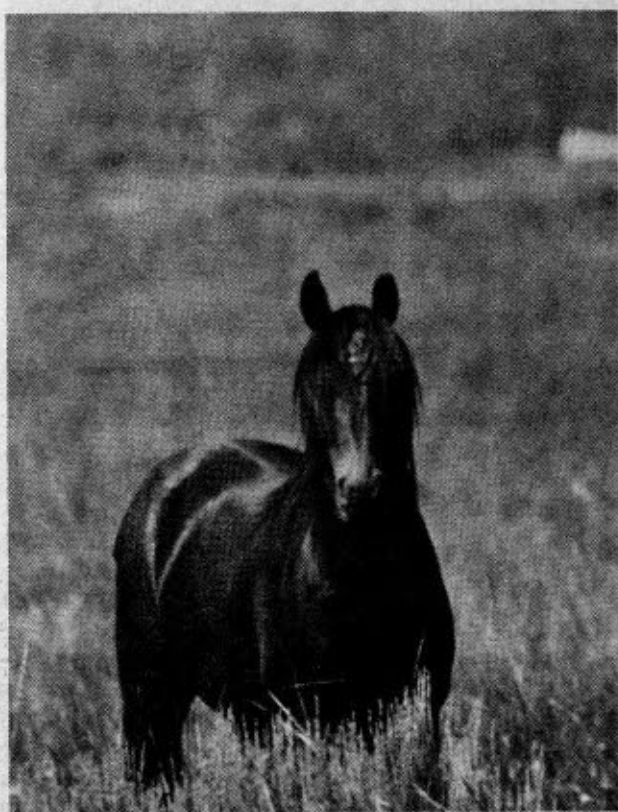
THE BEAUTIFUL RIVER documents the value of the Connecticut River and the forces working to destroy it. The film also shows that an aware and active citizenry can do something to correct river misuse. Rental \$30, purchase \$330 from NBC Educational Enterprises, 30 Rockefeller Plaza, N.Y., N.Y. 10020. Order number 0044 C1.

Land use TV ads

The Film Group Inc. of Washington, D.C., has made three 30-second public service commercials promoting sound land use management for the American Institute of Architects (AIA). The AIA has mailed the spots to television stations throughout the nation. For more information contact Marilyn Ludwig, AIA 1735 New York Ave. NW, Washington, D.C. 20006.

22 part series

MAN BUILDS, MAN DESTROYS is a series of 22 half-hour long color films available for rental (\$15 each) or purchase (\$240 each). Topics include limits to growth, energy, noise, waste management, and the city environment. Some have been shown at briefings of the United Nations' Non-governmental Operations Division. Order from: Great Plains National Instructional Television Library, P.O. Box 80669, Lincoln, Neb. 68501.



A wild horse near Tehachapi, Calif.

Photo by Roger Slocum.

Wild horses

OUR VANISHING WILD HORSES is a color documentary filmed in California, Nevada, Montana, Utah, Wyoming, and Oregon. The movie focuses on wild horse behavior, history, and preservation. For more information contact the filmmaker: Roger L. Slocum, 381 Los Osos Valley Rd., Los Osos, Calif. 93401.

Western water

THE WATER PLAN is a political film about the destructive power of trans-basin diversions of water in Colorado. It was made during a time in Colorado when free-flowing streams did not have a legal right to exist under the state constitution. This film helped change that situation. Now in-stream use is recognized as a beneficial use of water — you don't have to divert water out of a stream (and ultimately dry up a stream) to assert a water right. **THE WATER PLAN** is available from Summit Films, 2145 S. Platte River Drive, Denver, Colo. 80223 or from the Colorado Open Space Council, 1325 Delaware St., Denver, Colo. 80204.

Governmental giveaway

Various government agencies have films on natural resources that are available for free on a loan basis. The U.S. Fish and Wildlife Service offers films on endangered species (**THE WHOOPING CRANE**), waterfowl identification (**KNOW YOUR DUCKS**), and marshland protection (**SO LITTLE TIME**).

The Bureau of Reclamation has films on various dams (**OPERATION GLEN CANYON, MIRACLE ON THE MISSOURI, FLAMING GORGE, LAKE POWELL — JEWEL OF THE COLORADO**, etc.) and cloudseeding (**MOUNTAIN SKYWATER**). The Bureau of Mines has a series on states and their natural resources development programs.

The Bureau of Outdoor Recreation offers films on trails (**THE AMERICAN TRAIL**), free-flowing rivers (**WILD RIVERS**), and island preservation (**THE AMERICAN ISLAND**).

The National Park Service lends films on glaciers (**GLACIER LEGACY**), and new proposed parks in Alaska (**NEW NATIONAL PARKS IN ALASKA**), as well as some 35 films on scenic, natural history, and historic values preserved in the parks. The U.S. Geological Survey has films on volcanoes (**ERUPTION OF KILAVEA, 1959-60**), earthquakes (**THE ALASKA EARTHQUAKE, 1964**), and the Grand Canyon explorer (**JOHN WESLEY POWELL: CANYON GEOLOGIST**) among other subjects.

For a more complete listing and film lengths, addresses, etc., write to the U.S. Department of the Interior, Washington, D.C. 20240 and ask for the "Listings of Interior, Environment and Natural Resources Films."

High Sierra

JOHN MUIR'S HIGH SIERRA is a 27 minute exploration of the California mountains that the founder of the Sierra Club wandered through and wrote of in his journals. The footage was shot in Yosemite National Park and illustrates passages from Muir's writings. The film rents for \$25 and sells for \$350. It is available from Pyramid Films, Box 1048, Santa Monica, Calif. 90406. Pyramid also has a film on whale preservation, **AND SO ENDS**. Rental is \$20, purchase \$300.

Reactor safety

HOW SAFE ARE AMERICA'S ATOMIC REACTORS? is a 30 minute film on the dangers involved in the production of nuclear power. The film focuses specifically on the dangers of fall-out in the event that there is a failure in the primary cooling system of the reactor. Rental is \$50, purchase \$250 from Impact Films, 144 Bleecker St., N.Y., N.Y. 10012. Also available from Impact Films is **MR. JUSTICE DOUGLAS**, a 52 minute portrait of a staunch conservationist who serves on the U.S. Supreme Court.

Floodplains

The Environmental Defense Funds' new film **PLANNING FOR FLOODS** has been called "a powerful force for new solutions in flood control," by Gen. George B. Fink of the U.S. Army Corps of Engineers. Nicholas Lally, director of Floodplain Management for the Federal Insurance Administration, called the film an effective tool for local planners and government agencies seeking improved protection of human life and the environment. To order the film write: David A. Kay, EDF, 2728 Durant Ave., Berkeley, Calif. 94704. A \$5 donation is requested to cover handling and shipping charges.



Sierra Club films

The Sierra Club offers a number of award-winning color-sound movies. Selections include **MINER'S RIDGE** (mining threatens the Glacier Peak Wilderness); **REDWOODS — SAVED?**, **WEST CHICAGO!** (timbering proposals for the Tongass National Forest proposed wilderness); and **OIL! SPOIL! PATTERNS IN POLLUTION**. For more information contact the Sierra Club, 1050 Mills Tower, San Francisco, Calif. 94104.

Audubon history

IT BEGAN WITH BIRDS is a new 28 minute film covering the National Audubon Society's history, activities, and concerns. The film shows the society is concerned with more than birdwatching as it takes you from a sandhill crane staging area along the Platte River in Nebraska to the Everglades to a strip mine pit. The film is available from the Photo-Film Department, National Audubon Society, 950 Third Ave., N.Y., N.Y. 10022.

by Bruce Hamilton

10-High Country News — June 20, 1975

Reckoning from Washington

by Lee Catterall

Supporters of federal strip mining legislation were by no means willing to let their efforts die with the failure by Congress to override President Ford's veto of the bill.

"The fight is only beginning," Rep. Morris Udall (D-Ariz.) vowed after the House failed by only three votes to override the veto.

Udall mentioned three possible ways of continuing the fight: starting anew to write another bill; taking the same bill through Congress again, hoping meanwhile to pick up the few needed votes to override a veto; or attaching, as an amendment, the same bill to a so-called "veto-proof" bill the President wants.

Rep. John Melcher (D-Mont.) said he has just such a bill. Melcher is the chief sponsor of a proposal to open up for commercial production some Naval Petroleum Reserves, including Teapot Dome, Wyo., and primarily Elk Hills, Calif.

President Ford regards oil production at Elk Hills — projected at 400,000 barrels a day — as an integral part of his energy program. The Elk Hills bill was scheduled for House floor action this week.

House rules forbid consideration of floor amendments unrelated to the main bill. However, Senate rules do allow such "non-germane" amendments, so Melcher will solicit support there.

The Senate Interior and Armed Services Committees have been hearing testimony on the Elk Hills bill and are expected soon to send it to the Senate floor. Melcher said strip mining is not likely to be included in the bill by those committees. Sen. Henry Jackson (D-Wash.), Interior Committee chairman, will oppose the move.

"I don't want to wreck the Elk Hills bill," Jackson told this column. "Let's find something else. I'd be willing to put it on a veto-proof bill, but the Elk Hills bill I'm not sure is the one. But I'll work on that. I'm thinking about it."

The strategy will draw opposition from some supporters of the strip mining bill, but Melcher figures they will re-enter the fold once Elk Hills and strip mining have become part of the same bill. One opponent is Sen. Clifford Hansen (R-Wyo.).

"It would seem to me that persons who support the strip mining bill, and I'm one who did," Hansen said, "ought to be a little more honest and less devious than that sort of tactic would seem to me to imply."

"My hope would be that we could take it up, we could have in mind the legitimate points that the President made," Hansen said, "and consider . . . and put through a (strip mining) bill on its own merits."

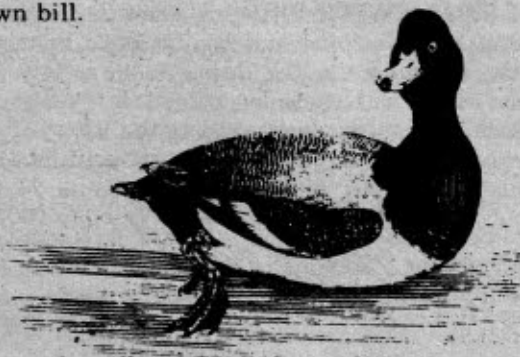
Hansen said there is "valid room for compromise" without making "too awfully many changes." Rep. Teno Roncalio (D-Wyo.) agreed.

"I'm willing to do almost anything to get some measure of reasonable legislation on the books," Roncalio said, "and perhaps a few more compromises . . . might be in order." Roncalio said those might be made in parts of the bill that would restrict mining on valley floors and allow for citizen suits in a broad way.

"No way," said Udall. "This bill was watered down and water will be diverted directly from the river at locations the good environmental organizations were being quite critical of me."

Udall accused the Ford Administration of "raising the ante" and "playing the shell game with us." He said he has become convinced the President would veto any strip mining bill.

Indeed, a Federal Energy Official spokesman told the House Interior Committee that agency was not pleased with the bill proposed by President Ford earlier this year, and allowed that the President might be advised to veto his own bill.



Strip mining bill lost again

Partisan politics, utilities' pressure, misleading stats blamed for veto

by Marjane Ambler

The U.S. House failed to override the Presidential veto of the strip mining bill by three votes June 10, with 278 Representatives opposing the veto and 143 approving.

Although the Democratically-controlled Congress was supposedly "veto-proof," analysts put the blame on three principal factors which helped President Gerald R. Ford sustain his veto. Lynn Dickey, coordinator of the Powder River Basin Resource Council, who had been lobbying in Washington for the bill, said that between the President and Rep. Morris Udall (D-Ariz.), the prime author of the bill, it had become a very partisan issue. Udall is a Democratic candidate for President.

Second, newspaper accounts predicted the failure of the override attempt, detailing the "unprecedented campaign" by private power companies to convince voters that the bill would result in higher utility rates and increased unemployment. A report in the *Rocky Mountain News* said that the Basin Power Company in South Dakota reportedly spread the word to subscribers that strip mine controls would add \$16 to its customers' monthly bills.

The tactic apparently worked. The *News* story reported that an aide to one of the Representatives said recent

Stop the Oahe ditch rally

Nine South Dakota organizations have announced that they are sponsoring a "Stop The Ditch Rally" in opposition to the Bureau of Reclamation's intentions to begin initial canal construction this summer on the controversial Oahe Irrigation Project, located in central South Dakota. The nine citizens groups, ranging from farm groups to sportsmen's organizations, say they are organizing the rally to call attention to the BuRec's unacceptable "build now, plan later" method of reckless development.

A spokesman for the group, George Piper, president of the United Family Farmers, explained that "the U.S. Environmental Protection Agency has raised serious questions about the total project and has recommended that construction not begin until all questions have been answered. In the last legislative session, the South Dakota House of Representatives passed a resolution with a two-thirds vote recommending that further construction on the canal be halted until questions raised about the project could be resolved; but still the Bureau of Reclamation is disregarding these requests and plans to dig the first stretch of the ditch."

"We are calling this rally," Piper said, "to demand a halt in canal construction and to provide a forum for people from all over the region who are concerned with the Oahe canal beginning without review."

Piper said that the groups plan to have their rally at the proposed site of the first BuRec cut, Medicine Knoll, 3 miles west and 4 miles south of Blunt, S.D. "We are holding the rally out on the actual site," Piper said, "to give people an opportunity to see just what will be destroyed if the Bureau is allowed to go ahead unchecked."

The rally will begin at 12:00 noon, Saturday, June 28, with a "bring your own" picnic. A program will follow beginning at 1:00 featuring farmers, sportsmen, environmentalists, and state legislative officials concerned with the project. "What is scheduled to happen at Medicine Knoll is only the beginning," Piper said, "of what the unreviewed Bureau will do to South Dakota if people aren't allowed to speak out. In countless projects all over the country the Bureau of Reclamation has gotten its foot in the door and caused destruction by starting the digging while disregarding public concern," Piper said. "Once they have even a small area dug, they use it as an excuse to push ahead, forcing local questions and concerns aside."

The nine groups sponsoring the rally are the United Family Farmers, S.D. Wildlife Federation, Brown County Farm Bureau, S.D. Environmental Coalition, S.D. Young Democrats, Sierra Club, James Valley Nature Club, Lower Crow Creek Water Shed District, and the S.D. Friends of the Land. Everyone is invited to attend.

constituent mail on higher electricity bills surpassed even that on the fall of Vietnam and the Mayaguez incident.

Most of the credit for the defeat of the bill, however, was given to the third factor: the figures presented by the Administration to justify the veto. These statistics on projected unemployment and cutbacks in coal production were disputed by Congressmen, one of the researchers quoted in the Administration's statement, and by other federal agencies. Rep. Udall said they are "false and phony and those who made them knew it at the time."

However, the proponents of the bill found it difficult to convince their colleagues of the inaccuracies, partially because any analysis would be too complex for members unfamiliar with strip mining, according to *Conservation Report*.

The Federal Energy Administration said the bill would have cut production by 40 million to 162 million tons per year, and relied on the larger estimate to make other predictions on loss of employment and higher utility rates. A report by the Environmental Protection Agency, however, says its independent study disclosed a tonnage reduction of only about half the 162 million ton forecast, or 89.7 million tons. The EPA report said the agency had found omissions, distortions, and "double counting" in the Interior-FEA forecast, according to a *New York Times* analysis.

During a joint hearing called to discuss the figures before the override attempt, Administration spokesmen tried to defend the loss estimates. The Administration maintained that it had to use the higher figure (162 million tons) in its predictions because allowance must be made for the worst likely interpretation. Udall finally asked the witnesses in exasperation who they thought would be administering the law, "Stanley Hathaway or the Sierra Club?" according to *Conservation Report*.

If the strip mining bill would have become law, Hathaway would have been responsible for administering it, in his new position as Interior Secretary. In the absence of the law, he is now preparing strip mining regulations to be used on federal coal without Congressional direction. Their strength or weakness is now at the discretion of the Administration. In the states that have their own strip mining laws, the question of whether or not they have jurisdiction over federal coal will probably be settled in the courts.



KAIPAROWITS IMPACT ANALYZED. A preliminary environmental impact statement says the proposed Kaiparowits electrical generating plant in southern Utah will probably meet federal air pollution standards, but could result in other negative impacts. The Bureau of Land Management, which prepared the statement, says the plant could increase salinity in the lower Colorado Basin, increase erosion on arid Utah land, and harm fishing in Lake Powell, according to the Associated Press report. Although it will meet federal air standards, the plant would still emit between 34.3 and 53.8 tons a day of sulfur dioxide and between 12.2 and 13.5 tons a day of fly ash. The BLM plans to issue the draft environmental impact statement by July 11. Public hearings would be held beginning Sept. 1, with a final decision expected after Feb. 1, 1976. However, Federal Energy Administrator Frank Zarb has asked the Interior Department to make a final decision on the Kaiparowits project by September, 1975.

BRUSH TO BOOM. The biggest power plant in Colorado will be constructed next spring at Brush, in the north-eastern portion of the state. The 500 megawatt, coal-fired generating plant will be built by Public Service Co. of Colorado and will cost \$225-\$250 million. The construction will take about three years with between 1,000 and 1,200 persons employed. Coal will be brought in by rail, possibly from the AMAX mine near Gillette, Wyo.

June 20, 1975 — High Country News-11

The Hot Line

energy news from across the country

ZARB SAYS CRISIS WORSE. Federal Energy Administrator Frank G. Zarb says the energy crisis is worse today than it was before the 1973 Arab embargo, and a new cutoff of foreign oil might bring gasoline rationing within 90 days. "Everything is going the wrong way" in America's energy equation, he said in an interview in a recent issue of U.S. News and World Report.

MCCALL COULD HEAD CONSERVATION EFFORT. Former Oregon Gov. Tom McCall says he would be "idiotic and crazy" to accept the position of chairman of a national conservation effort unless he receives a personal invitation from President Gerald Ford and assurances that conservation would be the country's highest priority. Getting people to voluntarily conserve energy would be an "almost impossible job," he says, because they can't see there are any problems when they can drive up to a gas station and see gas wars going on. Patriotic speeches won't work, he says, "people must realize there's no other alternative and the sooner they do it, the better." The Citizen's Action Committee asked McCall to chair its nationwide voluntary conservation program. The committee is the same group who volunteered to spearhead the ill-fated WIN (Whip Inflation Now) campaign last winter.

NUCLEAR REAPPRAISAL ACT. Sen. Mike Gravel (D-Alaska) has introduced the "Nuclear Power Reappraisal Act of 1975." The act would impose a 5-year moratorium on granting new licenses for nuclear power plant construction. During those five years, the Office of Technology Assessment would conduct an exhaustive study of the entire nuclear fuel cycle. Congress would have to act to restore licensing. If it did not act, a slow phase-out of nuclear power stations would begin.

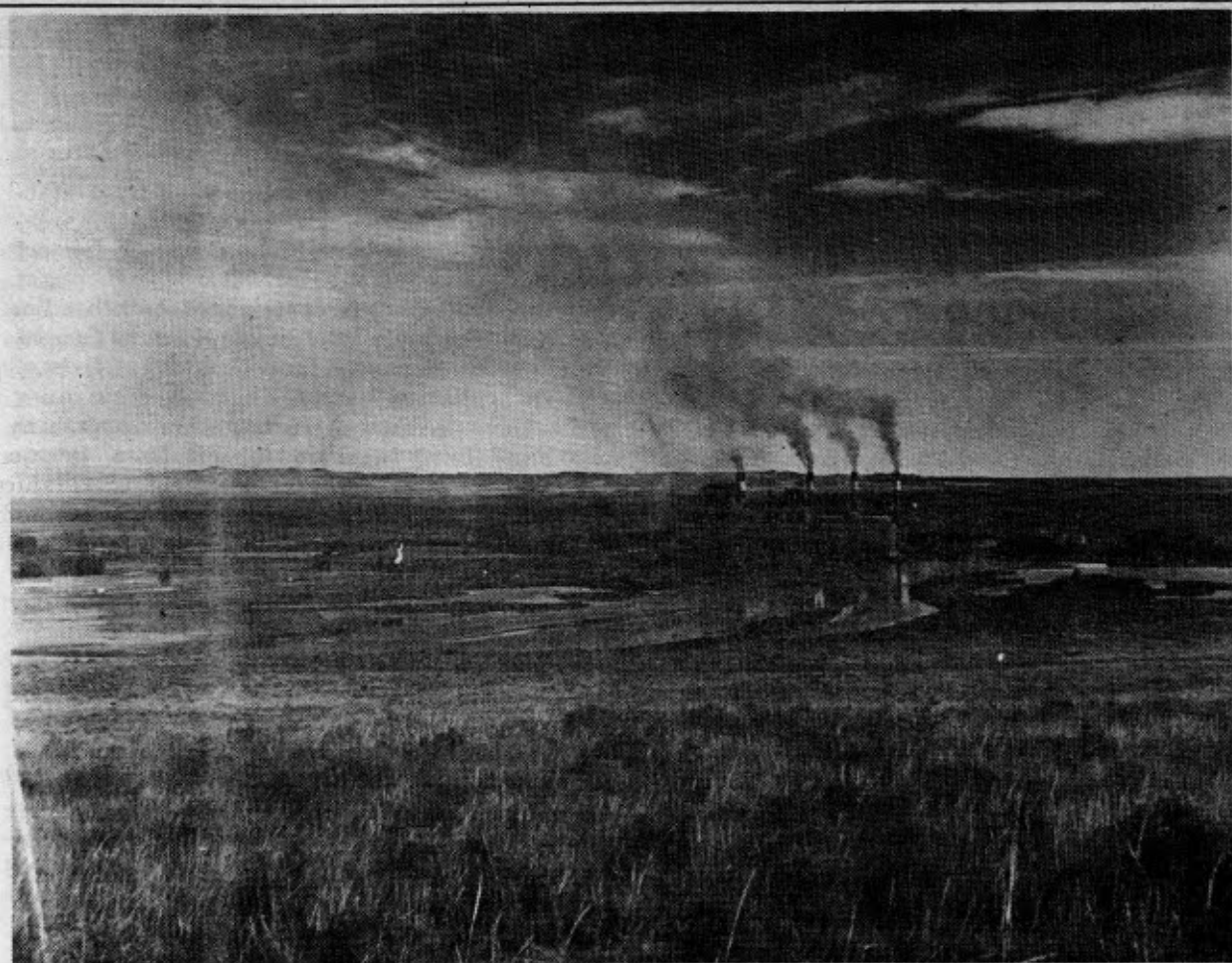
GARBAGE TO STEAM PLANT. Nashville, Tenn., has a garbage-to-steam plant in operation that heats and cools 27 downtown buildings. Initial studies showed the system is 15% to 25% less expensive than using conventional fuel, according to the Missouri Basin Systems Group newsletter. "It is expected that additional operating data will show that it is even more cost effective," the newsletter reports.

PEABODY SEEKS LEASING CHANGE. Edwin R. Phelps, president of Peabody Coal Co. and chairman of the National Coal Association, asked a Senate Interior subcommittee to revise federal coal leasing policies to broaden competition. He said the existing practice of leasing by bonus bidding — with the winner being the highest bidder — is inflationary and anti-competitive. High bonuses for unproven reserves only add to the cost of investment and of coal, he said.

GRANTS ENCOURAGE URANIUM EXPLORATION. The U.S. Geological Survey said it is awarding a total of \$240,000 in grants to encourage the search for uranium deposits in seven states, including Wyoming, Utah, Arizona, Texas, New Jersey, Pennsylvania, and Alabama. The uranium is necessary to meet the future needs of the expanding nuclear power industry, according to the USGS. "Most of the easily accessible deposits have been found. Future exploration will be at greater depths and in less favorable areas and hence will cost more," according to E. N. Harshman, of the USGS branch of uranium and thorium resources. New Mexico and Wyoming are now the leading uranium producing areas in the country.

OIL SPILL RECORD. Last year 26 major oil spills of over 10,000 gallons coated the earth. That's an average of one major spill every two weeks. Eleven of the spills occurred in U.S. waters.

WASTE POWER. More efficient use of the nation's garbage, trash, and litter could save more than 85% of the crude oil energy now imported from the Arab countries, says a report of the President's Advisory Committee on Environmental Quality. The report is entitled, "Energy in Solid Waste: A Citizen Guide to Saving."



ENVIRONMENTALISTS WIN BATTLE FOR REGIONAL STATEMENT

Three federal appeals court judges made a ruling Monday, June 16, which renewed environmentalists' hopes that a regional impact statement will be required on coal development in the Northern Great Plains.

The decision was made after a U.S. District Court ruled in February, 1974, that the federal actions taking place in the region are essentially unrelated and that the development need not be reviewed cumulatively. The original suit demanding a regional impact statement was filed in June, 1973, by the Sierra Club, the National Wildlife Federation, the Northern Plains Resource Council, the League of Women Voters of Montana and South Dakota, Montana Wilderness Association, and Montana League of Conservation Voters.

According to a representative of the Sierra Club, Monday's ruling sends the case back to the district court which must ask the Interior Department 1) if it plans to proceed with development in the region and 2) if it plans to use the final report of the Northern Great Plains Resource Program (NGPRP). (The NGPRP is a federal-state interagency study concerning development in this region.) The appeals court requires that the Interior Department respond to the two requests within 30 days after the NGPRP report comes out, which will probably be in July.

Pam Rich, of the Northern Great Plains office of the Sierra Club, said in response to the ruling, "Our concerns appear to be shared by the Appeals Court. . . . We're quite sure that this decision will bring renewed complaints by the coal industry that we are inhibiting their plans. But we find this odd since two years ago when we filed this, suit, these same companies argued in court that they had no plans for coal development. We have argued from the beginning that their strategy was to dump everything on us at the last minute." Rich said that if an appeal is made, it would be made to the U.S. Supreme Court.

Photo of Dave Johnston power plant in Wyoming.

Emphasis ENERGY

in the Northern Rockies and Great Plains



NEBRASKA NUKE PROBLEMS. The Cooper Nuclear Power Station in Nebraska has a problem with vibrating rods in the reactor's core. The Nebraska Public Power District and Iowa Power and Light Co. now have to decide whether to shut down the station to fix the rods or to run the reactor at half power until April 1976. About 258 Nebraska communities and 110 Iowa communities depend on power from the plant.

TRINIDAD EYES NEW TAX. The president of Freeport Coal Co. has advised Colo. Gov. Dick Lamm that no attempt will be made to develop a large coal discovery near Trinidad, Colo., until the state severance tax issue is decided. A United Press International report of the story emphasized that if the mine opened, it could provide 1,500 new jobs in an economically-depressed area of southern Colorado. Lamm proposed a severance tax as part of his tax reform proposal, but it was killed by majority Republicans in the Senate Finance Committee.

STRIP MINE INITIATIVES. Former Oregon Gov. Tom McCall has suggested that the veto of the federal strip mine bill should be followed up by referendum initiatives in all the coal states requiring state legislature approval before any new strip mining operation can open up, according to Land Use Planning Reports.

CONOCO COMMENTS CAUSE ANGER. Benjamin F. Wake, administrator of the Health Department's Environmental Sciences Division in Montana, objected strenuously when a Conoco engineer said his company "cannot, and will not, commit major capital money. . . for . . . unnecessary pollution control projects." The statement came at hearings on new refinery emission standards proposed by the Montana Board of Health. Conoco claims it will have to shut down if the standards are accepted because the company could not be run economically, according to the Billings Gazette story. Conoco said the Billings refinery is already uneconomical because of the cutback in the availability of Canadian crude oil.

WILDLIFE EXPERTS STUDY DEVELOPMENT. The U.S. Fish and Wildlife Service is hiring four national scientific teams to study development decisions in stream alteration, power plant siting, western energy and land use, and coastal development projects. The teams will provide guidance for research projects, information dissemination, and technical support to FWS field personnel. The Western Energy and Land Use team will be based in Fort Collins, Colo., the only base in the region. This team will take satellite surveys, using color infrared photographs of western coal-bearing areas to better understand plant and animal relationships.

12 Burton-Hicks debate

Is the Sierra Club in the national interest?

by Joan Nice

A public debate in Casper, Wyo., this month focused on an oil man's query: Are the energy related policies of the Sierra Club in the national interest?

The oil man, Guy Burton, petroleum geologist and vice president of Burton-Hawks of Casper, said he believed in "laissez-faire" — "let the (coal) leases go" — and accused the Sierra Club of "stymying progress to the point of national suicide."

On the Sierra Club side in the verbal battle was Laney Hicks, Northern Plains Representative for the national conservation group. She said that the environmental movement today "believes in economy and liberty over profusion and servitude." She supported a federal coal leasing moratorium and defended a Sierra Club suit on coal development which has certain Powder River Basin coal firms at a standstill.

Casper newsman Pete Williams moderated the debate, which grew out of a written battle in the letters-to-the-editor column of the *Casper Star-Tribune*. In his opening remarks Burton said, "I'm an amateur. This is like being on the first tee with Jack Nicklaus." Five questions had been set for the first hour's discussion, but Burton moved quickly from them, saying "I'll have to admit, I don't understand the questions."

BLOCKING THE BULLDOZER

Burton based most of his criticism of the Sierra Club on what he had read in back issues of the club's *Bulletin*. He claimed the club opposed "anything that appeared to have something to do with dropping the bulldozer blade or of putting the shovel in the ground."

Hicks disputed that claim. She said that for instance, the club had had no quarrel with the independent oil industry in the state. The club was opposing large-scale coal development in the West because of large-scale social, economic, and environmental dislocations.

Hicks said that energy companies were not going to be able to meet the demand for electricity if historic rates of growth in consumption kept up.

"I suggest you let us get what's out in the Powder River Basin and we'll keep up with it," Burton said.

Hicks countered with charts which indicated that if we continue increasing our demand for electricity at the same rate that we have in the past (a rate of seven per cent increase per year), in 10 years we would have to be producing twice as much electricity as we are now. That would mean four new electrical generating plants the size of the Four Corners Power Plant (about 2,000 megawatts) in each of the 50 states, she indicated.

Burton said he thought we would not have to produce that much power because demand was leveling off. He hesitated to say what level of demand was desirable "because she (Hicks) has probably got that all worked out (on her charts)."

Hicks also pointed out on charts that if the U.S. increased its coal consumption by six per cent every year (the amount that coal consumption increased in 1973-1974), the strippable reserves in the Northern Plains would last only 28 years. With no growth at all in our oil consumption, U.S. reserves would last only 20-33 years, she said.

NO CHOICE

When asked if she would tell consumers to turn off their air conditioners, Hicks said that in light of this information about our energy reserves, "I say we have no choice."

Burton criticized the practice of requiring environmental impact statements for energy development. "We've done without all that stuff for years in the oil business with some success for both the public and for us. . . . The energy companies have provided the American public with a heck of a good deal. If unfettered, I think they will continue to provide a good deal."

Burton said he thought that asking for impact studies was a delay designed to kill projects altogether. "I think that is the tactic you have in mind and I abhor it."

Hicks accused others of delay. "We might even accuse certain interests of stalling progress because they're keeping new alternative (solar energy and pollution control) technology from receiving adequate federal funding or private funding," she said.

Burton replied that "if the Sierra Club had used all the

money they had paid lawyers for alternate sources of energy and pollution control devices, we would be more happy in two respects. We would have that resource behind us and you would have been too busy to file all these lawsuits."

HEALTHY DELAY SERVICE

Hicks said that she thought environmentalists' impact on the supply of energy was very slight. But to the extent that they slowed down consumption she said "we're supplying a kind of a healthy service to the oil companies and the utility companies. You ought to be glad we're slowing down things."

"We have two choices," Hicks said. "We can wait, have the power outages, and have considerable social disruption when the utilities can't meet that demand. Or we can do some planning now. I'm not sure the federal government can do it. I'm not sure I have that much faith in their efficiency."

"Environmentalists could work with the oil industry if we could agree that our growth shouldn't continue at that rate. And we could come up with some planning that, perhaps, wouldn't be all that bad," Hicks said.

Burton found that suggestion "commendable." "That

was one of the reasons for this debate was to try to establish some rapport that we can work with."

In his concluding remarks, Burton said, "If I detect some sort of a mellowing of Miss Hicks and that she might have stopped advocating no development at all, then I'm happy for this exchange." But he added that he thought Hicks' views, as expressed at the debate, were not those of the Sierra Club.

"Miss Hicks says things here tonight that I don't think are compatible with what I read in her *Bulletin*," Burton said.

"I think you have not read our policy except to try and pick up a few items that you would like to try and make look extreme. That's a very narrow view if you want to try and have communication with the environmental groups," Hicks said.

Hicks added, "you've never really bothered to sit down and talk with us before tonight and you read the *Casper Star-Tribune* and what they think we say and you sort of write us off as the nearest radical."

"You, along with a lot of other oil people," Hicks said "are sort of in the habit of finding the easiest scapegoat. . . . I don't think you know environmentalists at all."

I-470 spells trouble for Lamm

Ever since Colorado Gov. Dick Lamm vetoed a state request for federal highway funds to construct Interstate 470 southwest of Denver he has been plagued by non-cooperation from local governments in the area, businessmen along the route, suburban Republican state senators, and the state highway commission. This lack of support now threatens Lamm's chances of transferring up to \$200 million in I-470 highway money to fund mass transit for the Denver-metro area.

To transfer the money to mass transit, two things must happen by July 1, according to a *Rocky Mountain News* story. First, the Denver Regional Council of Governments must change an urban boundary to include the I-470 corridor. Second, a joint request for the transfer must be filed by Lamm, local officials affected, and the regional council.

Neither of these steps seem a certainty at this time — and time is running short. Lamm says lack of support for his plan could cost the state \$200 million. The *Denver Post* editorialized, "It is going to cost Coloradoans some \$200 million to educate their new governor to the fact that the automobile isn't dead as a means of transportation."

Lamm vetoed I-470 because he felt it would spawn urban sprawl and intensified air pollution resulting from increased automobile traffic in the Denver area.

Late last month, the State Highway Commission voted

seven to one to support construction of the 26-mile interstate, despite Lamm's appeal for support. The Republican controlled-Senate has held up the appointment of five Lamm appointees to the Highway Commission — three of them avowed opponents of I-470.

The Highway Commission has ordered chief highway engineer Edward Haase to proceed with the steps necessary to make the proposed I-470 a part of the interstate system. Lamm has ordered Haase to drop I-470 development plans. Now the Colorado Supreme Court has entered the conflict. On June 16 the court heard arguments to determine who has authority over the highway department — the commission or the governor.

Two ad-hoc groups have formed to fight over I-470. A citizens' group called FACTS — For Alternative Community Transportation Systems — is waging a campaign to convince local officials to go along with Lamm's plan and stop jeopardizing money available for mass transit.

A group called 470 Task Force — consisting of business and labor representatives supporting I-470 — used its funds to pay for an opinion poll in the Denver area which revealed that 61% favor construction of I-470. Lamm was presented with the results of the poll, but was unable to glean from the task force the content of the questions.

"I remain unimpressed by the poll," said Lamm. "It has serious omissions." Lamm told the *Denver Post* that it appeared that the pollsters didn't offer respondents any alternatives when they asked the questions. Lamm said he wants to know how the sample was selected, who funded the poll, and whether respondents were asked other "significant questions" on gasoline prices, air pollution, and the energy crisis. Saying the poll "raises more questions than it answers," Lamm appointed a committee to meet with the pollsters — Decision Making Information, Inc., of Santa Ana, Calif. — and report back to him. Lamm says his mail is running four to one in favor of his I-470 veto.

BuRec contract...

(Continued from page 5)

river. It would not have any effect on the elevation or storage capacity of the reservoir.

Impact statements are required to have a section discussing measures which will mitigate impacts of the proposed action. BuRec stated that the 50 cfs minimum flow below Green River city was a mitigating measure. That flow did not seem to me to mitigate anything, so I asked, "Please explain what impacts would be mitigated by maintaining a flow of 50 cfs below Green River city." BuRec replied, "By providing for a flow of 50 cfs below the town of Green River, we have mitigated the impacts which would have occurred without such release."

BuRec came up with a poor proposal for use of Green River water. And when that became clear, the agency even refused to attempt to correct its mistakes. It seems we have sacrificed a lot of river for a little expediency.

Larry Edwards is a mechanical engineer in Casper, Wyo. He lived in Rock Springs, Wyo., for three years, when he became familiar with the stretch of the Green River on canoe trips. He is chairman of the Wyoming chapter of the Sierra Club and is currently employed designing wind machines to pump stock water.



Western Roundup

Ski area impact team established

Colorado Gov. Dick Lamm has appointed a 17-member committee of local officials, developers, environmentalists, and other citizens to help the state determine future ski area development policy. At the same time, Lamm ordered the division of planning in the Department of Local Affairs to begin preparing a winter resource management plan and set a completion date of Jan. 1, 1976. Colorado already has 25 ski areas on public land and the U.S. Forest Service has an additional 96 areas under consideration, says Lamm. When Lamm opposed the designation of the Beaver Creek area near Vail, Colo., as a winter sports site last winter (see HCN, Jan. 31, 1975) he said that such designation was "premature" because the state lacked an overall winter resource management plan. With the move toward completion of that plan, Lamm says a "compromise is definitely possible" at Beaver Creek.

Idaho elk face range depletion

The 1975 elk season in central Idaho will be "like going to the doctor and having him tell you that you have only a few years to live," Roger Williams, an Idaho Department of Fish and Game supervisor told **Ketchum Tomorrow**. Trend counts have shown annual declines in elk numbers in the region for the past 10 years. A main reason is depleted winter range because of forest growth encroaching on valuable open areas. The healthy herds experienced over 10 years ago were the result of massive forest fires early in the century that opened up winter range forest lands. Now more fires are needed, but the Fish and Game Department and the U.S. Forest Service both have tight budgets which don't allow for burning to improve elk habitat.

Rampton cites Colo. salinity threat

Rising Colorado River salinity could pose "a great threat right now" to Utah using its share of the river, Gov. Calvin L. Rampton told a University of Utah audience in early June. Rampton was reacting to figures in the Bureau of Land Management's preliminary environmental impact statement on the proposed Kaiparowits coal-fired power plant in the southeastern part of the state. The plant would use up to 50,000 acre-feet of water per year and cost Colorado River downstream users almost \$500,000 a year to combat increased salinity, according to a **Desert News** story.

Sawtooth NRA plan released

A General Management Plan and environmental impact statement on federal proposals for the Sawtooth National Recreation Area (SNRA) in Idaho has been released by the U.S. Forest Service. The SNRA includes the Sawtooth Mountains, the White Cloud Mountains, the Boulders, and parts of the Smokies in central Idaho. The plan calls for "continuation of the Sawtooth Wilderness Area and study of possible new wilderness in the Hanson Lakes area northwest of Stanley, and the Boulder-White Clouds area occupying most of the eastern portion of the SNRA," reports the **Mountain Express**. "River canyon areas in the Bigwood and main Salmon drainages will come in for more intensive management, with increased facilities for trailer camping and other recreation," says the **Express**. Under the law which set up the SNRA, the National Park Service will also study management in the area.

EPA hotline called subversive

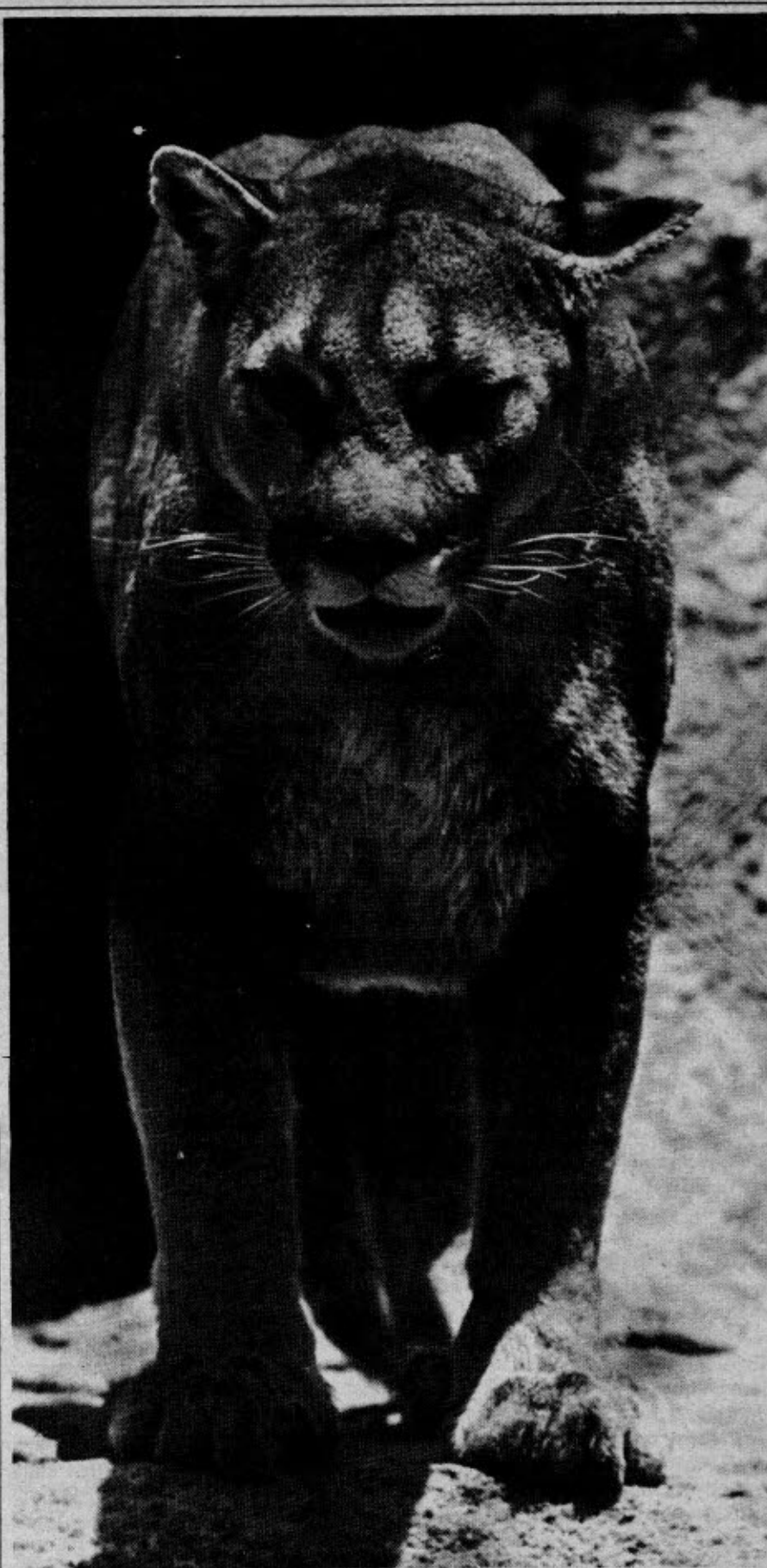
On June 2 the Environmental Protection Agency (EPA) invited "anyone aware of a misuse of a pesticide that has caused harm to people or to wildlife and plants in the environment to report this on a toll free telephone from anywhere in the country." The EPA program was modeled after the Justice Department's "turn in a pusher" narcotics hotline. On June 3, Rep. Steven D. Symms (R-Idaho) charged that EPA officials were relying on "an old Hitler technique to beef up their pesticide control efforts. . . . Turning neighbor against neighbor has always been a trick of the trade among politicians who would strip a nation of its freedom." Symms' disapproval of "this new toll-free stool pigeon's gimmick" has EPA ready to rescind the plan, according to the **Idaho Statesman**, because the agency's basic pesticide control legislation is now before the House Agriculture Committee of which Symms is a member. "I'm prepared to cut EPA's funding right now," Symms was quoted as saying in the **Statesman**.

New bill for wild horses and burros

Sen. Gale McGee (D-Wyo.) says he is co-sponsoring a bill to "enable better management of wild horse and burro herds." "These herds are increasing at a rapid rate and vital range lands in many areas of the country can no longer sustain the numbers. We must redistribute wild horses and burros for their own protection also," he says. The bill would provide for rounding up horses and burros with helicopters. The national Sierra Club board has called for the "control of feral burros in a manner which protects native flora, fauna, and soils." The board called for removal of the burros from public lands where they pose a threat to endangered or threatened species — notably the desert bighorn.

Suit could stop ORV rampage

A federal court ruled May 2 that the Bureau of Land Management's current regulations regarding off road vehicle (ORV) use are in violation of federal law, according to **Missoulian** outdoor writer Dale Burk. The ruling, a result of a National Wildlife Federation lawsuit, requires BLM to specify areas and trails for ORV use on public lands. A 1972 presidential order called on all federal land managing agencies to zone their land for ORVs.



Injunction issued on poison ban

U.S. District Court Judge Ewing T. Kerr has ruled that the Environmental Protection Agency (EPA) must file an environmental impact statement on its 1972 ban on interstate shipment of predator poisons. Kerr also declared that he would issue a temporary injunction on the enforcement of the EPA ban, according to an Associated Press story. The ban was on three poisons used against coyotes and other predators — 1080, sodium cyanide, and strychnine. The suit was filed by the state of Wyoming, the Wyoming Wool-growers Association, the Wyoming Stockgrowers Association, and several individual ranchers. Kerr ruled, "This court cannot sit idly by and see one of our principal industries possibly extinguished through action or failure of action by a federal agency when it is within the power of the court to grant relief."

This predator — a mountain lion — was photographed by Jack McLellan.

Salt Lake canyons in trouble

The Utah Supreme Court struck down Salt Lake County zoning ordinances in Little Cottonwood Canyon, the scene of extensive ski resort development. The zoning would allow for only one residence on 50 acres of land, but the court ruled proper legal procedures were not followed, according to a **Deseret News** story. The high court did not uphold the contention of property owners in the canyon that the restrictive zoning constituted confiscation of property without just compensation. The ruling has invalidated much of the county zoning in all canyon and forest areas, according to the **News**.

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Practical Building of

Methane Power Plants

— for rural energy independence

by L. John Fry, 1223 N. Nopal St., Santa Barbara, Calif. 93103, \$12.

Review by Tom Bell

The post-industrial society will have several marked aspects. One will be a conscious realization of the absolute necessity for the wise use of available energy resources. We are now in the last days of flagrant energy waste. We



I was looking up something in the almanac the other day, and ran across a couple of pages about the Seven Wonders of the World. Well, I remember learning about those seven wonders way back in my school days, but I must admit that in the intervening years I haven't given them much thought, so I read the pages with interest.

The oldest and only surviving "wonder" is a group of three pyramids near Cairo, in Egypt. Then there were the Hanging Gardens of Babylon, built by Nebuchadnezzar, about 600 B.C. They consisted of about four acres of terraced gardens, standing on arches 75 to 300 feet high, and watered from a reservoir built at the top, which was fed by a screw from the Euphrates River.

Another of the wonders was the beautiful Temple of Diana, at Ephesus, built about 350 B.C. It lasted approximately six centuries, then was destroyed by invading Goths. Also considered one of the seven wonders was a 40-foot statue of Jupiter, created in gold and ivory by the sculptor Phidias. All trace of this colossal statue is lost, except for reproductions on coins. There is another, even larger, statue on the list — the Colossus of Rhodes. This was a bronze figure of Helios, the sun god. Sixty years after it was completed, it was toppled by an earthquake and lay in ruins for many centuries. It was finally sold by the Saracens as scrap metal.

The final two "wonders" were the Tomb of Mausolus and the Pharos (lighthouse) of Alexandria. Of the tomb, nothing now remains except a few pieces of sculpture at present in the British Museum. And the Pharos was destroyed by an earthquake in the 13th century.

Reflecting upon these man-made wonders of the past, I wondered who chose them for that honor, and when. The almanac gave me no clue, but another reference states simply that the list was compiled by scholars of antiquity. It seems obvious that they were selected not only for their aesthetic value, but also for the skill and ingenuity which went into their creation. With today's technology, most of them would not seem to be such Herculean feats, but considering the fact that they were created twenty-odd centuries ago, they were indeed marvels of accomplishment.

It would be interesting to know what a panel of today's scholars would come up with if they were to name the seven man-made wonders of the present. (Of course it would be most difficult to get them to agree on such a list; unless there were but seven panelists, and each had one vote!)

Some might consider the 4,200-foot Golden Gate Bridge as one of the marvels; or the even longer bridge which spans Lower New York Bay. Others might cast their vote for some famous European cathedral, or the Empire State building, or the world's tallest building, the Sears Tower in Chicago. Then there are huge dams — the world's tallest in Russia, and the world's largest in Pakistan. And satellites, and space ships. The hydrogen bomb might even be considered a man-made marvel by some!

Yes, it would be almost impossible to agree on even one of the seven greatest wonders of the world today. Maybe we'd better not pick that panel of seven for about another century. By that time, hopefully, man will have harnessed the infinite power of the sun, and the earth need never again be ravished to furnish energy for its people. Surely such a great and beneficent feat would deserve at least seven votes!

It might even compensate for the fact that one of those first seven wonders, the statue of Helios, the sun god, was sold for scrap metal!

will soon be forced to conserve.

Another aspect will be the full flowering of development and use of alternative sources. Now coming into their own are such sources as solar energy, and methane gas and methanol from organic and waste materials. Where available there is also a revival of interest in water and wind power.

All of these newly developing sources call for specific technologies, some of which are only in their infancy. One of these is the production of methane gas from animal wastes. Moves have already been made to produce and use methane from animal wastes on a large scale. One of the first of these was the agreement between Monfort of Colorado, Inc. at Greeley and Bio-Gas of Colorado, Inc. Animal manure from one feedlot averaging 100,000 head of cattle daily is expected to produce about 40 cubic feet of methane per day per animal.

Such energy-poor countries as India have long made use of cow manure to generate small but significant quantities of methane gas. Ram Bux Singh is renowned for his work at the Gobar Gas Research Station in India.

L. John Fry, a South African pig farmer, pioneered a displacement digester for production of methane. He developed his technology to take care of a problem and simultaneously obtain two useful products — energy and fertilizer. Much of what he did and what he learned is detailed in his book, **Practical Building of Methane Power Plants for Rural Energy Independence**. The 96-page book is rather expensive, but since it is one of the most definitive works yet published on this developing technology, it is well worth it.

Fry not only details much known information about methane technology but also illustrates workable equipment in easy to follow drawings and diagrams. In addition, he includes a question and answer section on most asked questions, looks into the future in "Digesters Today and Tomorrow," and gives a complete bibliography of the most useful references up to 1974.

Fry says, "In effect, the demand is worldwide and the need is immediate. Only the technology for large and

Chicken Power — 'A significantly productive plant is no backyard, weekend project.'

small scale local production has been lacking for universal application. This book is intended to fill in at least some of that lack of knowledge and to show how the technology can be applied in a practical manner."

He is frank in saying, "The cost of a methane power plant can be high." But he adds, "The overall cost of a methane power plant can be kept low through the use of famous American ingenuity, or it can skyrocket with the use of electronic switching gear, automatic loading and effluent withdrawal mechanisms, and electronic sensing devices and controls." He adds that construction costs are reduced as the per unit volume of a digester increases. As a bit of advice, he says, "A significantly productive plant is no backyard, weekend project."

The advantages of a methane technology are considerable. Fry says, "For millions of years nature has decomposed the organic matter that falls to the earth's surface. On the ground that matter decomposes by the aerobic process (composting), given the proper conditions of moisture and air. Under water or where there is no air, the anaerobic process takes over, culminating in decomposition by methane bacteria and the generation of a gas that not only burns like natural gas but suits this century admirably as a 120 octane fuel."

Fry points out that manure is an efficient source of methane. One pound of it will yield five cubic feet of gas. He says, "This means that 100 tons (dry weight) of manure could yield one million cubic feet of gas. . . ." But not all manures are the same as he discusses at some length. Hog, chicken, turkey and other fowl manure can yield as much as eight cubic feet of gas per pound (dry weight). Fry says, "Comparing raw gas from a methane power plant we find that 1,000 cu. ft. of it is the equivalent of 600 cu. ft. of natural gas, 6.4 gals. of butane, 5.2 gals. of gasoline, or 4.6 gals. of diesel."

But the benefits of methane production do not end

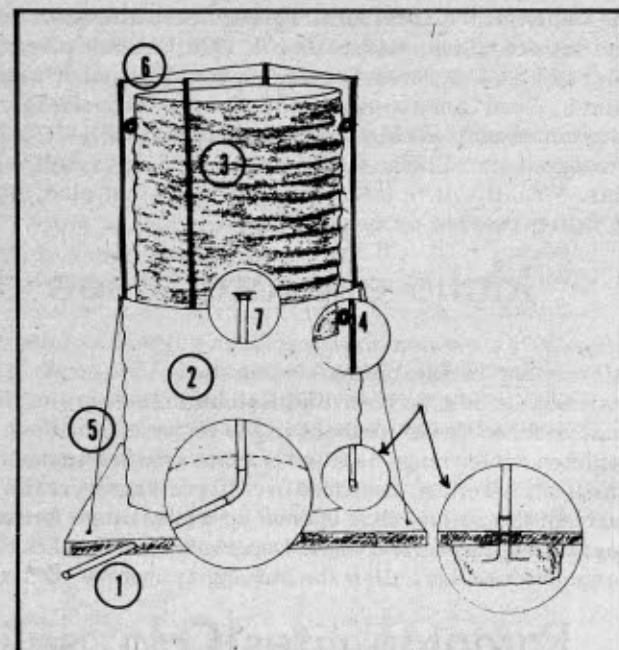


Figure 18: Gas holder. 1) Gas flow in and out. 2) Water tank. 3) Gas holder tank. 4) Roller on guide pipe. 5) Stay wires on guide pipe. 6) Cross bracing. 7) Top of gas pipe with protective plate.

there. The sludge which forms in methane digesters is a valuable fertilizer. The sludge contains not only nitrogen, phosphorus, and potash but also trace amounts of boron, calcium, copper, iron, magnesium, zinc, sulfur, and others. This can all be returned to the land, most conveniently as a wet slurry.

Fry makes no claims that methane technology is easy and without pitfalls. Methane is an explosive gas which requires care in producing and storing. The decomposition of organic materials creates a scum which causes problems. Continuous production of gas requires daily attention and the maintenance of a correct temperature range. Still, these are not insurmountable problems to more wide-scale use. And it is likely that some of the problems will be solved or reduced as better technology develops.

Fry's introduction is a meaningful resume of the need for a methane technology. He says, "In my lifetime I have been witness to the scramble for fuel in many forms — from Nomads scouring the last twigs of vegetation in a parched African desert to despairing miners scratching at the dreary recesses of Welsh coal mines. I have seen the oil-slicked beaches that are the results of today's fortune hunts. The prospects are worse, with grim pictures of our planet torn to pieces for shale and yet more coal, and irradiated with lethal nuclear matter from the accident that is inevitable sooner or later. The crisis of fuel is stated in deadly terms with reference both to lives and economies of nations.

"This book shows another path — one Mother Nature devised at the very beginning of time and one too-long ignored. This path has always been a gentle approach toward a prime requisite of this century — power. It is an ecologically sound path."

Editors' note: L. John Fry, author of several publications on methane power including the book reviewed here, is issuing a warning to potential methane experimenters. He says he has received photographs of others' projects and some are dangerous designs.

These faulty designs break "the most important safety precaution in storing gas — NEVER MIX GAS AND AIR and then ignite it. It will EXPLODE," he says.

If properly built, methane digesters are not dangerous, but if you do not understand the directions — and reasons behind the directions — they can be hazardous. Before you build a digester check out your design with L. John Fry, 1223 N. Nopal St., Santa Barbara, Calif. 93103.

Debate on clean air nears end

The House Commerce Subcommittee on Public Health and Environment is this week considering amendments to the Clean Air Act of 1970, following weeks of hearings. Some of the proposed amendments are acceptable to environmentalists. Others seem to have been influenced more by the industries' pleas about economic hardship.

A description of some of the possible amendments, drawn largely from **Air and Water Pollution Report**, follows. Strong amendments are expected to meet tough challenges on the floor of the House. The Sierra Club says that constituent pressure will be the key to both the subcommittee and the floor battles.

Significant deterioration: The subcommittee is considering forbidding states from classifying certain areas of national concern as class III (which would allow deterioration up to the secondary standards). Such areas might include wilderness areas and national parks. No deterioration would be allowed in those areas. One of the proposed purposes of the significant deterioration amendments would be to prevent competitive advantages for an industry which uses less than best available control technology.

Excess emissions fee: One way to assure that industries would not have a competitive advantage when they receive a postponement, waiver, variance, or extension would be through charging fees on excess emissions. The Environmental Protection Agency (EPA) could be authorized to impose fees. The amendment being considered limits the fee per source per day to less than \$5,000.

Stationary source enforcement: One amendment endorsed by the Sierra Club would impose a fine on non-complying emissions which would be at least as great as the cost of complying on schedule. Other amendments being considered give many outs to industry. Noncompliance could be allowed if technology to permit compliance is unavailable; if new technology is likely to be available and it would be impractical to use existing technology in the meantime; if the source is unable to raise the capital necessary to get control equipment; if control equipment or clean fuels are in short supply.

Some observers say that with all these ways to get around compliance, many industries would be able to continue operating without making any efforts to control emissions. The proposed limit on these variances would be that the source could not cause or contribute to low air quality to the point that it posed a "significant risk to health."

In addition, all sources granted delays must use the best practicable emission reduction methods in the interim, and all must adhere to compliance schedules setting down enforceable increments of progress. Public hearings are proposed prior to granting extensions.

It is proposed the EPA may seek civil and criminal penalties in court if good faith is not shown, and penalties

may be sought against corporation officers as well as the corporations.

Auto emission standards: The Sierra Club supports the amendment which would allow an extension of emission standards for new automobiles to only 1978. The industry and the Administration have asked for an additional five year moratorium.

In their arguments for the feasibility of meeting the 1978 deadline, environmentalists are pointing to the recent EPA decision granting California a waiver. California can now set 1977 automobile emission standards more stringent than those imposed by EPA nationwide. EPA Administrator Russell E. Train granted the request on grounds that compelling and extraordinary air pollution conditions exist in California and that adequate technology and lead time exist for manufacturers to meet the proposed standards.

Train testified at Clean Air hearings that "this is not the time to discard the automotive pollution control provisions in the Clean Air Act."

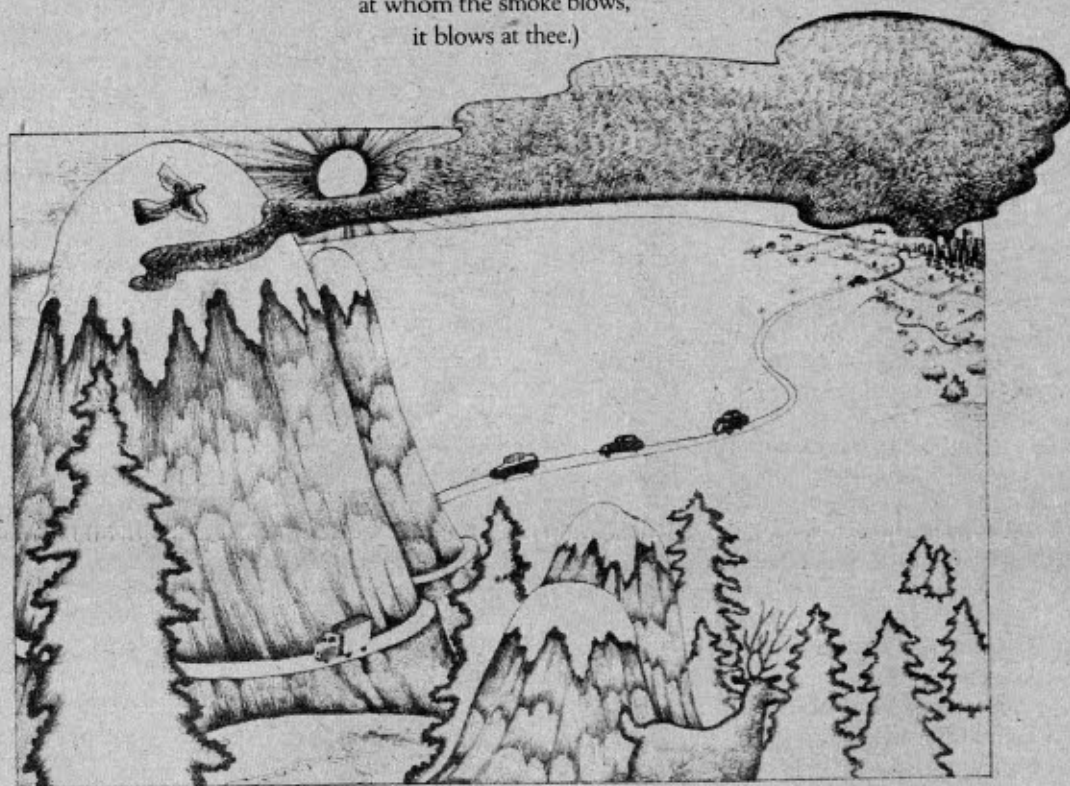
The Sierra Club argues that if the extension were

granted for auto emissions and other pollution sources, then the polluters will use the additional time to lobby for the weakening of the entire clean air program rather than for making the investments in control equipment.

Ozone protection: The House Science Subcommittee on Environment and Atmosphere is considering an amendment for controlling the sale of aerosol sprays. The proposed amendment would provide for a two year study. If the study proves that aerosol sprays pose significant risks to public health, safety, or environment, then the manufacture and sale of the sprays would be prohibited.



(Never send to know
at whom the smoke blows,
it blows at thee.)



YOUR CLEAN AIR INSURANCE IS ABOUT TO LAPSE

Ask Congress to Renew the Clean Air Act Now

The Clean Air Act of 1970 is about to expire, and if it is not renewed by Congress now, we will all lose our only national insurance against degradation of clean air.

Most of America's rural air is still clear. But no place, no matter how wild or how remote, is immune. High mountain valleys—like Aspen and Lake Tahoe—trap the pollution created by visitors' cars. Smoke from a single power plant in the Four Corners area pollutes the air as far away as the Grand Canyon. Fumes from distant industrial smokestacks rain down as sulfuric acid in the Adirondacks. And urban pollution can drift anywhere, to foul our farms and forests, our wilderness mountains, deserts, and high plains.

Then what can we do to keep our rural air clean? We can retain and enforce the non-degradation provision of the 1970 Clean Air Act. That law is expiring. Clean air friends in the Congress want to renew its effective provisions. And naturally, the polluters are opposing them.

Men like Senator Muskie and Representative Rogers do not want to permit industries and utilities to flee the city and take

their pollution to the country. Instead they would require that pollutants be removed at the smokestack, with the scrubbers which the National Academy of Sciences has certified as commercially feasible. But utilities want a 10-year delay.

Nor do they want to allow Detroit to keep stalling on car exhausts. Rather, they would keep us on schedule to reduce key emissions by 1978 to levels which will give us clean city air in the 1980's. But, Detroit wants a five-year delay.

Studies by the Environmental Protection Agency and the National Academy of Sciences show that the present timetable is practical, will create jobs, and allow the President's 40% auto fuel economy goals to be met by 1980.

So do not send to know at whom the smoke blows. Send a letter to Washington. Send it to your Senators (Senate Office Building, Washington, D.C. 20510) and your Congressman (House Office Building, Washington, D.C. 20515). Urge them to join the Congressional friends of clean air in their effort to improve, not weaken, the Clean Air Act of 1970. Ask them to keep the Clean Air Act intact.

HELP WANTED INDUSTRIAL SITING DIRECTOR AND STAFF

DIRECTOR: The State of Wyoming is seeking applications from qualified candidates for the position of Director of the State Office of Industrial Siting Administration. Candidates should have high level administrative experience as well as background in environmental and socio-economic assessments. Should also be familiar with governmental processes and private sector energy development programs.

Duties will include assessment of construction permit applications in light of environmental and socio-economic implications. Will also be in charge of detailed environmental and socio-economic assessments of proposed construction and operation activities. Duties require close coordination with public and private sectors, knowledge of administrative and budget control procedures, and capability to direct and coordinate multidisciplinary study teams. Rocky Mountain region experience preferred.

STAFF: Staff positions related to the above activities are also available. The general areas of expertise sought are economics, natural resources, ecology, sociology, and engineering. Activities will be mainly in the areas of assessing and preparing studies concerned with environmental and socio-economic effects of proposed industrial facilities. Candidates with backgrounds in any of the above areas are sought. Experience in the preparation of environmental and socio-economic assessment is preferred. Candidates should be able to carry out work independently as well as be able to coordinate and monitor activities of teams in their areas of expertise. Rocky Mountain region experience preferred.

Resumes should be mailed to:
State Planning Coordinator
2414 Carey
Cheyenne, Wyoming 82002

Sierra Club

Mills Tower, San Francisco, California 94104

16-High Country News — June 20, 1975

Book review

Run, River, Run

by Ann Zwinger, Harper and Row, Publishers, Inc., 10 E. 53rd St., New York, N.Y. 10022. \$10.95, hard-bound.

Review by Joan Nice

A current carries a reader through *Run, River, Run* with as many meanders as a mature stream. The book is about the Green River, the author tells us, "and how it relates to the landscape and how it goes and what it shows of rock and wind, how people have used it, and how it has used people."

That means birds, plants, fluvial dynamics, history, geology, and canoe lore in the slow stretches interspersed with the excitement of maneuvering a graceful craft through foaming, fast water.

The author, Ann Zwinger, proved her talent for nature writing in an earlier book, entitled *Beyond the Aspen Grove*. Here, again, she gracefully leaps over academic

rays, but I cannot keep the sun off my face, which is beginning to feel like raw hamburger."

The reader soon learns that, tired or not, Zwinger is a woman with unconscious fortitude. She feels just as meek as most mortals, but she doesn't allow herself to act that way. Perhaps on the river she is at her best.

At Red Creek Rapid, below Flaming Gorge, she and a friend climb above the river to look over a stretch of white water: "The farther down we walk the worse it looks. The

A Naturalist's Journey Down One of the Great Rivers of the West

total shooting turbulence of the river, all those lethal rocks—I must look pale green. I certainly feel pale green. Perry says, 'We can run or line the canoe through. It's up to you.' From somewhere a voice, surely not mine, answers, a little quavery but very positive, 'I wouldn't miss it for the world.'

This isn't purely an adventure book. The adventure is merely an appetizer that prepares the reader to delve into human history: the Green River Rendezvous, Ft. Bonnaville, Browns Park outlaws; into natural history: herons, beavers, algae, mayflies, mosquitos, wildflowers, and moose; and into earth science: how the river builds its bends, its riffles, its pools; how the earth built the Unitas, the Wind River Range, and the Canyon of Lodore. Zwinger blends scientific detail with her own impressions. She is alert, with a knack for selecting the interest-

ing. She is indignant when she witnesses man's abuse of the Green. About dams and Fontenelle Reservoir, she says, "it does not take four hours of laborious paddling to convince me that a reservoir is not a river. The untrammelled wind blows across the open miles. It kicks up a wave system that is dangerous for a small boat, and increases

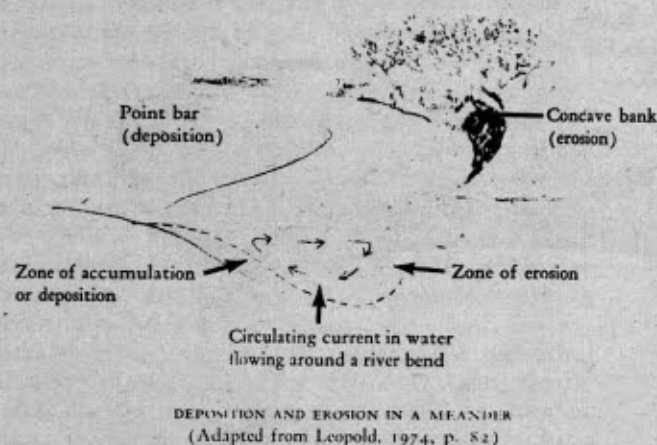


Cottonwood
(*Populus fremontii*)

Drawings by Ann Zwinger, from *RUN, RIVER, RUN*.

surface evaporation far above that which would evaporate from the river. With no stable vegetation along the shore, we see little wildlife, only a couple of gulls at the entrance. The Hayden Expedition described broad river bottoms richly carpeted with good grass and big cottonwood groves. Now there is no shade whatsoever. Heat shimmers off the clustered metal trailer roofs in the small campground. The last miles must be across open water, quartering against the wind. It is an unpleasant, uneasy hour, and I am vastly relieved to touch shore."

Both writing and artwork combine to make this a fine book for those who aren't content to just glide by and look at the scenery. It's a book for those who want to take the time to understand the Rockies and one of their greatest rivers.



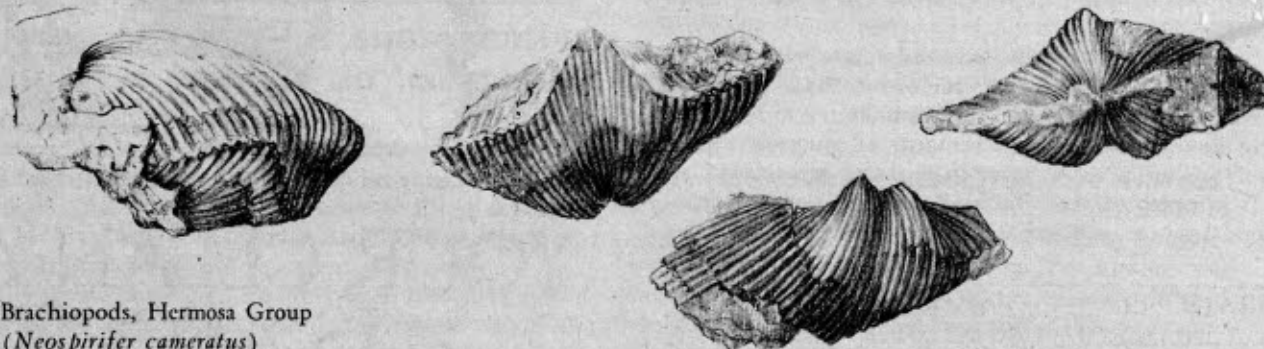
DEPOSITION AND EROSION IN A MEANDER
(Adapted from Leopold, 1974, p. 82)

barriers and in simple language explains what she finds fascinating about the complexities of the Green.

She has experienced every mile of it, either on foot, by canoe, raft, or airplane. Starting on foot at its source in the Wind River Mountains near the Continental Divide in Wyoming, she described the river stretch by stretch to the point where the Green flows into the Colorado River in Utah's Canyonlands National Park.

The voyage is joyous, she tells us, but miserable too, she admits. The adventures were recorded on site—and are fresh enough in her mind to keep the rough times vivid. Her story seems to come across to the reader just as she felt it, with the careful detail of a craftsman and the sensitivity of an artist. The illustrations—soft, charcoal sketches of everything from cottonwood leaves to old bones—are Zwinger's, too.

In a stretch just above Fontenelle Reservoir, Zwinger admits her weariness: "My eyes feel like two burnt holes in a blanket. I wear my hat at an angle Maurice Chevalier would have envied, in order to block the low, slanting sun



Brachiopods, Hermosa Group
(*Neospirifer cameratus*)

Dear Friends,

Ann Zwinger wrote our front page story this week on the Green River. Zwinger is a native of Indiana and now lives in Colorado Springs. She holds degrees in art history from Wellesley College and Indiana University. She tells us that two years ago, she knew nothing about the river that she now knows so intimately and shares with us through both her article on the forces threatening it and through her newest book, reviewed on this page.

She hopes that because the Green is a new love, the article may help people who were as innocent or ignorant as she once was. "Perhaps it's good every once in awhile to assume that the reader is not as well-informed as I am inclined to think he is," she says.

Looking through the rest of the pages of this week's issue as we prepare them for you, we realize that we've given you a lot on two controversies that are over and done—the strip mining bill and the Hathaway appointment. Perhaps we appear to bring you biweekly blues to purposely dampen your spring. Even the cartoons are amusing in only a rather masochistic way. Yet an

analysis of our defeats may give us clues for successes to follow.

Zwinger's story, too, has little hope of a happy ending, especially for the farmers and ranchers for whom the reservoir was supposedly designed. Not only do they miss out on getting that water, but, if recent studies are accurate, they are also likely to suffer negative impacts from industrial expansion with its concomitant changes in air quality, land productivity, and underground water supplies.

Yet you're sure to find hope in Tom Bell's discussion of "gentle power"—methane. Personally, we're finding hope in the preparation of next month's issue on conservation in which we'll discuss what different industries—and individuals—are doing to reduce the demand for energy. We can each undertake a personal "Project Independence" to lessen our dependence upon the outside energy sources that require bigger reservoirs, more strip mines, and development-oriented Secretaries of Interior.

—the editors

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