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The Environmental Biweekly of the Rockies and Great Plains



High Country News

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Defender of nature in the nation's highest court

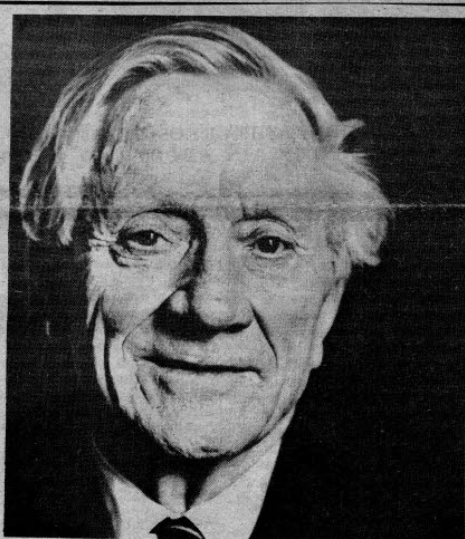
William O. Douglas argued that natural objects should have legal rights

©1978 by Peter Wild

When the distinguished American came trudging in from the desert, suspicious Iranians eyed him. What had he been up to prowling around in their stony wilderness? Out conferring with the famous General Lincoln, who happened to be leading U.S. troops through their territory, was the deadpan reply. Soon cables were flying between Teheran and Washington. Grim CIA agents swooped in to join the Iranian Army in hunting down the renegade Lincoln.

The spoof was part of his humor. A non-conformist during one of America's most rigid periods of conformity, he knew that a person couldn't take life too seriously if he were to keep his ideals and still survive. He had spent a good part of his youth riding the rails. He knew the icy feeling of being shot at by police. He had arrived at Columbia Law School with six cents in his pocket. Three times in later years opponents roiled the political waters in movements to impeach him.

As a result of his background, William O. Douglas spoke for the underdog. He saw



WILLIAM O. DOUGLAS in 1969 at age 70.

World Wide Photos

America's trees, rivers, and mountains abused because they had few willing to stand up in their defense. For them he articulated one of the most progressive environmental concepts of recent times: that the natural world should have legal rights. The idea is a capstone in the development of conservation thinking. While environmentalists applauded, exploiters and mossbacks howled with derision.

During his boyhood, doctors were helpless in the face of polio. The disease often killed or left its victims crippled for life. In 1901 at the age of three, Douglas felt his legs go numb until "they seemed almost detached, the property of someone else." The country doctor could do little. He recommended massages with salt water. Day after day the boy's mother kneaded the shrunken muscles.

As it turned out, he was among the fortunate. Months later the boy learned to walk again on his spindly legs. But the disease left scars. When Douglas reached his teens he couldn't bear the snickering of schoolmates at the pipestems that the traditional knee breeches of the day made a constant subject for ridicule. Added to this, his father, an itinerant Presbyterian minister, died when the boy was not yet six. The proud family was forced to live on the wrong side of Yakima's tracks. Without a successful day of scavenging in alleys and garbage cans for a few pennies' worth of junk, the two brothers and a sister might go to bed without food.

The boy became a loner. After a day of excelling at school, he'd cross the Northern Pacific's bridge, pass through the camps of the hoboes and Wobblies, and disappear

Mont. fights over Yellowstone water

Since March 1974, there has been a moratorium on allocations of water to large-scale diversions or impoundments in Montana's portion of the Yellowstone River drainage. Now, however, the moratorium is drawing to a close, and the decisions on allocations for energy, wildlife, fisheries, population growth, and agricultural water use will affect the future of southeastern Montana for many years to come.

The complex issue of who gets how much water is currently under study by the Montana Board of Natural Resources and Conservation (BNRC). The moratorium imposed by the legislature was originally intended to expire in March, 1977, but it has been extended until at least July 1978 (see accompanying story). It prohibits large

The Yellowstone River is not merely a 671-mile-long conduit carrying water rights.

water diversions from the river and its tributaries until all claims to the water have been reviewed by the BNRC.

First in line for these reviews are Montana's state and local political subdivisions, which are applying for water either for consumptive or in-stream uses. Once these requests are decided, the remaining water will be allocated to industrial users.

The subdivisions include cities, irrigation districts, and Montana state agencies.

Thirty-one subdivisions have applied with requests for varying amounts, topped off by the Department of Fish and Game's request for 8.2 million acre-feet (maf). The department's request represents 93% of the river's average per year flow of 8.8 maf. The 31 requests total more than twice as much water as that annual average flow.

Throughout the early jockeying for water, the energy industry has been an interested observer. Industry has filed claims on 2.6 maf in Montana to support its plans for coal development in the state. Though on the sidelines at this point, entering the deliberations only as an objector to the claims of others, energy companies clearly have an enormous stake in the outcome. Water for them is an indispensable

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HCN Letters

FOREST SERVICE EXCEPTIONS

Dear HCN,

I read your 12-2-77 article on "Oil Development Threatens Forest" and for the most part found it to be well done. There were, however, some statements that I took exception to and would like to clarify.

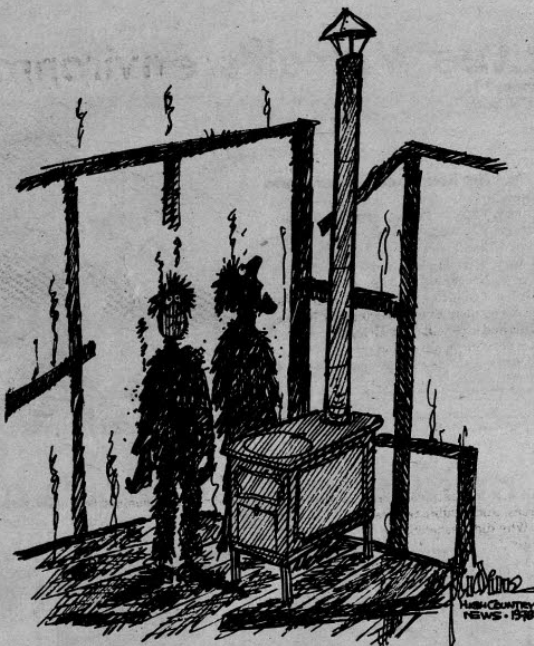
The first of these is that a company has "the right to disturb as much surface as necessary to drill and develop these leases." The Forest Service policy is to minimize the surface disturbance and resource conflicts of any development activity. Your statement implies that the companies can do what they please on the National Forest which, I assure you, is not the case.

In another, Bart Koehler is quoted as saying, "Oil and gas operations are in serious conflict with the multiple use concept of the National Forests." In a speech to the Independent Petroleum Association of America in Dallas, Texas, on October 24, 1977, Dr. Thomas C. Nelson, Deputy Chief, U.S. Forest Service, made it clear that the Forest Service considers oil and gas development on the National Forests part of multiple use. Further, he pointed out that Congress has repeatedly confirmed its intention that minerals (including oil and gas) will be available for development from National Forest land. In short, the National Forests will have a role in providing energy resources, and this is considered part of the multiple uses of the National Forest. Dr. Nelson did go on to say, however, that there are "qualifiers," and one of these was that, "no one interest can have all the leeway it wants."

The statement that "The agency has attached one or two stipulations to leases but, with two exceptions, these have not seriously inconvenienced lessees," plays down the importance of lease stipulations in protecting National Forest resources. What the "two exceptions" are that you refer to is not clear, but, certainly one of these must be the "no-occupancy" stipulation. There are lease stipulations available for nearly all resource protection situations, and I'm certain that most oil company officials do not agree with your statement that lease stipulations do not inconvenience the lessee.

Lastly, the "Forest Service official" who asked not to be identified, and who stated, "...I don't think you are going to see a lot more wilderness in the Bridger-Teton Forest. The most spectacular, scenic, and critical areas have already been designated. The areas they are looking at now are really second class," was certainly expressing personal opinion, and not an official position. We all know the Gros Ventre mountains, and some of the remaining roadless areas, such as the Salt and Wyoming ranges are dwarfed in comparison to Yellowstone and Teton Parks, and the Bridger and Teton Wilderness areas; but, when you compare the former places to areas being considered elsewhere in the nation for wilderness, they are definitely not "second class." Generally, in the past, a national perspective has been important in designation of wilderness areas.

Reid Jackson
Forest Supervisor
Bridger-Teton National Forest



"NOW THAT I BURNED THE CREOSOTE OUT, I SUPPOSE YOU'LL COMPLAIN ABOUT TOO MUCH DRAFT."

THANKS TO WILD, HICKS

Dear Friends,

Thanks for Peter Wild's essay on Ed Abbey in your issue of Dec. 30. Peter Wild is always a delight to read and Abbey an enigma to contemplate. What is so frustrating about Abbey, for those of us who admire him at least, is the fact that we can't categorize him. For instance, I can't accept the fact that a man who has the genuine love of wild places which Abbey obviously has, can toss his empties about with such abandon, or take such pride in having people know he does this. "Curmudgeon Edward Abbey" has helped me to explain many things.

My appreciation also for the Canada goose centerfold by Laney Hicks. For a long period in my life I experienced wintering flocks of thousands of Giant Canada Geese. Laney missed nothing in her portrayal of this family. Would it be selfish of me to ask if we might have more of Laney?

Ed Foss
Condon, Mont.

RESENTS ABBEY

Dear High Country News,

Unless the Peter Wild story: "Outrageous hero of dignified crusade" (HCN 12-30-77) was merely a free publicity gag to invite "kooks" to some stupid reaction, I see no merit in printing the article.

We do have a lot of irresponsible people who can be motivated by irresponsible media.

We have a serious problem with the Department of Water & Power in Inyo County and Mono County, Calif. They have been taken to court and have had the backing of conservation groups. DWO was pumping too much water and were cut back.

However, "hot heads" and irrational statements did motivate a couple of kids

and they stole dynamite and bombed the Alabama Gates near Lone Pine and caused several million gallons of water to waste on the desert. Yes, they were stupid and were caught.

The cause of conservation will be won by constant positive education, geared to real situations and truth. There will have to be compromises and you can't expect the American public to go back to agrarian economy days. It isn't realistic.

I resent the Edward Abbey story but do sympathize in the fact he had to go through the Vietnam War experience.

W. J. Worthington, Secretary
Committee to Protect the Ecology
of Inyo and Mono Counties

JACKSON'S HOLE DRILLING

Dear people at HCN,

Just now we are especially concerned about the oil exploration which is going on in the Jackson's Hole area since our summer cabin is the Jackpine Summer Home area on Granite Creek. A few years ago two exploratory wells were drilled about halfway up the canyon and later capped when they did not produce. The places were left cleaned up but, of course, the trees and flowers which had bloomed there could not be replaced.

Last summer another well which produced gas was drilled further down the creek. A bridge and road were put across the creek. They are still being used although the well was capped, and they had promised to remove the bridge. It is access for all sorts of vehicles. Now as you know, because you already have had one article on the situation, there is much increased activity, and apparently many people in the Jackson area are up in arms about what is taking place there.

Dorothy M. Vaile
Corona, Calif.

HIGH COUNTRY

By Jim Bell

Greetings in this new year of 1978 to all those friends and acquaintances who read HCN. And belated best wishes for a joyful, rewarding year ahead.

Life goes on apace here in what is once again a rainy Northwest. There isn't much question about it, the drought is broken. That is good news for people on the land. Next summer, there will be no agonizing over two-inch cracks in the garden and berry patches.

The year past has been a busy one. Yet, none of the major projects which I hoped to finish were completed. The solar greenhouse and attached aviary are still abuilding. Additions to the berry patches were held back because of the drought. Only a few peaches were added to the orchard.

I could not stay inactive in community affairs for long. Last April, I was elected to the Pine-Eagle School Board. It has been an eye-opening experience, as well as one which takes much time.

The three district school buildings (one high school, two elementary schools) are heated almost exclusively by electricity. They were built on the assumption that electricity was always going to be cheap. And construction methods were really slipshod. Water pipes run through unheated attics, above three to four inches of insulation. When freezing problems occurred, heat tapes were wrapped around many feet of exposed pipe. Some of those burned through and could have caused fires.

This may be a peach growing area but it still has temperatures that occasionally go below zero. The long-term average January temperature is 28 degrees. So it is obvious that the mistakes of the past must now be rectified — at much more cost to the taxpayer public.

A new 6,800 square foot vocational education building will be built so it can be retrofitted with solar heating panels. Even here where it is so cloudy in mid-winter, solar energy will someday be economical. It will also be fully insulated to new standards, and the windows will be thermopane.

The failure of the Carter Administration to get a national energy policy in 1977 was a big disappointment. In simplest terms, the American public is not yet ready to bite the bullet. Politicians won't press for or legislate an energy policy with teeth in it until the general public is good and ready. By the time that happens we may be well down the road to disaster.

But those big balance of trade payments for foreign oil may force some issues in the year ahead. Let us hope so.

One of the realities we have here on the land is the cost of inflation in the few things we need. We live as simply as we can and stretch our few dollars as far as possible. Yet, we seem to slip a little further behind each year. To add to our income, I have been doing some news writing and features for a local paper.

In spite of cares and problems, we look forward to a good year. The kids are healthy and happy. We never go to bed hungry or wanting. We have wonderful friends and neighbors. And ours is a productive, beautiful land. We are richly blessed. I hope each of you are, too.



© Carol Sore

West loses Lee Metcalf's environmental voice

by Robin Tawney

With the unexpected death of Sen. Lee Metcalf (D-Mont.) two weeks ago, conservationists lost one of their dearest friends in the U.S. Senate.

Metcalf was a "bear of a man," fiercely private and independent, yet one who could usually be counted on to advocate wilderness issues and to support other environmental legislation. "Usually," because, as the senator said shortly before his death, "I don't jump every time they (environmentalists) holler frog."

Metcalf made the wise use of natural resources one of his prime concerns during his 25 years in Congress. He was first elected to the House in 1952 and then joined former Majority Leader Mike Mansfield (D-Mont.) in the Senate in 1960. Metcalf was finishing his third term there when he died of a heart attack Jan. 12 at his home in Helena.

He had announced his intention not to seek re-election to the Senate seat, but Metcalf was determined not to let that decision make him a "lame duck" in his legislative work. When Congress resumed its chores on Jan. 19, Metcalf had planned to

be there pushing for what he said were his last "objectives for wilderness in Montana." He was planning to introduce legislation for a Great Bear Wilderness, linking Glacier National Park with the Bob Marshall-Sagegoat wilderness areas and providing his favorite wild animal, the grizzly bear, with vital habitat. It is uncertain now whether this legislation will find a sponsor this session.

This session, Metcalf also hoped to see Congress pass his bill calling for the creation of a unified Absaroka-Beartooth Wilderness, more than 900,000 acres in size. This and other bills Metcalf had introduced are very much alive, but they will require strong support from other senators — and from Metcalf's replacement, Paul Hatfield (D), a former chief justice of the Montana Supreme Court.

Metcalf also planned to hold hearings this month on one of the most important environmental questions facing Congress — his bill to set aside 120 million acres of Alaska for national parks, wilderness areas, and wildlife refuges.

Why did a senator from Montana introduce the Alaska National Interior Lands Act? Because the "senators from Alaska are of the Melcher (Sen. John Melcher, D-Mont.) philosophy," he said recently. That is, he explained, they don't believe in setting aside land for wilderness. And, the bill had to be introduced by someone on the Senate Natural Resources and Energy Committee. Metcalf served on that committee.

The senator also was ready to again take up the fight against deregulation of natural gas prices as a member of the joint House-Senate conference committee on energy. Before the holiday recess, the committee was hopelessly deadlocked 9-9 on the pricing issue. The senator who suc-



Photo by Thomas Kotynski, Great Falls Tribune
SEN. LEE METCALF, a "bear of a man."

ceeds him on that committee could end the stalemate, or continue Metcalf's hard line on natural gas pricing.

Metcalf also initiated the Montana Wilderness Study Bill (S. 393) and wilderness legislation for Montana's Elkhorns and Spanish Peaks, although he hadn't expected them to be passed before he retired.

Metcalf left a legacy of important environmental legislation. Among his accomplishments:

—Inclusion of more than 150 miles of the Missouri River in the National Wild and Scenic Rivers System. After Metcalf struggled for wild river status in three sessions of Congress, the river was finally added in 1976.

—Continued opposition to investor-owned utilities. Throughout his more than two decades in Congress, Metcalf attacked

the utilities for reaping excess profits and argued over their rate structures. Much of his research and prodding led in 1967 to *Overcharge*, a book he co-authored with his former aide, Vic Reinemer.

—Passage of the Wilderness Act which he co-sponsored in 1964 and efforts to reform management practices on the national forests.

For these and other efforts, Metcalf received dozens of conservation awards.

His interest in wilderness began in the Bitterroot Valley of western Montana where he was born on Jan. 28, 1911. Although, in later years, heart trouble and a crippling knee injury prohibited Metcalf from traveling farther than a quarter-mile from any road, he remained a staunch supporter of wilderness.

Quarrelling with those who say wilderness designation unfairly excludes the elderly and the handicapped, he said recently, "The way to deny it (wilderness) to everybody is to cut all the trees down and to not have a wilderness... People who are physically disabled are always going to be disadvantaged whether there's wilderness or national forest. The worst disadvantage is not to have any wilderness at all."

His efforts on behalf of wilderness and the grizzly showed the depth of this commitment.

Reminiscing about his wilderness battles over the last two decades, Metcalf said, "It will be a long time before there is another senator from Montana who has the special interest in wilderness that I have had."

Indeed, it probably will be.

Robin Tawney is a Montana conservationist and free-lance writer.



Swashbuckling unwise in our precarious era

Environmentalists are sometimes seen as the sour, but quaint, advocates of practices rendered obsolete by the modern supermarket. While the modern world rolls on, many of them are busily canning, bread baking, bartering, and gardening. They seem like living anachronisms, better understood by their grandparents than by their contemporaries.

David Brower, one of their most eloquent leaders, explains the behavior by saying that when you're on the edge of an abyss, the only progressive step is backwards.

Most of us at High Country News and most of our readers are a part of this paradox. As we have gained the power to manipulate the world around us, we have lost the passion and vision of our forbears. So we skim the past for what we find of lasting value. While we cannot escape from

our own era, we do try to elevate its quality.

Some say we need the past because we've become too clever for our own good. We must retreat to an age when we didn't know about atomic bombs, pesticides, and the internal combustion engine.

Dr. Lewis Thomas says, to the contrary, that our problems stem from our not being clever enough. Despite our technological advancement, we are still confused by the world and our relationship to it, he says. We've only recently grown smart enough to see this. We are still children, big enough to wield dazzling tools, but not wise enough to foresee the consequences.

It's a humbling, frustrating, and frightening realization. Those who have experienced it mystify those who haven't. The enlightened are seen by the rest of society as people who have lost their nerve and must seek refuge in the past.

In an article in the Jan. 2 issue of *The New Yorker*, Thomas, M.D. and author of *Lives of a Cell: Notes of a Biology Watcher*, calls the nation's current uneasiness a sign of "cultural stress." He attributes it in part to our ignorance "about how we work, and where we fit in, and most of all about the enormous, imponderable system of life in which we are embedded as working parts. We do not really understand nature, at all."

"Not to downgrade us; we have come a long way indeed, just to have learned enough to become conscious of our ignorance. It is not so bad a thing to be totally ignorant; the hard thing is to be part way along toward real knowledge, far enough to be aware of being ignorant. It is embarrassing and depressing, and it is one of our troubles today."

Seen in the context of Thomas's "cultural stress," the thousands of environmentalists stepping back and saying we need to study the mysterious interconnectedness of things seem less anachronistic. In fact, the people shouting "wait" may be the most forward-looking of all citizens.

All around the country they are protesting the destruction of natural systems that are not fully understood. They choose not to be confident, swashbuckling moderns, because they know we have only a superficial, potentially dangerous understanding of the rules of life on this planet.

As Thomas says, "We need to know more, and there it is. To come to realize this is what this seemingly inconclusive century has been all about. We have discovered how to ask important questions, and how

we really do need, as an urgent matter, for the sake of our society and its culture, to obtain some answers."

If, then, environmentalists have been partly responsible for undermining the tower of confidence built by the industrial age, bless them. If they have chosen to live like their grandparents, there may be good reason. And if they have gone a step farther to immerse themselves in the step farther to answering the questions they've raised, then we should nurture them, for they offer hope for the future.

—JN

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Greetings from South Pole Station

Mike Boyles of McMurdo Station, Antarctica, writes that he enjoys reading High Country News and wishes it well for the years to come.

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Conservation pioneer series

Wm. O. Douglas

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into the foothills north of Yakima. On excursions over Mount Adams and Mount Rainier, he didn't walk — he ran — sometimes vomiting after the strain, but the muscles grew firm. Years later his speed, whether over the Himalayas or in the woods around Washington, D.C., was a steady five miles per hour, a match for his intellectual pace. Few could keep up in either category.

There is something Whitmanesque, something typically American, in the roughness and vision of his early years. Looking down on the lights of Yakima, feeling the warm chinook wind on his cheek, he sensed the "kindness of the universe to man," the "health and strength and courage" of the earth. In contrast, he saw the ugliness of life in town. A lawyer had squandered his father's life-insurance money, leaving the Douglas family destitute.

When he was a naive teen-ager, a self-righteous reformer hired him to spy along the brothels of Front Street. He saw his own poverty reflected in the people he met. As much as the family needed the income, he quit in shame. "In time I came to feel a warmth for all these miserable people, something I never felt for the high churchman who hired me. What orphanages had turned them out? Which of them had turned to prostitution and bootlegging as a result of grinding poverty?"

The words became a theme for his career. The future Supreme Court justice knew from hard experience that "the who has a long purse, will always have a lawyer, while the indigent will be without one." The heroes of his youth were the progressive leaders of the day: Hiram Johnson,

In 1922 Columbia Law School sent the Westerner a letter of acceptance. It was long before the days of the massive work-study programs and government loans that now help students. Columbia would admit him, but he'd have to make it on his own, far from his home base. Furthermore, he'd first have to cross the continent without digging too deeply into the \$75 he'd saved.

Luck was with him. A Yakima firm wanted someone to escort 2,000 sheep to market. He hopped a freight to Wenatchee, Wash., rendezvoused with the milling creatures, and "rode in style in the caboose" all the way to Chicago. Like Bernard DeVoto leaving Ogden, Utah, at about the same time for Northwestern University, the Westerner had dreams but not much else. As the sun set, he climbed to the top of the car and felt the tug of the orchards and sagebrush country flying past. He also knew the exhilaration of escape from "a dull and listless life," a sense of "going into battle in a strange and faraway place."

With his bleating charges safely delivered in Chicago, he hitched a ride on a boxcar to the East, arriving in New York "hungry, dead-tired, homesick, broke, and bruised." Three years later, armed with his law degree, he was working for a Wall Street firm. Then Yale asked him to join its faculty.

In a few years, Douglas had made a name for himself in the specialties of corporate finance and bankruptcy — the latter a booming field after the crash of 1929. Private institutions and government agencies hired him to study the economic paralysis of the world's richest nation.

In 1936 President Franklin Delano Roosevelt appointed him to the Securities and Exchange Commission. Two years later he was its chairman, responsible in part for bringing order to the nation's chaotic financial system. From Washington, D.C., he saw on a larger scale the same corruption and exploitation that had disgusted him in Yakima. To put a stop to the scandals that had preceded the depression, he reorganized the New York Stock Exchange. His new SEC regulations offered protection to the country's small investors — who reminded Douglas of the Cascades' golden-mantled ground squirrel: numerous and easily preyed upon.

It was a rough, exposed job, but he showed financiers that he had instituted a new order. At a large dinner in New York the SEC chairman bluntly told "the masters of Wall Street" that they were "still fighting for opportunities to exploit the unsuspecting public" and assured them that his job was "to make sure they did not suc-



Library of Congress photo
WILLIAM O. DOUGLAS couldn't exist without wilderness. A "driving force" led him into America's mountains.

founded, the man who not many years earlier had chaperoned a trainload of sheep to reach law school began a service of 36 years on the bench — the longest, and certainly one of the most controversial, in the court's history.

His success throughout his active, stormy life has been due perhaps as much to the good fortune that came his way as to his brilliance and drive. The early bout with polio left him scarred but determined. Once, because he couldn't pay the dollar bribe to stay aboard, a conductor forced him to jump into the darkness from a speeding freight. The iron arm of a switch nearly impaled him. Luck was with him again in 1949. A horse pitched the 50-year-old justice off a trail in the Cascades, then came rolling down over him. The accident broke all his ribs except one, but Douglas survived.

In 1970 Gerald Ford, Spiro Agnew, and Richard Nixon fueled the last effort to impeach him. As evidence of his improprieties they offered a feisty but not very good Douglas book, *Points Of Rebellion*. In retrospect at least, it seems that Douglas is one of those periodically brought to the brink, only to be plucked back chuckling and strengthened, if not richer.

All his life the justice couldn't exist without wilderness; "a driving force" compelled him into America's mountains. Yet with other hikers, especially after World War II, he saw clear cuts, dams, highways — the blind destruction of what he had

loved from boyhood. "Man took the wealth and left only the ashes of the wondrous earth for those who followed," he observed.

His high position in Washington gave him a unique opportunity to see the process at work — and to do something about it. Just as at SEC he had criticized the political and economic system that tended to benefit influential insiders, he saw that "The public domain was up for grabs and its riches were being dispersed by the federal bureaucracy to a favored few."

To him a stand for conservation grew naturally from his broad commitment to civil rights applied equally to all. And that meant not universal exploitation but preservation; future generations had their rights too.

Many of his more than 25 books — *A Wilderness Bill Of Rights*, *Muir Of The Mountains*, *Farewell to Texas: A Vanishing Wilderness* — deal with the country's natural heritage and the national shame of its loss. But he went beyond writing. Though opponents criticized him

Rarely has a high government official dared to take such exposed positions for the environment.

for his liberal interpretations of the Bill of Rights — and for the succession of four attractive and youthful wives — Douglas enjoyed his role as maverick among Washington's conformists. In all likelihood to his own delight, he added to their list of "improprieties" his activism for the environment.

Often in scuffed boots and a battered Western hat, he marched with other conservationists. He spoke in favor of salmon and Canada geese and against dams on the Columbia River — in favor of protecting the Wind River Mountains from poisoning by the Fish and Wildlife Service — in favor of natural forests and against Park Service designs to build cities in Yellowstone.

Waving to TV cameras, he joined Olaus Murie on a 180-mile protest hike down the right-of-way of the old C & O canal outside Washington, D.C., and saved the green strip from freeway builders. Perhaps not since Gifford Pinchot had a high government official dared to take such exposed positions for the environment. In 1910 President Robert Taft had fired Pinchot for the risk. Impeachment, however, is needed to remove a court justice — a tactic that the opposition never was able to bring off.

Despite the effective activism, his most original and enduring contribution to conservation is in jurisprudence: the assertion that natural objects should have legal rights. His dissent in *Sierra Club v. Morton* embedded in the legal tradition an attitude going back at least to Thoreau and Muir in the last century and set forth by Aldo Leopold's "Land Ethic" in this one. It is a culmination in environmental thinking, a shift from Pinchot's early utilitarianism to the expanded view that man should live in harmony with nature rather than devote his energies to exploiting it.

Furthermore, as is of utmost importance in the courtroom, the concept is based on a long and solid line of precedents, many of them taken for granted in business affairs. In strictly legal terms, Douglas saw it as a tool for environmentalists, so often losing to monied interests, to increase their leverage in defense of the earth.

Gradually, over the centuries, civilization has extended rights to the disenfranchised, to women, children, slaves. For

(continued on page 5)

He articulated one of the most progressive environmental concepts of recent times: that the natural world should have legal rights.

reform governor of California: William Borah, senator from Idaho; and Gifford Pinchot of the Forest Service — those who formed a counter tradition of responsibility both toward nature and their fellow men.

Whitman College offered a tuition scholarship, and September 1916 found the high-school valedictorian pumping his bicycle the 165 miles to Walla Walla. Four years later the new graduate was teaching English, Latin, and public speaking, and leading Boy Scouts on forays from his home town. His mother, feeling a modicum of financial comfort for the first time in years, wanted him to secure the family's future by becoming a high school principal, but the young teacher was restless. He spent off hours in Yakima's federal courtroom. Watching the local lawyers perform, he decided he could "be a match for any of them."

ced." The honesty made enemies, but Douglas pressed the work, proud of the example that his staff was setting for the country's businessmen. As a matter of policy, his 1,800 men and women politely turned down all industry invitations for free lunches and weekends on yachts.

His straightforward style caught the eye of Roosevelt, who was holding the shaking system together with his New Deal. One spring Sunday in 1939 a caddy with a message from the President came puffing up to a foursome at the Manor Country Club. Douglas was busy scheming to win his weekly 50 cents; he always managed to talk partners into a few handicap strokes. This game would have to wait. Justice Louis Brandeis had retired, and Roosevelt wanted a Westerner to give geographical balance to the Supreme Court. Dumb-

Wm. O. Douglas...

(continued from page 4)

the most part, however, a person may do as he wishes with his land. A company may level an entire forest, regardless of consequences to future generations. Yet due to abuse of the earth, civilization now faces the very issue of survival. The solution lies in extending the social conscience from humans to the planet which supports them.

Leopold sums up the concept: "The extension of ethics to this... human environment is... an evolutionary possibility and an ecological necessity.... Individual thinkers since the days of Ezekiel and Isaiah have asserted that the despoliation of land is not only inexpedient but wrong. Society, however, has not yet affirmed their belief. I regard the present conservation movement as the embryo of such an affirmation."

The specific legal issue involved in *Sierra v. Morton* was "standing" — the right to sue. The Sierra Club went to court to preserve Mineral King Valley, part of the Sequoia National Forest, from the 20 ski lifts, 10 restaurants, and parking lots proposed by Walt Disney Productions. In 1972 the Supreme Court handed down a four to three decision, ruling that the Club had no legal right to come to the defense of Mineral King.

In dissent Douglas pointed out that the issue was not the rights of the Sierra Club, Walt Disney, or the government. The crux of the matter was the right of the valley to exist. The suit should not be called *Sierra Club v. Morton* but *Mineral King v. Morton* — a shift of perspective that would

change the entire complexion of the case.

For purposes of the law, he continued, the courts regularly treat ships and corporations and other inanimate objects as personalities, granting them standing and other rights. Yet ships and corporations are expendable. Why not also extend the rights to the nature on which the country depends for its very existence?

"So it would be as respects valleys, alpine meadows, rivers, lakes, estuaries, beaches, ridges, groves of trees, swampland, or even air that feels the destructive pressures of modern technology.... Those people who have a meaningful relation to that body of water — whether it be a fisherman, a canoeist, a zoologist, or a logger — must be able to speak for the values which the river represents and which are threatened with destruction."

The thinking has a special beauty in the eyes of environmentalists. If generally accepted by the courts — as seems to be the trend — it would strengthen environmentalists' legal position as advocates for the earth. Even as he retired in 1975 at the age of 77, Douglas viewed the law not as a rigid abstraction but as a reflection of a society's progress.

In Should Trees Have Standing
California law professor Christopher D. Stone gives the Court decisions on the watershed case and a lucid discussion of its legal and ethical background. *Go East Young Man* reflects Douglas' spirit through his early years on the Supreme Court. Currently he is working on the second half of his autobiography.

Moratorium extension pleases all

by Robin Tawney

Virtually all parties involved in the controversial Yellowstone River water hearings agree on one thing: the extension of the moratorium on industrial water use permits until at least mid-July was absolutely necessary.

"It would have been a travesty if we'd tried to make a decision by the Jan. 1, (1978) deadline," says Cecil Weeding, chairman of the Montana Board of Natural Resources and Conservation (BNRC). "Hopefully, it'll be a more studied decision that we'll render."

Prior to the extension granted by the state Supreme Court in mid-December, the board was overwhelmed by the problems of allocating water to over 300 public bodies to reserve it for fish, wildlife, irrigation, and municipal uses. Once these reservations are decided, the state will begin processing industrial water requests.

The court reasoned that preparing a complete and accurate transcript in the short time allowed last fall was nearly impossible. The Montana chapter of Trout Unlimited and the state Department of Fish and Game requested the extension. They told the court that they found many errors in the 36-volume transcript. They argued that there was not enough time for all parties to proffand the massive record, nor to allow the board to study the material before reaching a decision.

"It's frustrating to see an administrative procedure so protracted," says Urban Roth, attorney for Utah International, one of the objectors involved in the hearing, "but we do want an accurate record."

BNRC completed an eight-week hearing on the water requests by the public bodies on Sept. 30. Under the moratorium schedule then in effect, the board would have had just 10 days to deliberate and

make a decision because of the complicated legal procedures required. Now, with the Supreme Court ruling, the schedule for completing these maneuvers is opened, although most parties believe the issue will be resolved within six months. The final decisions could be delayed beyond that time, but, according to the law, the court may not extend the moratorium beyond Jan. 15, 1979.

"The benefit of the extension goes to all the applicants," according to Mona Jamison, attorney for the Department of Health and Environmental Sciences. The health department has applied for 6.4 million acre-feet (maf) of water.

NOT CRITICAL

James Edgerley, manager of mineral acquisition for Utah International, says "at this time six months isn't critical" to his company's plans to construct massive coal and water development projects on the

Powder River, a Yellowstone tributary.

Jack Adams, manager of Intake Water Co., says the extension won't "affect our position to any degree." He says construction of an Intake reservoir planned along the Powder River at Moorhead, Mont., couldn't begin before 1982 or 1983 anyway.

"I always think a studied decision is a better decision," he says.

Irrigation projects planned by the conservation districts, which applied for about one maf of Yellowstone water, also are unaffected by the court's decision, according to Gary Spaeth, attorney for the conservation districts. He says the districts, which are a division of the Department of Natural Resources and Conservation, operate under 30-year plans, so a six-month delay won't affect them.

Board Chairman Weeding is grateful for the additional time: "This is one of the most important decisions the state will have to confront. It is more important to more people and has longer implications than any other decision we've made."

1978 Yellowstone moratorium schedule

—Thirty days after receiving the Supreme Court order (Jan. 19), all parties must file with the hearing examiner objections, exceptions, suggestions, or corrections to the transcript and record.

—All parties have 10 days (until Jan. 29) to respond to the objections, exceptions, suggestions, or corrections filed by their opponents in the hearing.

—The hearing examiner has 30 days (until early March) to assemble a true and accurate transcript and record and deliver them to the board and to all parties. He may hold a hearing on the objections, exceptions, suggestions, or corrections during this time.

—All parties have 30 days (until early April) to file proposed findings of fact and

conclusions of law relating to the hearing transcript and record.

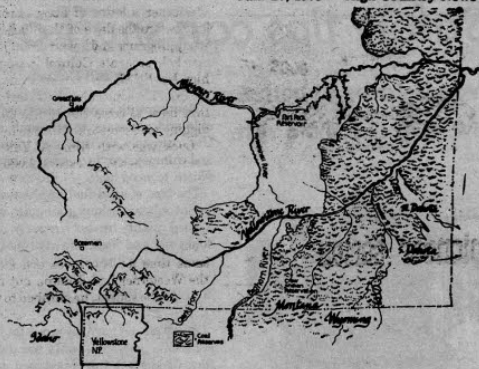
—All parties have 10 days (until mid-April) to serve and file objections to the proposed findings and conclusions of their opponents.

—The Board of Natural Resources and Conservation has 60 days (until mid-June) in which to deliberate on all the above.

—The board has 27 additional days (until mid-July) to reach its decision.

Note: These time limits are minimums. The hearing examiner may apply to the court for extensions if he feels they are needed. However, by law, the moratorium must end Jan. 15, 1979.

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Yellowstone...

(continued from page 1)

tool that turns coal into gas or electricity or moves coal away from a strip mine through a slurry pipeline.

One reason why the Yellowstone River controversy has generated so much interest among environmentalists is that the river is the largest free-flowing river in the lower 48 states. They fear the impact that both dams and lowered flows could have.

42 POWER PLANTS

In 1971, the North Central Power Study was made available for public review. The

report stated that the demand for electrical power in the U.S. would double every 10 years. Therefore, it would be necessary to construct 42 coal-burning power plants — half of them situated in Montana's Powder River, Rosebud, and Big Horn counties.

In order to assure the power plants a constant supply of water, dams, reservoirs, and aqueducts would be constructed. An estimated 2.6 maf of Montana water per year would be drawn from the river to meet the energy industry need.

A problem with this plan, which had been prepared under the direction of the U.S. Bureau of Reclamation, soon became obvious. In an average year, the amount of water the bureau estimated industry would need would be equal to approximately one-third of the average flow of 8.8 million acre-feet of water in the Yellowstone. But, in a drought year — and in 1961, this low was measured at 4.2 maf — the amount needed would be 50% or more of the total river flow.

So far, the development predicted by the North Central Power Study has not come to pass. The energy companies are prepared if it does, however. At present, those companies interested in Montana and Wyoming coal have filed for, optioned, requested, and in several cases, filed lawsuits to get, 3.32 maf — or over 35% of the water both in the Montana and Wyoming sections of the Yellowstone drainage.

When evidence of the demand for water became clear, the state legislature decided that the traditional uses should be quantified. Water for domestic use, agriculture, irrigation, municipal power, and future growth will place limits on future allocations for energy.

The quantification of traditional water use is further complicated by the fact that Montana lacks records of some existing rights to its water. Before 1973, Montana water was allocated on a first-come-first-served basis. All an applicant had to do was put water to a "beneficial use," and, if water was available, the allocation was granted. These early allocations have been sold, traded, or transferred without being recorded in any centralized system.

A 1974 law required uniform statewide permit systems for future appropriations, a centralized system of files for assigned rights, and an inventory of existing rights. At this point, under the grace of the moratorium, the Board of Natural Resources undertook the task of identifying the traditional and existing water rights and assessing the future needs of the state and local subdivisions.

In addition to traditional and energy demands upon Yellowstone water, there

(continued on page 7)

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Safety tips can snuff out woodburners' nightmares

Wood stoves at home:
how to make them safe



Franklin

Ed Note: Bill Eckert has been a wood stove dealer in Ft. Collins, Colo., for the past six years. He says he has been so alarmed by the number of unsafe installations he's seen that he has made wood-burning safety a personal crusade.

Every year Eckert sponsors a "Safe Installation of a Solid Fuel Appliance Contest" for people in the Ft. Collins area. First prize is \$100 and three books on wood burning. Eckert and the Ft. Collins fire chief act as judges. Every year he gets a "disappointing number" of entries, he says. This year he received a dozen.

But just because people in the Ft. Collins area apparently are not excited about safety doesn't mean they aren't buying an increasing number of wood stoves, Eckert says.

During his first year in business he only sold three, but last year he sold about 260 stoves, and "there's no end to it in sight," he says. Even when solar heating is in widespread use, wood stoves will be in demand as a backup heat source, Eckert says. In fact, one major stove manufacturer, Riteway, is developing a solar heater to be used in combination with its stoves.

If wood stoves come into widespread use, what about air pollution problems in cities and towns? Missoula, Mont., and Aspen and Telluride, Colo., have all reported serious smog problems created by wood burners.

Eckert claims "it's how you burn the wood that makes all the difference." Most air pollution problems created by homeowners burning wood have been attributable to fireplaces, not wood stoves, he says. He says that in terms of particulate emissions, wood stoves are generally 99% cleaner than fireplaces.

To promote wood burning safety to a larger number of people than he can reach through his contest, Eckert offers a brief, free "Incomplete List of Solid Fuel Appliance Installation and Use Thoughts." To get a copy, send a self-addressed, stamped envelope to: Friendly Fire, Inc., 1804 LaPorte Ave., Fort Collins, Colo. 80521.

by Bill Eckert

Heating with wood is becoming fashionable and necessary to economic survival. Unfortunately, the tendency toward house and chimney fires increases as soon as you switch to wood heat.

The best of solid-fuel appliances can be potentially hazardous if sloppily installed. A good quality heater properly installed, operated and well maintained should never cause a fire-related loss, however.

CREOSOTE

Every person burning wood for heat has a creosote problem — only the degree differs. Creosote is the condensed acids and gases found in wood smoke. Creosote may be watery or tar-like, sticky or solid. Creosote can ignite and burn intensely if exposed to enough heat. The best way to reduce creosote-caused problems is to burn seasoned (dry) wood — wood with a moisture content of 20% or less. Wood can be too wet for use, but not too dry. Most wood stove dealers have moisture meters, which can measure the moisture content of your wood pile.

About the only other way to limit creosote buildup is to keep the exhaust gases at the highest possible temperature until they reach free atmosphere. Essentially, the way to do this is to insulate the flue. If a masonry chimney is used, an interior wall is always preferred to an exterior wall. If you don't have a masonry chimney, a manufactured insulated chimney should always be used upon penetration of a wall, ceiling, or roof. Once you begin with insulated pipe, continue the insulation through the roof.

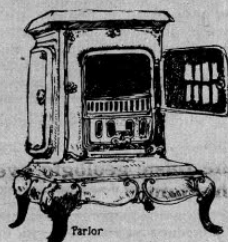
Many manufacturers of air-tight and thermostatically-controlled heaters are

now recommending against triple-wall air cooled flue pipe, which brings in outside air to cool the flue. This chills the already relatively cool exhaust gases, thereby causing a greater tendency toward creosote formation. Triple-wall flue pipe is an excellent product when used to cool down the very hot exhaust gases of open fireplaces and Franklins, but is too effective for the more modern efficient heaters.

An effective, less expensive insulated flue can be home-made from a six-inch flue (blue, black or stainless steel) wrapped with 3½-inch rock wool batts and covered with 10-inch galvanized pipe. I have used such a pipe for years and have had it inspected by three fire departments. The only drawback is that such a flue may not meet your local fire code.

FLUE PIPE

When purchasing a single-wall flue pipe, avoid galvanized or aluminum pipe for any solid-fuel appliance. (The zinc coating on galvanized metal may give off toxic fumes at temperatures commonly reached by wood exhaust gases. Aluminum will not



Parlor

withstand the high temperatures.) Use blue, black, or stainless steel.

Single-wall pipe should be at least 28 gauge and smooth. Thirty gauge (which is thinner than 28) is commonly used, but it won't last. Avoid corrugated pipe. Its ridges give creosote additional surfaces to cling to.

One flue per appliance, please. Plan on cleaning your flues at least yearly. If your wood is wet, clean the flue more frequently. The only effective method of cleaning is with a chimney brush.

SAFE DISTANCES

National Fire Protection Association Standard 211, originally written in 1935, is the basis for many of most building fire codes. The standard is so complicated and vague, it is no wonder codes differ from city to city. N.F.P.A. Bulletin No. HS-8194 "Using Coal and Wood Stoves Safely" is a much more concise and informative publication. The figures in Table 1, showing safe clearance distances around stoves, are taken from this publication.

An adequate heat shield can lessen distances to combustible surfaces if correctly installed. But brick, stone, or asbestos do not protect any combustible surface if they touch that surface. To function properly, a heat shield must not be connected to or applied directly to a wall. Placement of a heat shield one inch from a wall, ceiling, and floor will provide a moving, cooling air wash between the heat shield and the combustible surface. Remember, solid masonry is the only non-combustible surface.

Routinely inspect your entire installation carefully: the heater itself, the flue (inside and out), heat shields and/or surrounding surfaces.

Memorize and follow manufacturer's instructions before starting the first fire. (continued on page 7)

AN INCOMPLETE LIST OF SOLID FUEL APPLIANCE INSTALLATION & USE THOUGHTS

by Bill Eckert
Friendly Fire, Inc.

1. Every home needs a fire extinguisher and smoke detector. Placement should be near, not above, a potential trouble spot.
2. Incorrect installations (non-code) will void some insurance policies and be potentially lethal.
3. Use only dry wood (20% moisture content or less) — no exceptions. Green (wet) wood produces creosote headaches, fewer BTUs, and corrodes flues rapidly.
4. Read Modern And Classic Wood-burning Stoves by Bob & Carol Ross.
5. Rule of thumb applicable to all thermostatically controlled wood burning appliances: maintain exhaust gases at highest possible temperature until they reach free atmosphere, thereby promoting constant draft and lessening creosote production.
6. Highly efficient airtight and/or thermostatically controlled appliances have relatively cool exhaust temperatures. Therefore, triple-wall flue pipe is not suitable and cannot be used. Triple-wall is a fine, efficient product that must be reserved for high temperature exhaust units like Franklins or fireplaces.
7. Galvanized or aluminum pipe should not be used for solid fuel appliances. The zinc coating on galvanized pipe will melt and possibly create noxious fumes when exposed to the high temperatures of a solid fuel burner. Aluminum pipe can melt.
8. Twenty-eight gauge, smooth pipe minimum acceptable; the higher price for 24 gauge is more than offset by its increased longevity. Thirty gauge and/or corrugated pipe is no good.
9. One separate flue per appliance.

10. Crimped ends of pipe should always point toward appliances so creosote, if any, will stay in pipe.

11. Number of elbows and bends must be minimal. Adjustable elbows tend to leak smoke and/or creosote.

12. You must start insulating a flue upon entering a wall, ceiling, or roof. Once you start insulating, you must continue to free atmosphere.

13. Rock wool and vermiculite are the only insulating mediums commonly available that will last in contact with flue pipe. These have limits also.

14. Flue pipe should never be absolutely horizontal — ¼ to ½ in. rise per foot of run is recommended.

15. Metal chimneys need to be guyed or braced every four feet outdoors.

16. Single-wall flue pipe should be secured by three sheet metal screws or pop rivets at each joint. Sealing each joint with "Silver Seal" is recommended.

17. Top of flue must be two feet higher than anything within 10 feet.

18. Before using coal, make sure your appliance is so rated.

19. Most thermostatically controlled wood burners forbid use of dampers.

20. Any solid fuel radiant appliance must be 36 in. from any combustible surface. A heat shield of 28 gauge metal can lessen distance to 12 in. A heat shield of asbestos millboard will lessen the 36 in. requirement to 18 in. All heat shields must be spaced one inch from wall, ceiling, and floor.

21. Single-wall flue pipe must be kept at least 18 in. from any combustible surface.

22. All solid fuel appliances must be placed upon a non-combustible surface. Hearth must extend 12 in. from sides and rear of heater and 18 in. in front.

23. A solid masonry wall is the only wall where clearances are not critical.

24. Brick, stone, or asbestos do not protect

a combustible surface if they touch that surface.

25. "Z-Brick," while non-combustible by itself, is not a heat shield and will not protect any combustible surface.

26. Operate any appliance "wide open" for short periods — regularly.

27. Always locate each radiant heater as centrally as possible in whatever room or house.

28. Regularly and routinely inspect your entire installation carefully — the heater itself, the flue (inside and out), heat shields, and/or surrounding surfaces.

29. Plan on mechanical cleaning (with a special brush) of all flues at least yearly.

30. Use no chemicals to clean any flue.

31. Never burn a manufactured sawdust log in anything except an open fireplace.

32. Memorize and follow manufacturer's instructions before starting the first fire. Failure to follow manufacturer's instructions will usually void the warranty.

33. Most people are concerned about duration of burn. The best way to achieve long burn times is to purchase a heater with the largest possible firebox. With soft woods for fuel, the importance of firebox capacity cannot be overemphasized.

34. Choose a dealer owning (for your use) a flue temperature gauge, draft gauge, and moisture meter.

35. Plant a seedling (hardwood) for every cord of wood consumed.

SOURCES: Installation manuals of numerous and varied heater manufacturers, Uniform Building Code, Uniform Mechanical Code, National Fire Protection Association No. HS-8 1974, NFPA Standard No. 211, NFPA Standard 89M, and Norwegian Chimney Sweep Guild.

For more information, contact Bill Eckert, Friendly Fire, Inc., 1804 LaPorte Ave., Fort Collins, Colo. 80521, (303) 484-8593.



Photo by Mike McClure

Wood nightmares. . .

(continued from page 6)

Most warranties are worded so as to void the warranty entirely if instructions are not followed.

LITERATURE

There is much literature appearing currently — some good, some bad. There are two books that I consider required reading: *Modern And Classic Wood-burning Stoves* by Bob and Carol Ross,

available from Overlook Press, Lewis Hollow Road, Woodstock, New York, 12498 and *The Woodburner's Encyclopedia* by Shelton and Shapiro, available from Jay Shelton, 41 Belden St., Williamstown, Mass. 01267.

DEALERS

If you are in the market for a stove, avoid stores where stoves are a seasonal sideline.

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TYPE HEATER	ABOVE TOP	FROM FRONT	FROM SIDES	FROM BACK
Room Heater	36"	36"	36"	36"
Cookstove, clay lined firepot	30"		Firing Side 24" Opposite side 18"	24"
Cookstove, unlined firepot	30"		36"	18" 36"

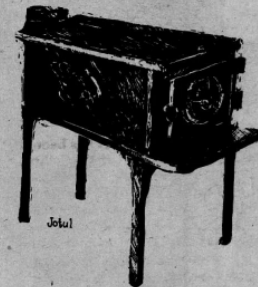
Inquire about your dealer's credentials and qualifications. Does he or she own (for your use) a flue-temperature gauge, a draft gauge, and moisture meter? Is he or she factory-trained? Can your dealer intelligently discuss the features of competitive brands? Can your dealer answer all questions honestly, to your satisfaction? Will your dealer let you talk to any one of his customers? Insist your dealer prove all claims and demand your money back for unfulfilled promises.

Compare units, buy whatever you feel is the best (surprisingly some of the best are not the most expensive), then don't skimp on the installation. Don't be surprised if the installation costs exceed the heater cost.

BEWARE

Before the first fire in your new heater, your home should have at least one fire extinguisher and smoke detector. Of course, you should know how to operate each.

To quote The Vermont Woodstove Company: "Proper installation and operation are clearly the owner's responsibility."



Jotul

Yellowstone. . .

(continued from page 5)

are several other water rights that must be considered. One of these involves the right of Indian tribes to use the water that flows through or by their reservation. Another demand that is newly-recognized by the state is that of the river itself — the need for instream flows to maintain the ecosystem.

In 1973, when the Montana Water Use Act was passed, the protection of fish and wildlife became a "beneficial use" of water. For the first time, the state Department of Fish and Game was given grounds for requesting water rights for the Yellowstone and its natural environment. After several years of research to determine how much water was necessary to insure the survival of the Yellowstone ecosystem, the department came up with the figure 8.2 maf.

The department's application is based on the average annual flow of the river, but river flows will sometimes actually be above or below this. Nature does not demand a constant quantity of water to maintain balance, but a power plant would.

The department launched an intensive publicity campaign to gather public support for its claim. The ultimate success of this effort is still unknown, but the allocation request has generated heated criticism. Virtually all major agricultural groups have opposed it — one saying in testimony before the BNRC that it was "ridiculous." Industry is also concerned that the request, if granted, would quash its plans.

MINING CAN GO ON

The actual mining of Montana coal would not be very sharply curbed by the outcome of the Yellowstone hearings. Coal mining itself does not require large amounts of water. The demand for water comes with a new coal-fired power plant, coal gasification plant, or slurry pipeline (although water for slurry to export coal is

A Montana Fish and Game official claims that the impact of the decision "will be second only to the basic geologic events that actually shaped this land."

not now considered a "beneficial use" by Montana). Additional demands for water come with the arrival of construction workers and employees to operate the energy facilities and the multiplying population that will service these workers: the doctor, dentist, grocer, barber, teacher, and their families.

At present, coal developments in Wyoming are outpacing those in Montana, and this growth is expected to create an industrial need for Wyoming's share of the Yellowstone water. According to the Yellowstone Compact, ratified in 1951, about 51% of the Yellowstone drainage is in Wyoming and 48% is in Montana. Wyoming estimates its share of the Yellowstone River to be about 27% of the average annual flow. Because most of Wyoming's water originates in basins other than the area of major coal development, Yellowstone water for Wyoming energy development would have to be drawn out of the Yellowstone basin and piped to the mine or plant site. Article X of the compact prohibits such a diversion of water unless both Montana and Wyoming agree. However, the two states cannot reach agreement on the amount of water each is entitled to.

Nevertheless, proposals for bringing the water to industrial sites in Wyoming include piping water from Yellowstone Dam on the Big Horn River (the major tributary of the Yellowstone); storing water north of Miles City, Mont., and piping it south; or letting it pass downstream and taking it out somewhere along the Missouri River, then sending it westward to Wyoming's coal fields.

VITAL PROCEEDING

There is a lawsuit in progress that could have a significant impact on the Yellowstone allocations. The Environmental De-

fense Fund (EDF) and a coalition of environmental, wildlife, and agricultural organizations have sued the U.S. Interior Department's Bureau of Reclamation to set aside several industrial water options. EDF charges, in effect, that when BuRec sold water options to the energy industry in

the late 1960s and early 1970s under a government industrial water program no longer in effect, the agency did so illegally.

The bureau's Congressional mandate, EDF claims, is to provide water for agriculture. Its original constituencies were farmers and ranchers. Therefore, if the bureau wants to change its policies and sell the water to the energy industry, it should go back to Congress and obtain its approval for a complete change in the water program. Although the state of Montana intervened on behalf of EDF, the court ruled against the plaintiffs. The decision is now being appealed.

As the extension time for the moratorium draws to a close, opposition to water for energy development continues to grow. Groups such as the Environmental Information Center in Helena, Mont., have cautioned the board against considering all pending applications for water on a case-by-case basis and have urged the board instead to view the overall effect upon the river before making their decision. The ultimate impact of this decision, claims James Posewitz of the Montana Fish and Game Department, "will be second only to the basic geologic events that actually shaped this land."

The Yellowstone River is not merely a 671-mile-long conduit carrying water rights. It is also the running history of explorers, trappers, fur traders, and flatboats that opened up the West. It is the cavalry and Custer, Indian raids, Colter, and Clark. It is deer, bear, elk, buffalo, graying, grouse, ducks, beaver, and pink-bellied rainbow trout. It is a 671-mile mixture of myth, history, and abundant wildlife that has unhesitatingly accommodated all comers — until now.

The energy, agriculture, municipalities, fish, and wildlife are all vying for a now scarce resource — Yellowstone River water. The outcome of the struggle will set a course for Montana's future.

Research for this article was provided by Alexis Parks, a free-lance writer from Boulder, Colo.



Frontier Airlines photo

YELLOWSTONE CANYON in Yellowstone National Park. The headwaters of the Yellowstone River are in the park.

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Colorado Division of Wildlife photo

THE PROLIFIC SNOWSHOE HARE is fresh meat in winter for foxes, cougars, owls, coyotes, martens, and wolverines.



Photo by Dick Randall, Defenders of Wildlife

IN WINTER, the ground squirrel's heartbeat drops from 250 to 10 beats per minute. Its body temperature is 97 degrees in the summer and 39 in the winter.

by Sarah Doll

"Swallows certainly sleep all winter. A number of them conglobulate together, by flying round and round, and then all in a heap throw themselves under the water, and lie in the bed of the river." Thus Samuel Johnson expressed a prevalent belief of 1768.

Although the fallacy of this belief was recognized in the 19th century, detailed winter research has always lagged behind other wildlife study. The animals are not as convenient to observe in winter. Besides the bad weather factor, there is the animals' unavailability — many of them are underground. As a result, wildlife in winter is a rather new, almost wide-open area for study.

It is well known, however, that wild animals that don't head for the sunny South or underground in the winter have to cope with a stressful situation. The degree of stress depends on the severity of the winter. Mice and some other prey animals that depend on snow cover for protection from predators suffer more in a dry winter, while those browsing and grazing animals that must uncover their food source after snows suffer more in a wet winter.

Many animals were unable to cope with the unusually severe winter of 1977 in the midwestern and eastern United States. In an article in *National Wildlife*, Anne LaBastille, an Adirondacks guide and environmental consultant, cites these examples of wildlife loss: fish died from suffocation as ice on lakes became so thick that water plants received no sunlight and could make no oxygen; New Jersey waterfowl died by the thousands as ice covered their food; the oceans became so chilled that crabs and shrimp died; fish eggs and water bugs were killed by bottom ice in lakes and streams. Bird losses were heavy everywhere.

The winter of 1904 was also devastating for some wildlife. According to naturalist Edwin Way Teale, Lapland longspurs, birds that live on the plains of the Midwest and which congregate just below the southernmost line of winter snows, died by the millions when an unusual winter storm brought snow further south than usual.

Death by freezing, and, more cruelly, by starvation are common in many winters. The unfit are weeded out first, but an exceptionally hard winter makes inroads into the stronger animals as well. LaBastille cites the example of Tug Hill in New York, where 35 feet of snow fell last year, imprisoning a deer herd. As many as 85% of the herd was estimated to have died from starvation and from the attacks of feral dogs on the weakened animals.

MIGRATORS AND HIBERNATORS

After millions of hard winters, of course, evolution has created many satisfactory and some novel ways of dealing with the cold. Those animals that have the situation most under control are the ones that escape — the migrators and the hibernators. Probably three-fourths of the bird population of the northern tier of the United States leaves for sunnier climes in the winter. These migrations vary in length from thousands of miles to a few hundred yards. The ptarmigan, for example, simply migrates down the mountainside to less severe weather. Some mammals also migrate, such as elk and caribou.

Animals are found to hibernate to different degrees. The ground squirrel is one of the most extreme examples of change from summer to winter. Extremely active in summer, in the winter its heartbeat falls from 250 to 10 beats per minute. Its body temperature is 97 degrees in the summer and 39 in the winter.

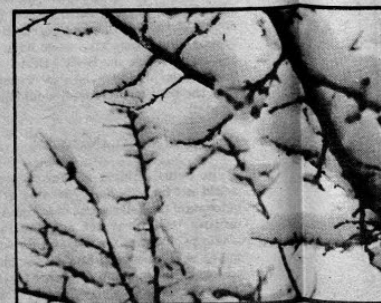
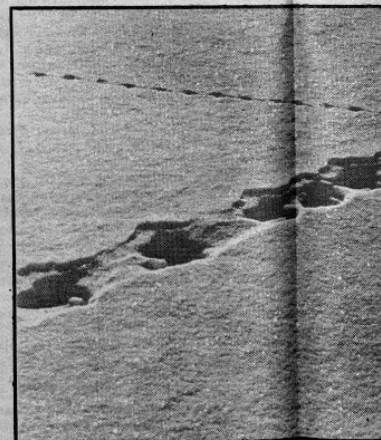
The painted turtle is another example of



Photo of

MOOSE feed in the willows alongside streams in the winter. Moose are also sometimes considered prime sites for su

AS WINTER WILDLIFE



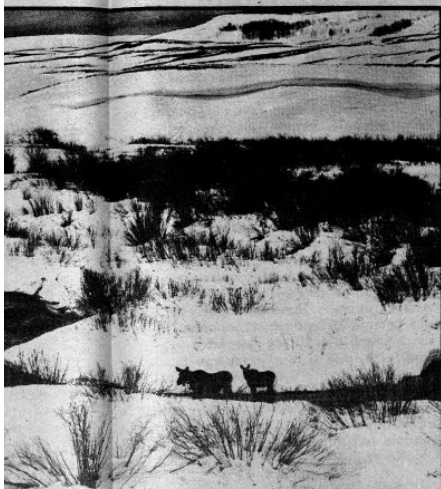


Photo of the Ham's Fork in Wyoming by Don Hinton
s alongside streams in the winter. Unfortunately, the valleys they
considered prime sites for subdivisions by human beings.

WINTER WAXES LIFE WANES

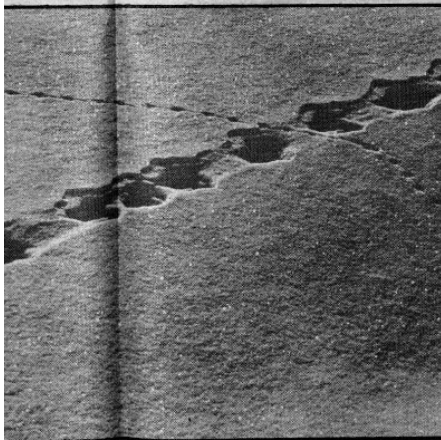
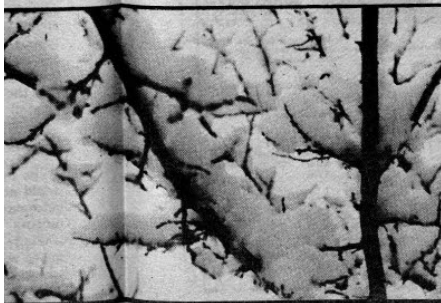


Photo by David Sumner



a true hibernator. This animal sinks to the bottom of a marsh and remains there, locked in ice, until the spring thaw.

Other animals experience a milder form of hibernation in the winter. Breathing and pulse slow somewhat, but body temperature stays up. The animal will wake easily during a warm spell, and often will venture out of its den to feed. Bears exhibit this type of behavior; the female bear will sometimes give birth while in this torporous state.

A chipmunk solves its winter food supply problems by packing in a large amount to its den in the fall, then sleeping on it all winter. It occasionally stirs, grabs a snack, and goes back to sleep.

NON-HIBERNATORS

New research into the winter lives of non-hibernators, particularly deer, show that they exhibit some of the same physical adaptations as the hibernators do to save energy, which is in critically short supply in a hard winter.

Aaron Moen, assistant professor of wildlife ecology at Cornell University, says that deer move into forested areas on lowlands and create yarding areas, which are simply feeding areas connected by trails that make moving about easier. In the winter the deer move more slowly, eat less, and are more lethargic. Body functions and metabolism slow down.

Because of Moen's research, some people believe that hikers and skiers may take a larger toll on deer than was formerly thought. Even though a deer may look undisturbed by the sight of an intruder, its heartbeat may be accelerated, and its energy reserves used up at a faster rate. Of course, dogs, snowmobilers, or others chasing deer in the winter have an even more detrimental effect on deer's delicate energy intake-output balance.

Animals that don't hibernate have many other physical adaptations to the cold. Insulation is one of the most important. Plumages and pelts become longer and thicker, trapping dead air close to the body. Blood flow to the extremities of the body increases. Some animals have learned to huddle together in large groups to stave off the cold.

HARE PROVIDES FOOD

Nature writer Virginia Eifert credits the survival of many species to the prolific snowshoe hare. She named her book on the north woods *Land of the Snowshoe Hare* in honor of this creature, which provides food for so many predators.

She describes the snowshoe, or varying hare (so called because its coat changes from dark to white in the winter) as "he who is so abundant that he can provide hungry creatures with fresh, hot food and yet remain in enough numbers to continue as a tribe. Long ago the hare was the animal which often kept Indian villages alive with meat, and warm with soft furs in the hardest of winters; and he fed wolves and foxes, lynxes and cougars, fed owls and coyotes, martens and wolverines, as he does today."

Every 10 years or so the population of the snowshoe seems to peak, and then crash; then many predators suffer, and their numbers decline also, until the hare population again recovers.

An unfortunate trend that makes winter survival even more difficult for wildlife is the human development of their winter habitat. The forested lowlands needed by deer and other animals in the winter are often seen as very desirable homesites by nature-lovers and real estate developers. Conservation groups all over the country are trying to counter this trend.

Jan. 27, 1978 — High Country New



Colorado Division of Wildlife photo by Don Domenick
PROTECTIVE COLORATION helps the ptarmigan avoid predators in winter.



Photo by Dick Randall, Defenders of Wildlife
THE PINE MARTEN feasts on the snowshoe hare.

10-High Country News — Jan. 27, 1978


**The HCN
Hot Line**

energy news from across the country

NUCLEAR ENERGY BIAS. The Carter Administration's nominee for assistant secretary of energy technology in the Department of Energy (DOE) is being accused of having a nuclear energy bias. Robert D. Thorne mounted a successful campaign to persuade California voters to oppose a state initiative limiting nuclear power while he was head of the San Francisco office of the U.S. Energy Research and Development Administration, according to a General Accounting Office report. Critics charge that Thorne should not be selected to lead the billion dollar federal research program for DOE, which will examine alternative energy resource potential as well as nuclear power and conventional fuels.

FARMERS' FIGHT CONTINUES. More than 30 people have been arrested as they demonstrated against construction of a power line in Minnesota. The demonstrators, mostly farmers, sang "God Bless America" and "This Land is Your Land" but then got into a shoving match with transmission line construction crews, according to the Associated Press. The 400 kilovolt United Power Association-Cooperative Power Association line is being built between Underwood, N.D., and Delano, Minn.

POWER FOR MASSENA. With a state court's blessing, the town of Massena, N.Y., is temporarily taking possession of the local power facilities. The Environmental Action Foundation calls the ruling an "unprecedented victory for public power proponents." Residents of the town voted to municipalize its system in 1974, but the utility, Niagara Mohawk Power Corp., has been fighting the move.

Wyo. may penalize two air violators

The state of Wyoming is considering air pollution enforcement action against two of the state's major industrial facilities — Utah Power and Light's (UP&L) Naughton power plant near Kemmerer, Wyo., and the U.S. Steel iron ore mine near Atlantic City, Wyo. The actions would be the largest enforcement efforts that the state has undertaken, as measured by the size of potential fines.

Both installations are violating regulations regarding particulate emissions. The

state Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (EPA) are now considering whether to pursue immediate enforcement and penalties against the firms or allow a delayed compliance until July of 1979. One source indicates that immediate enforcement could result in substantial fines, perhaps into the millions of dollars.

Randolph Wood, head of the air quality division of DEQ, says a determination about the course of action will be made in

30 to 45 days. The agency has the option of either issuing administrative orders or going to court to obtain injunctions. Wood says, "We're putting information together and looking at emissions data, economic data, and the company's plans to control emissions." Wood refused to identify the two companies being examined, but other sources confirmed that UP&L and U.S. Steel were the companies in question.

Under the recently-passed Clean Air Act Amendments, either EPA or the state must pursue enforcement actions against large industrial polluters. However, Wood says, in practice, there are a number of questions that have to be answered before enforcement is mandatory. The companies may be eligible for a "delayed compliance order," which means that if they have acted in good faith, and if compliance can be achieved by July, 1979, they would not be penalized.

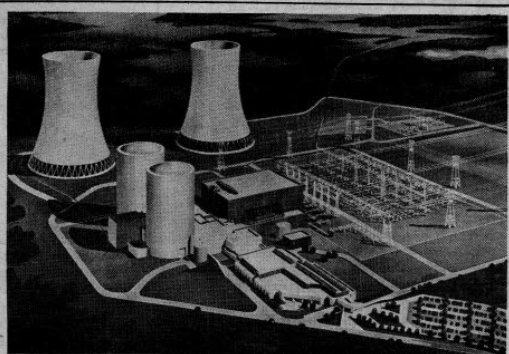
According to Wood, neither company is currently operating under a compliance schedule, and they are supposed to be emitting particulates within federal limits now.

The state is trying now to assess whether the companies were acting in good faith.

If civil penalties are imposed, they would be based on a complex formula that assesses the economic benefits that the company received as a result of not obeying the law. EPA determines how much the company would have spent in capital and operating costs for better pollution control and computes the savings that it had over time. The penalty is based on this amount.

The state of Wyoming was reportedly anxious to be the lead enforcement agency, and EPA agreed. EPA officials said, "The state has a good reputation and a good law. Some states have inadequate provisions for civil penalties, but Wyoming has the authority to collect whatever amount is involved."

Both the state and EPA are awaiting rulings from Washington, D.C., before determining whether to proceed with enforcement or to grant the two installations delayed compliance orders.



HURDLES TO POWER GENERATION. In the midst of a bitter cold spell, the Tennessee Valley Authority (TVA) is saying that the U.S. faces a "disaster of major proportions" unless utilities are allowed to build nuclear and other types of power plants without delay. TVA has the nation's biggest nuclear power expansion program.

However, a New York City researcher recently testified that the problem with nuclear power is its unreliability. Charles Komanoff said that because of this unreliability, utilities must build 29% more capacity with nuclear reactors than if they built coal-fired generators. (Copies of his Oct. 28 testimony before the New York Public Service Commission are available from Komanoff Energy Associates, 475 Park Ave. S., 32nd floor, New York, N.Y. 10014.)

Shown above is an artist's conception of TVA's Sequoyah Nuclear Plant in Tennessee, which was scheduled for operation in 1975 and is still not operating.

Forest Service calls for EIS on Cache Creek

The U.S. Forest Service has recommended that an environmental impact statement (EIS) be completed before an oil and gas well is drilled on Cache Creek in the Bridger-Teton National Forest near Jackson, Wyo. The agency's recommendation must be approved by the U.S. Geological Survey.

Forest Supervisor Reid Jackson has recommended that the EIS cover 12,000 acres in the Cache Creek drainage. Currently, only about 6,000 acres are being considered for drilling by the National

Cooperative Refinery Association, but other oil companies hold leases on 6,000 additional acres in the drainage.

There has been no word from USGS about the EIS, but Jackson says that the survey has gone along with the Forest Service in the past. However, he says, this is the first time that an EIS has been requested on oil and gas activities in a national forest.

FS had requested public comment about the proposed drill site and received 200 letters, 170 of which opposed drilling al-

together. Only eight letters supported the proposal. The Forest Service reports that those people can be identified as associated with the oil and gas industry.

The Forest Service also says that some of the leasing in the forest may be "administrative errors." One lease was allowed on the south end of Fremont Lake, for instance, even though there was an agency directive against leasing there.

Oil industry observers fear that the action will be precedent-setting and environmental statements will be required on other leases in the forest. Jackson says that this is not the case, and each lease will be evaluated on a case-by-case basis.

Evans tries to block Bear Lake lease

Idaho Gov. John Evans has asked Bear Lake County officials to reject an oil lease that would allow Hunt Petroleum Co. to explore for oil beneath Bear Lake, a popular resort on the Idaho-Utah border. Evans and Idaho state school superintendent Roy Truby voted against the lease at a State Land Board meeting, saying the public has not had an opportunity to comment since the lease wasn't on the board's agenda.

The three other board members voted to approve the lease, however, and charged Evans and Truby with using the issue to gain political favor prior to the election this year. Evans, who succeeded former Gov. Cecil Andrus when he became Interior Secretary, is running for governor, and Truby

is expected to run for U.S. Congress against Rep. Steve Symms (R-Idaho), according to the Idaho Statesman.

The three land board members favoring the lease don't expect environmental damage from the 34,000 acre lease and say the project should be allowed because of the national energy shortage.

The lease must still be approved by the county board and by the Bear Lake Regional Commission, a body of officials of local governments in Idaho and Utah.

Bear Lake sits on top of part of the Overthrust Belt, a geologic formation stretching across parts of four states and thought to be the richest oil reserve left in the Lower 48 states.

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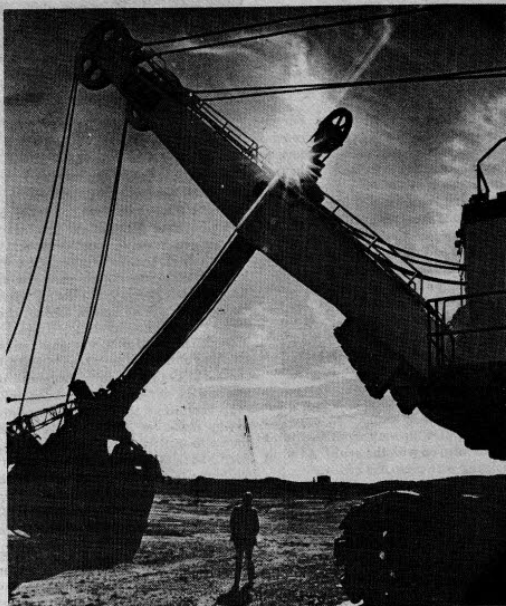


Photo courtesy of Kerr-McGee Corp.

POWER SHOVEL near Gillette, Wyo. Dust from some coal mines around the town has exceeded allowable limits for particulate matter in small areas.

Campbell County air pollution could limit future coal mining

Some areas of Campbell County, Wyo., have such dirty air that future coal mine expansions in the Powder River Basin could be jeopardized. Randolph Wood, head of the air quality division of Wyoming's Department of Environmental Quality, says, "In some site-specific locations, the clean air resource has been used up. New facilities would have to be denied an air permit."

The pollution comes from dust that escapes from the mining operations. Wood says that there is apparently little that the companies can do to further reduce the pollution. "We've already required everything we could think of," he says.

Air quality problems were discovered when DEQ was examining a permit for expansion of Sun Oil's Cordero mine. The permit was issued, but it was determined

that the new operation would place some areas around the mine very close to the maximum allowable pollution levels. So, if any of the other mines in the vicinity — Amax's Belle Ayr mine or Carter Oil's Caballo mine — want to expand, it is possible that they would not be granted an air permit.

Wood says that the only area DEQ has specifically looked at is south of Gillette, Wyo. However, he says that there is a concentration of mines north of the town as well, and the same air problems could exist there.



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Doug O'Steeny photo

Colstrip to get air okays

Jan. 27, 1978 — High Country News-11

After months of uncertainty, the utilities building Colstrip units 3 and 4 seem to be getting the green light from both the state of Montana and the U.S. Environmental Protection Agency (EPA). The Montana air quality bureau issued a permit for the two coal-fired units with several conditions on Jan. 20.

Earlier in the week, EPA published its intentions to approve the units, subject to a public hearing Feb. 14 at Eastern Montana College in Billings from 1 p.m. to 5 p.m. and reconvening at 7 p.m.

EPA's decision is a reversal of the agency's previous opinion that the power plant would exceed pollution limits for sulfur dioxide. Norm Huey of the air quality branch of EPA explains that the change is based upon two new developments. The Clean Air Act amendments passed by Congress in August allow power plants to exceed the pollution limits once per year. Secondly, the utility consortium submitted meteorological data that indicated there would be a "low probability" that the increments would be exceeded. EPA screened

the data at its Denver office and confirmed it, according to Huey.

The Northern Cheyenne tribe is upset by the decision and by the agency's way of handling the announcement, according to Tribal Chairman Allen Rowland. The reservation, which is just south of Colstrip, has a Class I air designation, meaning that almost no degradation is allowable. Rowland believes the Colstrip units would degrade the air quality on the reservation, and the tribe is party to a suit protesting state approval of the construction permit. Although the tribe worked closely with EPA throughout the redesignation process, EPA "didn't have the courtesy to send us anything telling us about its decisions," Rowland says.

Montana Power Co. and the four other utilities have 15 days to appeal the conditions on the state permit. Scrubbers are planned on all four units to control sulfur dioxide emissions. In addition, the state imposed limits on the sulfur content of coal used and required that total current particulate emissions in the area be reduced by 2,038 tons per year prior to firing up units 3 and 4, according to the Associated Press.



energy news of the Rockies and Great Plains

RADIOACTIVE LEAK. Workers at the Fort St. Vrain nuclear plant in Colorado were evacuated Jan. 23 after helium gas contaminated with a radioactive element escaped from the plant. Although tests showed only low-level radioactivity, residents of Denver were concerned because winds were carrying the gas toward the city. State health officials are collecting milk samples from dairy farms in the area to see if any are contaminated, according to the *Rocky Mountain News*. Friends of the Earth and Sen. Gary Hart (D-Colo.) have called for a full investigation.

ICL WINS RATE FIGHT. The Idaho Conservation League (ICL) has won a major victory in a rate reform fight with Utah Power and Light (UP&L). The Idaho Public Utilities Commission (PUC) has told the power company that rate reform and serious conservation efforts by utilities will have to precede any major rate increases. UP&L had requested a 29.27% rate increase, but the commission only granted an 8.15% increase. The PUC ordered the power company to establish a flat rate for all residential users, so that the unit price of electricity will not go down as more is used. In addition, all-electric homes and homes with electric water heaters will no longer receive lower rates than others. The PUC ruled that there was not enough evidence presented at the rate hearings to require flat rate and peak load concepts to other classes of users — commercial, industrial, and irrigation. However, UP&L was ordered to present an analysis of these rate structures for these groups in its next rate request.

STATES CONSIDER LIFELINE. Members of the South Dakota ACORN chapter have collected enough signatures to get Lifeline Utility Rates on the November 1978 state ballot. Under the proposal, people who use less than a specified amount of energy will pay a small charge, and large commercial and industrial users will lose their bulk rate advantage. In Idaho, Gov. John Evans is recommending a reduced rate for the first 500 kilowatt hours for senior citizens. Utah residents may consider a lifeline system at a public hearing on Feb. 13 although the *Deseret News* urged caution. "Is it really advisable to slow economic growth by increasing the bill that business and industry must pay for electricity...?" a newspaper editorial said.

FROM DUST TO BTU. Champion International is using waste wood materials, including bark and sawdust, to provide 84% of the energy used by one of its plywood mills in Missoula, Mont. A Champion official says waste wood used as boiler fuel yields about 6,000 British thermal units (Btu) of energy per pound — about two-thirds of the energy per pound of eastern Montana coal, according to *The Missoulian*. The firm converted to wood from diesel fuel and natural gas for economic reasons. Officials say such a conversion would not be as feasible for smaller mills; Champion's mill is the largest in the U.S.

IPP MODIFICATION UNACCEPTABLE. Interior Secretary Cecil Andrus has said the Intermountain Power Project (IPP) could be built at its original proposed site "with modifications." However, company officials say the "modifications" would mean reducing the size of the proposed plant from 3,000 megawatts to 800 or 900 megawatts, which IPP says it can't do. "The plant is sized according to our needs," says George Ward of IPP. It will serve California users and several Utah municipalities. The original proposed site was 12 miles east of Capitol Reef National Park, but Andrus ruled that this proposal would endanger park air quality. Other Utah sites are now being considered.

12-High Country News—Jan. 27, 1978

Senate looks at BLM funding needs

by Joan Nice

This year for the first time, a four-year budget of the Bureau of Land Management (BLM) will be considered in an authorization bill. An authorization is a Congressional wish list to be sent to the appropriations committee and the Office of Management and Budget, which will finally weigh BLM's needs against those of other federal programs.

Conservationists are planning to push for sharp increases for money and manpower for the agency at Senate energy committee staff hearings to be held Jan. 31, and Feb. 2, 7, and 9 in Washington, D.C.

Charles Callison, president of a conservation organization called the Public Lands Institute, says that the bureau's budget request is not big enough.

"So long as a have-not agency, BLM can't quite believe the Office of Management and Budget (OMB) and the Congress will give it the funds to do a first-class job," Callison says. "Or else it and the Secretary of the Interior have let themselves be cowed by OMB, a single-track, money-saving agency that probably has not understood that like running a farm, running the public lands requires some investment to produce optimum benefits."

"BLM is a fairly lean organization," says Paul Vetterick, chief of the agency's division of budget and program development.

BLM has about one permanent employee for every 45,000 acres it administers, while the U.S. Forest Service and the National Park Service have one for every 8,500 acres and one for every 4,000 acres respectively.

Vetterick is hopeful about adding this new step to the budgeting process. While "an authorization doesn't put a dollar into the budget," he says, "it does open up channels of communication outside the appropriations committee." The authorization bill was mandated for the agency by the Federal Land Policy Management Act of 1976 (FLPMA).

NEW JOBS

FLPMA alone has increased the bureau's workload considerably, some say by 50% or more. Among other things, the

new law requires that BLM inventory its lands for wilderness potential, review all lands withdrawn from multiple use management, and record all locatable mining claims. Other recently passed legislation such as the strip mine bill and the coal leasing act amendments have also increased BLM's responsibilities.

BLM workload analyses in several Western states in 1975 indicate that even before these bills were passed, BLM had the manpower to do only slightly over half of the tasks mandated by Congress. That doesn't include "discretionary work," says Dan Baker, BLM director in Wyoming, "the things that as professional land managers we would like to see done."

"Congress hasn't always recognized the cost associated with the workload they demand from us," says Ed Parsons of the bureau's planning office in Colorado.

Russ Shay, who is researching BLM budget matters for the Sierra Club, says he generally supported the passage of FLPMA, and is also in support of giving BLM the wherewithal to implement it. However, the agency's problems are only partly due to lack of manpower, he says. BLM also lacks "management leadership," he says. He points to what he considers foot-dragging in BLM's effort to produce environmental impact statements on grazing and in its efforts to get a wilderness inventory started.

Laney Hicks, vice-president of the Wyoming Sierra Club chapter, is skeptical about giving the agency more funds. "An increase in manpower does not necessarily mean an increase in the quality of work you're turning out," she says. "I want to see some creativity, some guts, some initiative, some integrity in the agency."

Johanna Wald, an attorney with the Natural Resources Defense Council, agrees that there are inefficiencies in BLM, but thinks that personnel increases are justified to get more competent people in the field. At the same time, NRDC is pushing for high standards of quality in the agency's work.

TASKS IGNORED

Baker says that while the agency is doing the best it can, some important tasks

are being ignored in Wyoming. For instance, BLM has about 42,000 oil and gas leases outstanding, but is able to check up on only about 25% of them to see if they are meeting the terms of their lease agreements.

As for BLM's coal program in Wyoming, "the quality and comprehensiveness" of inventories and planning is suffering, according to Baker.

The agency's biggest problem is manpower, Baker says. He says "money is easier to get than positions." Personnel ceilings sometimes force BLM administrators to hire outside consultants, and Baker says "this is not always the economical way to go."

Shay of the Sierra Club tells of one district office with 49 permanent employees that hired 51 temporary employees in an effort to keep up with the workload while complying with personnel ceilings.

While Baker says his minerals program is inadequately funded, he points out that wildlife habitat and recreation programs are in worse shape. "Wildlife habitat goals will be pursued to the extent they are consistent with other activities, especially range and minerals," Baker says.

In Idaho, recreation and wildlife habitat apparently draw even less attention from the bureau than they do in the states with more important mineral programs. Where there is interest in mining, BLM studies other land values as well. "The energy states get large appropriations to manage their energy programs," says Fred Cook, BLM's public affairs director in Idaho.

Similarly, in areas where the bureau is doing environmental impact statements on grazing, other land values are also receiving some attention. But there doesn't seem to be enough manpower left over to perform routine land management chores on the federal acreage that isn't being intensively studied.

"It's not that they don't have the personnel to do the grazing statements," Shay says. "It's just that the effort takes personnel away from everything else."

The House Interior committee and the Senate energy committee are expected to supply a report to the budget committee for BLM's authorization by March 15.



BLM LAND MANAGERS say they have not had the backing from Congress to properly manage vast acreages of public land in the West. This year for the first time BLM's budget will be considered in an authorization bill, a Congressional wish list to be sent to the appropriations committee and the Office of Management

and Budget, which will finally weigh BLM's needs against those of other federal programs. Conservation groups are planning to push for more money and manpower for the agency in upcoming authorization hearings.

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Western Roundup



Jan. 27, 1978



Photo by Tom Raugh

A PREDATOR POISON BAN is being protested by sheepmen in Utah and Wyoming.

Andrus eyes smaller Garrison diversion

U.S. Interior Secretary Cecil Andrus has tentatively approved a scaled-down Garrison Diversion project that would irrigate 96,300 acres in the Missouri River drainage, *The Onlooker* reports. The plan is scheduled to go to Congress on Feb. 1.

Rich Madson, regional representative for the Audubon Society, says that his group could support a much smaller project than originally proposed, but the details of the compromise would be important. The original Garrison Diversion project called for the irrigation of 250,000 acres.

One controversial point is whether Interior will authorize construction of the proposed Lonetree Reservoir. Madson says that his group will "oppose any plan for Garrison which includes building Lonetree." *The Onlooker* says that Lonetree's

construction is "a major unresolved question" in the new plan, though Andrus is reportedly leaning against it.

The newspaper says that building the reservoir would be more expensive, would require additional land acquisitions for wildlife mitigation, and would take agricultural land out of production. On the other hand, if it were not built, a canal would be required to supply irrigation water to some outlying areas.

Since the scaled-down plan concentrates primarily on irrigation in the Missouri River drainage, Madson says that this answers one of the Audubon Society's main objections. However, he says that existing waterfowl staging areas should be protected and flows into the James River should be maintained at the capacity of the present channel.

Critic says many sawmills 'inefficient'

Large amounts of usable wood are wasted in sawmills because those operations are inefficient, according to Morton Brigham, an engineer who specializes in consulting on sawmill design. The *Idaho Citizen* reports Brigham says that reducing the waste is the alternative to "cutting up the roadless areas."

Brigham illustrates his point by the example of a Colorado mill: "The owners didn't want to keep the equipment in good shape, and they didn't have a good saw filer. They added one-eighth of an inch to each two-by-four they cut. The result was they needed 10 million board feet more per year to run the mill."

He says, "In the Idaho Primitive Area, they talk about an allowable cut of about 47 million board feet. One day in that mill equals 20% of all they could get in the Idaho Primitive Area."

Brigham says that a University of Montana forestry dean found that, by increas-

ing efficiency, it would be possible for most mills to produce twice the volume of finished wood products without any increase in allowable cut.

Andrus says no 'hit list' in '78

U.S. Interior Secretary Cecil Andrus says that the Carter Administration will not produce another water projects "hit list" this year. Last year's "hit list" was a number of water projects that President Jimmy Carter wanted to cut the funding for. Nine projects of the original 17 were cut.

Andrus says money will be forthcoming for the projects that were not dropped as a result of last year's actions. However, he says all future projects will have to meet stiff environmental and cost-benefit standards.

Utah sheepmen rap predator poison ban

Utah sheepmen have threatened to close their private lands to public access if the federal government does not allow them to fight coyote predation with poisons. The Utah Woolgrowers Association unanimously approved the resolution at their annual convention in Salt Lake City.

The closures, if undertaken, would create difficulties for hunters, backpackers, and others who must cross private lands to reach public ones.

In a related action, a Wyoming trial over the 1980 poisoning issue was postponed indefinitely because a state application to use the poison is still pending before the Environmental Protection Agency (EPA).

The application will probably be denied, because the state has proposed a use of the poison similar to the one that originally caused the banning of 1080 in 1972, according to an EPA official.

Sheepmen contend that 1080 is the cheapest, most effective method of coyote control. However, the method has frequently led to the poisoning of non-target animals, such as birds, dogs, and foxes, according to an EPA spokesman. The poison was banned because it is considered a "cumulative poison" that does not easily break down into a non-toxic substance over time.

Denver may be model air clean-up city

The U.S. Environmental Protection Agency (EPA) is asking President Jimmy Carter to designate Denver as a "national demonstration city" to clean up the city's air.

EPA wants to serve as a catalyst for drawing up an "action plan" by state, local, and regional governments, according to the *Denver Post*. The prime focus of this plan, scheduled for completion on January 31, will be the automobile.

One suggestion to get people out of their cars is that only cars with two or more occupants be allowed downtown during rush hours. According to the Colorado Air Pollution Control Commission, the average occupancy of vehicles in Denver is ap-

proximately 1.3 persons. A 50% reduction in air pollution could be realized if this rate could be doubled, the commission says.

A strong effort would be made to get government employees into car pools or to use mass transit. Incentives could include free parking for car pools or tax breaks for use of mass transit.

If Denver fails to institute a plan to meet federal air quality standards, EPA and the Department of Transportation could withhold funds for highway projects and improvements. A Denver Health Department official told the *Post*, "We've got to impress on the public that this thing is serious. It's not going to go away and they're going to have to change their lifestyles."

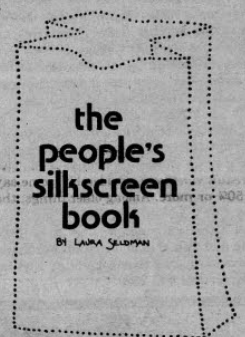
Sheepmen hopeful about coyote fence

The U.S. Agricultural Research Service says a new electric fence has proven 100% effective in repelling coyotes from areas where sheep are grazing. The fence was invented by Robert Piesse of Melbourne, Australia, who was brought to this country to demonstrate his work by the U.S. Sheep Experiment Station at Dubois, Idaho.

The new fence, which uses 110 volts, does not injure coyotes, dogs, or sheep that touch the fence. Previously, electric fences did not work against coyotes, but this one grounds and shocks any would-be intruder no matter where it touches the fence. The fence costs less to erect than conventional ones, according to Colorado State University.

Meanwhile, the sheepmen will get another chance to argue for use of the chemical compound 1080 for predatory animal control. A trial date of Jan. 16, 1978, has been set for a suit brought by the Wyoming Wool Growers Association and the state of Wyoming against the federal government's ban on the use of 1080. The case will be heard in the federal district court in Cheyenne.

U.S. Department of Agriculture figures indicate coyotes are responsible for 35% of all lamb deaths plus many adult sheep deaths. Poisons have been banned from federal lands since 1972.



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Washington D.C. artist Laura Seidman received an MFA degree in printmaking from George Washington University in 1970. She has taught silkscreening for four years and is currently at "P. St. Paperworks," a non-profit community educational silkscreen collective. Dealer inquiries invited.

Ms. Seidman and HCN are sharing the profits from sales of this book. Order by sending \$2.35 to HCN, Box K, Lander, Wyo. 82520. Thank you. Price includes postage and handling.

14-High Country News — Jan. 27, 1978



HCN

Bulletin Board



WASATCH NATIONAL FOREST

A land management plan establishing management objectives for national forest lands in the Wasatch National Forest in Utah has been completed. The plan covers water quality, skiing, transportation, roadless areas, timber, grazing, wildlife, minerals, fire control, and recreation. Written comments will be accepted until March 10, 1978. Copies of the plan are at many Utah libraries and are available from the Wasatch National Forest Supervisor, 8301 Federal Bldg., 125 S. State St., Salt Lake City, Utah 84138. Send comments to the supervisor.

ECOLOGY SEMINARS

Several six-day seminars are planned in Rocky Mountain National Park this summer. Emphasis is on outdoor exploration of the Rocky Mountain environment through field activities and occasional indoor sessions. University credit is available from Colorado State University and the University of Northern Colorado. Fee for a single seminar is \$60. For information, write Seminar Coordinator, Rocky Mountain Nature Association, Inc., Rocky Mountain National Park, Estes Park, Colo. 80517. Registration is now open.

CONSERVATION JOBS

The Izaak Walton League is recruiting high school seniors for jobs in national forests, national parks, wildlife refuges, or research laboratories. Applicants should plan to pursue careers in natural resources and conservation. Applications are being received at Izaak Walton League Divisions across the country until Feb. 24.

MONTANA TAX IDEAS

Residents of Montana are eligible for tax deductions and tax credits for alternative energy systems and investments in energy conservation, such as insulation and storm windows. For more information, contact the Montana Department of Revenue.

BPA WORKSHOPS

A Montana conservation group, the Environmental Information Center, is sponsoring three workshops to explain the implications of the Bonneville Power Administration's (BPA) plans for Montana. One was held in Ovando, Mont., this week. Others are planned Jan. 30 in Missoula and Feb. 6 in St. Ignace. For more information, call Sanna Porte at EIC in Helena (406) 443-2520.



POPULATION AND FOOD

A Population and Food Policy Conference will be held at the International Inn in Washington, D.C. on Feb. 22-24. The conference is designed to encourage open debate on key issues of public policy concerning population, food, resource, and environmental questions. For more information, write Linda M. Gabbert, Division of Continuing Education, Box 8277 University Station, Grand Forks, N.D. 58202. Registration fee prior to Feb. 6 is \$70, or \$25 for students.

TVA URANIUM PLANS

The Tennessee Valley Authority (TVA) has prepared a draft environmental statement on its plans to participate in mining of uranium in New Mexico. Copies of the statement are available from TVA, 400 Commerce Ave., Knoxville, Tenn. 37902 and at several public libraries in New Mexico. Some of the mining will take place on Navajo Indian lands.

JOB CLEARINGHOUSE

A job clearinghouse has been set up by the Northern Rockies Action Group (NRAG) to help conservation groups in the Northern Rockies find qualified staff and to help job seekers who want to work for public interest organizations. Groups that use the clearinghouse are the Environmental Information Center (Helena, Mont.), the Center for the Public Interest (Bozeman, Mont.), High Country News

(Lander, Wyo.), Idaho Conservation League (Boise, Idaho), Montana Land Reliance (Helena, Mont.), Northern Cheyenne Landowners Association (Lame Deer, Mont.), Northern Plains Resource Council (Billings, Mont.), Powder River Basin Resource Council (Sheridan, Wyo.), and Wyoming Outdoor Council (Cheyenne, Wyo.). Job seekers or employers should send an application or inquiry to: Job Clearinghouse, Northern Rockies Action Group, 9 Placer St., Helena, Mont. 59601, or call (406) 442-6615.

COLORADO WATER QUALITY

Hearings are scheduled in Colorado to hear comments on proposed state water quality regulations that would set limits for many contaminants. The new standards would establish limits for radioactive materials, trace metals from mining, pesticides, and other substances that contaminate water. The Colorado Water Quality Control Commission has scheduled the hearings in Grand Junction at the Holiday Inn on Jan. 31 and in Denver at the Col-

orado Department of Highways Building on Feb. 6. Both hearings will begin at 10 a.m., break in the evening, and reconvene at 7 p.m. Copies of the proposed regulations are available for review at the State Health Department, 4210 East 11th Ave., Denver, and at the department's branch offices in Fort Collins, Grand Junction, and Pueblo. For more information, call (303) 388-6111, ext. 378.

MISSOURI RIVER EIS

A final environmental impact statement on the use of water from mainstem Missouri River reservoirs for industrial and energy development has been filed with the Council of Environmental Quality by the Bureau of Reclamation. The statement discusses the potential environmental impacts resulting from the diversion of up to one million acre-feet of water for industry in Montana, Wyoming, and North and South Dakota. Copies are available from the Commissioner, Attention Code 150, Bureau of Reclamation, 18th and C Sts. NW, Washington, D.C. 20240.

WYOMING INDUSTRIAL SITING COUNCIL
NOTICE OF APPLICATION FOR CERTIFICATE
OF INSUFFICIENT JURISDICTION
WITH REGARD TO CONSTRUCTION OF
KEE-MOORE NUCLEAR CORPORATION
SOUTH POWDER RIVER BASIN
URANIUM FACILITY, CONVERSE
COUNTY, WYOMING

DOCKET NO. WISA-77-2

Pursuant to Section 3.c, Chapter I, Industrial Development Information and Siting Rules and Regulations, NOTICE IS HEREBY GIVEN THAT KEE-MOORE CORP. HAS FILED AN APPLICATION FOR A CERTIFICATE OF INSUFFICIENT JURISDICTION WITH REGARD TO CONSTRUCTION OF THE SOUTH POWDER RIVER BASIN URANIUM FACILITY, CONVERSE COUNTY, WYOMING.

The application, filed December 23, 1977, describes the proposed uranium mining and milling project consisting of a uranium mill, four surface mines and nine underground mines. The project is located approximately 16 air miles northwest of Douglas, within T36N and T36N, R75W; T36N, T36N, and T37N, R74W; and T36N, T36N, T37N, and T38N, R73W. The estimated construction cost is presented as five hundred ninety-three million, four hundred thousand (\$593,400,000) dollars. It is estimated that the project will employ 870 people.

W.S. 35-502.80 provides that no person shall commence to construct an industrial facility as defined within the Wyoming Industrial Development Information and Siting Act, W.S. 35-502.75-94 (Laws, 1975, Chapter 166; Laws, 1977, Chapter 66) without a permit issued by the Industrial Siting Council. Section 3, Chapter I Industrial Development Rules and Regulations provides, however, that a person intending to construct a facility may submit an application for a certificate of insufficient jurisdiction stating that the proposed facility intended to be constructed does not qualify as an industrial facility under the Siting Act, and that the Council lacks sufficient jurisdiction to require that an application for a permit to construct be submitted.

Mining rights for the described lands were acquired in 1960 and 1967, and exploration and development activities initiated, including development of the "Bill Smith" mine site during the period 1969 to present. The application alleges principally that on the basis that the facility described therein was under construction as of March 1, 1975, that the facility is not subject to the permit provisions of W.S. 35-502.80, or any similar requirement within the Industrial Siting Act.

Interested persons (parties) who would be parties pursuant to W.S. 35-502.85(a) in any permit proceeding before the Industrial Siting Council with respect to the facility proposed may file objections to the issuance of a certificate of insufficient jurisdiction with the Office of Industrial Siting Administration. Such objections must be filed within thirty days after the last date of publication of this notice.

Dated December 27, 1977.
Office of Industrial Siting Administration
Suite 500 Boyd Bldg.
Cheyenne, WY 82002
307-777-7368

Publish January 13 and 27, 1978.

WYOMING INDUSTRIAL SITING COUNCIL
NOTICE OF APPLICATION
FOR CERTIFICATE OF
INSUFFICIENT JURISDICTION
WITH REGARD TO CONSTRUCTION
OF CARBON COUNTY COAL COMPANY MINE

DOCKET NO. WISA-77-3

Pursuant to Sec. 3.c, Industrial Development Information and Siting Rules and Regulations, NOTICE IS HEREBY GIVEN THAT CARBON COUNTY COAL CO. HAS FILED AN APPLICATION WITH THE OFFICE OF INDUSTRIAL SITING ADMINISTRATION FOR A CERTIFICATE OF INSUFFICIENT JURISDICTION WITH REGARD TO CONSTRUCTION OF AN UNDERGROUND COAL MINE NEAR HANNA, WYOMING.

W.S. 35-502.80 provides that no person shall commence to construct an industrial facility as defined within the Industrial Development Information and Siting Act, W.S. 35-502.75-94 (Laws, 1975) without a permit issued by the Industrial Siting Council. Section 3, Chapter I of the Rules and Regulations of the Industrial Siting Council provides, however, that a person intending to construct a facility may submit an application for a certificate of insufficient jurisdiction, stating that the proposed facility intended to be constructed does not qualify as an industrial facility under the Act, and that the Council lacks sufficient jurisdiction to require that an application for a permit to construct be submitted. The application, filed December 19, 1977 is intended to demonstrate that the latter two provisions are met, specifically that the proposed mine does not constitute an "industrial facility" pursuant to W.S. 35-502.76(c)(ii) which defines industrial facility as "Any industrial facility with an estimated construction cost of at least fifty million (\$50,000,000.00). The council shall adjust this amount, up or down, each year using recognized cost indices as determined by the council to be relevant to the actual change in construction cost applicable to the general type of construction covered under this act." The current cost criterion is established at fifty-eight million, eighty-nine thousand (\$58,089,000) dollars. The estimated construction cost of the proposed mine, presented in the application as "total projected expenditure" is fifty-three million, sixty-four thousand (\$53,064,000) dollars.

The mine site area is located within the boundaries of T23N, R24W, about four miles northeast of Hanna, in Carbon County. The proposed underground mine will produce 1.5 million tons of coal annually over a twenty-five year mine life. On-site water is scheduled to begin in April, 1978, with coal production commencing in mid-1978. At full production, total employment will be about three hundred and fifty personnel.

Interested persons (parties) who would be parties pursuant to W.S. 35-502.85 (a) in any permit proceeding before the Industrial Siting Council with respect to the facility proposed may file objections to the issuance of a certificate of insufficient jurisdiction with the Office of Industrial Siting Administration. Such objections shall be filed within thirty days after the last date of publication of this notice.

Dated December 21, 1977
Office of Industrial Siting Administration
Boyd Building, Suite 500
Cheyenne, Wyoming 82002
Published December 30, 1977, January 13, 27, 1978.



Eavesdropper

environmental news from around the world



LOONEY LIMERICKS

by Zane E. Cology

When the Mayflower made its first landing
It's said there was no one demanding:

"If you want to proceed
You'll have to concede
That flowers and trees should have stand-
ing."

CANCER FROM FLY ASH. Researchers in California say that fly ash emitted by coal-burning power plants contains substances capable of causing mutations in bacteria, arousing the suspicion that it may cause cancer in human beings, the Wall Street Journal says. The researchers studied particles of fly ash small

enough to be inhaled into the human lungs. They were found to be coated with cadmium, nickel, cobalt and other substances that cause genetic changes in bacteria.

CITIZENS FAVOR FORESTS. A nationwide poll commissioned by the timber industry found that the 62% of the general public prefers to keep the national forests in their natural state and only 28% favor increased timber sales. According to the poll, only 7% of the public said that there is too much wilderness while 32% said there is too little. A timber industry spokesman says, "A lot of people are disappointed in these results."



THE LOWLY PACK RAT

by Myra Connell

Pack rats have an odious reputation in the Western states that they probably do not deserve. Their name has been associated with filth as well as thievery — and even applied slanderously to persons of untidy habits. The name "rat" itself places three strikes against them.

Actually they are only shirt-tail relatives of the destructive house or Norway rats. Several native species of pack rats, also called wood rats, inhabit remote areas of most Western states, from desert floor to above timberline. The despised house rat, on the other hand, introduced from the Old World, thrives in cities and farmyards, sewers and garbage dumps; it damages stored food and buildings and carries disease such as bubonic plague. House rats have scaly, hairless tails — pack rats have hairy or bushy ones.

Sometimes pack rats move into abandoned cabins or isolated outbuildings where they build large nests of sticks and stones, bones, cones, and other debris, with barriers of cacti at the entrance. From here they go on nocturnal forays to gather berries, nuts, leaves, cacti, and other edibles.

They are relatively harmless, inquisitive creatures with a peculiar yen for bright objects like coins, silverware, nails, buckles, and the like. When they have a chance they pack these articles away from camps and cabins. Missing things such as the housewife's indispensable thimble have been finally found in a pack rat's nest. Strangely, a small item — a twig, pebble, or pine cone — is often brought in trade for

the pilfered objects, hence the alias "trade rat."

Like other rodents, pack rats are an important link in the food chain. They are preyed upon by owls, other mammals, and snakes.

I was unaware of all these facts, as well as prejudiced against pack rats, when I taught country school in an ancient, long unused log building on the Wind River Indian Reservation in Wyoming in 1942. Pack rats, naturally, had appropriated the attic for a home.

A flimsy partition separated living quarters for the teacher from the school room. For a while my small daughter and I ig-

nored the nightly noises that indicated the presence of the animals.

Meanwhile, since art materials were very scarce, I had donated large bars of homemade laundry soap to the cause of education and one talented youngster had carved exquisite models of Columbus' three ships from it with his pocket knife. To our dismay the pack rats invaded the school room at night, devoured the Pinta and the Nina and were starting on the Santa Maria before we discovered how great an appetite they had for soap. Their insides should certainly have been sanitary!

I set a trap in the schoolroom and each night immediately after the lamp was

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blown out the trap sprung with a great clatter, followed by loud thumping and squealing. Resolutely ignoring the beady eyes staring into the flashlight, I murdered the helpless creatures with a stick. I killed eight of them before we were rid of them, thereby depriving an owl or weasel of several good meals. If confronted with a similar situation at present I am sure I could devise some sort of live trap and then set the animals free in the brush along the creek. I am ashamed now, that I had so little regard for valuable wildlife, and so little sense of ecological balance.

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286 Main Street, Lander, Wyo. 82520

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Becoming an Environmentalist

by Barbara Clark, Cottonwood Publishing Co., P.O. Box 1644, Walla Walla, Wash. 99362, 1978, 60 pages, \$1.95 paperback.

March 10, 1978. Copies of the plan are at many Utah libraries and are available from the Wasatch National Forest Supervisor, 8301 Federal Bldg., 125 S. State St., Salt Lake City, Utah 84138. Send comments to the supervisor.

ECOLOGY SEMINARS

Several six-day seminars are planned in Rocky Mountain National Park this summer. Emphasis is on outdoor exploration of the Rocky Mountain environment through field activities and occasional indoor sessions. University credit is available from Colorado State University and the University of Northern Colorado. Fee for a single seminar is \$60. For information, write Seminar Coordinator, Rocky Mountain Nature Association, Inc., Rocky Mountain National Park, Estes Park, Colo. 80517. Registration is now open.

CONSERVATION JOBS

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MONTANA TAX IDEAS

Residents of Montana are eligible for tax deductions and tax credits for alternative energy systems and investments in energy conservation, such as insulation and storm

Dear Friends

You probably won't be surprised to see another conservation pioneer article in this issue. It's our 15th in the series, and our last.

We are grateful to Jim Maguire of Boise, Idaho, who planted the seed for the series and to Peter Wild, who had the courage, talent, and patience to do the work. In the beginning we had planned to cover about four conservation figures a year. But the project and some of the subjects haunted and fascinated Wild to such a degree that he managed to produce 15 well-researched, well-written articles in about a year's time — four times the output we thought was possible!

From what we heard, the research for some of the subjects was fairly straightforward. Take John Muir, founder of the Sierra Club, for instance. The record of his life and thought is readily available.

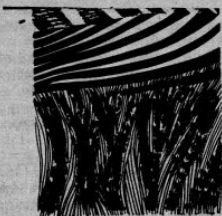
Other subjects presented greater challenges. When Wild asked writer Edward Abbey a few questions about his life, Abbey replied in a letter, "What the hell, just make it up." (Wild didn't.)

Enos Mills, the father of Rocky Mountain National Park, was also troublesome. While his contribution was important, the written record about his life was sketchy. Wild traveled from Tucson, Ariz., to Estes

develop a healthy self-reliance, a relationship with our natural selves, which we felt was essential to a full and rich life."

Many of the changes the Clarks made in their lives may seem obvious to High Country News readers who have already cleaned up their life style by growing a garden, eliminating unnecessary appliances, eating mostly vegetarian dishes, vacationing near home, and dramatically shrinking their trash output. But most Americans, even many environmentalists, haven't come to grips with the kinds of basic lifestyle changes that Clark describes. Some don't care; some don't know how; and some don't think it's important.

For people in each of those three categories, Clark's good-humored book



POPULATION AND FOOD

A Population and Food Policy Conference will be held at the International Inn in Washington, D.C. on Feb. 22-24. The conference is designed to encourage open debate on key issues of public policy concerning population, food, resource, and environmental questions. For more information, write Linda M. Gabbert, Division of Continuing Education, Box 8277 University Station, Grand Forks, N.D. 58202. Registration fee prior to Feb. 6 is \$70, or \$25 for students.

TVA URANIUM PLANS

The Tennessee Valley Authority (TVA) has prepared a draft environmental statement on its plans to participate in mining of uranium in New Mexico. Copies of the statement are available from TVA, 400 Commerce Ave., Knoxville, Tenn. 37902 and at several public libraries in New Mexico.

Wild maintains that racy figures like Abbey and Mills were "easy and fun," however, because once he had the material assembled, the pieces "wrote themselves." The articles about people like Garrett Hardin were tougher, he says, because although their ideas have shaped conservation thought, their lives weren't particularly colorful.

The result of these and other struggles is a comprehensive overview of the early conservation movement that cannot be found elsewhere, that is of lasting value, and that is a pleasure to read — thanks to our clever, productive friend Peter Wild.



Killing the Hidden Waters

Charles Bowden



Send all application or inquiry to: Job Clearinghouse, Northern Rockies Action Group, 9 Placer St., Helena, Mont. 59601, or call (406) 442-6615.

COLORADO WATER QUALITY

Hearings are scheduled in Colorado to hear comments on proposed state water quality regulations that would set limits for many contaminants. The new standards would establish limits for radioactive materials, trace metals from mining, pesticides, and other substances that contaminate water. The Colorado Water Quality Control Commission has scheduled the hearings in Grand Junction at the Holiday Inn on Jan. 31 and in Denver at the Col-

WYOMING INDUSTRIAL SITING COUNCIL
NOTICE OF APPLICATION FOR CERTIFICATE
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KEE-MOORE NUCLEAR CORPORATION
SOUTH POWDER RIVER BASIN
URANIUM FACILITY, CONVERSE
COUNTY, WYOMING

DOCKET NO. WISA-77-2

Pursuant to Section 3.c., Chapter 1, Industrial Development Information and Siting Rules and Regulations, NOTICE IS HEREBY GIVEN THAT KEE-MOORE CORP. HAS FILED AN APPLICATION FOR A CERTIFICATE OF INSUFFICIENT JURISDICTION WITH RESPECT TO CONSTRUCTION OF THE SOUTH POWDER RIVER BASIN URANIUM FACILITY, CONVERSE COUNTY, WYOMING.

PRINTS AVAILABLE

Since we published the Canada goose centerspread by Laney Hicks in our Dec. 30 issue, we have received many requests for prints suitable for framing. One reader we know was so enthusiastic about the drawing that she didn't worry about the limitations of newsprint; she ironed the page, framed it, and hung it on her wall. We told Hicks about the response, and she agreed to have some quality reproductions made. What's more, we're honored to announce that she wants to donate money from the sales of the prints to the High Country News Research Fund. If you're interested, you'll find an order blank on page 15.

—the editors



William O. Douglas

justice for trees. 1

Yellowstone

claimants come forth. 1

Wood Stove

safety. 6

Winter waxes

wildlife wanes. 8

Environment, Power and Society are aware of how energy flows through ecosystems can be diagrammed to show the reserves, drains, and transformations in any system — a pond, a throat, or an electric circuit. Bowden magically turns such technical concepts into tough, precise poetry without losing track of where the energy is flowing.

Thus in discussing the impact of the horse on plains Indians, a historical truism takes on new meaning:

"Solar energy was concentrated in the grass, and buffalo by consuming this caloric bonanza made the resource digestible and feasible to humans. The horse acted as a pump... The horse gave access to the buffalo and enormously increased the amount of energy available to people living on the plains... Mounted and armed with bows and lances, the Indians sent the flesh of bison pouring through their societies...."

Just as the horse "pump" shifted the gear of plains life, the water pump brought a perilous new age careening into the deserts. Killing the Hidden Water traces the erosion of Arizona's Pima and Papago Indian cultures as they jumped from a life shaped by brief pulses of surface water to one dependent on groundwater pumps and fuel imports.

Bowden tells the tale of Papago resistance to the first well developed by the government on their lands. A proud chief asserted that the well was not wanted: "The people have lived a long time on their lands and prospered without this improvement, and they wish to continue to live without gratuitous assistance from anyone." Although the well would make their regular 16 mile walk for water obsolete, they wanted to continue their old life.

The well was drilled despite protests, and gradually the Papago began to trickle over to its temptation. Thirsty one night, the chief himself was caught seeking its water; a way of life had been broken.

Today, Tucson, Ariz., sprawls over the site of an ancient Papago village, one of the oldest continuously inhabited places on the continent. All its inhabitants prior to 1915 withdrew less than 200,000 acre-feet from its aquifer. Contemporary Tucsonans consume that much water in a flash; it is the largest city in the country based solely on groundwater.

Bowden is grim about the life expectancy of Tucson and of artificial oases like the Llano Estacado of Texas. With water tables dropping drastically and fuel costs for pumping soaring, these areas are living on borrowed time. Such developments can no longer afford the amount of water required to sustain them, amounts that their developers acquired so cheaply and wasted.

If Killing the Hidden Water has any substantial flaw, it is in its implication that native Americans prior to Columbus did not deplete resources or disturb natural energy flows. It is apparent to paleoecologists that Indians 10,000 to 12,000 years ago played a major role in the extinction of the continent's megafauna such as the mastodon, the meat of which was concentrated energy. Depletion of firewood, lumber, and wildlife is also well-known to archaeologists.

In a similar vein, the book has elegant historic photos of the Papago and Pima Indians, but they smack of the "Noble Savage" sentiment more than they add to the function of the book. They certainly contributed to the book's \$9.95 price.

Bowden's story is startling and succinct. His goal is "a sustainable society," a place where water is not wasted, but revered. To reach such a goal, he admits, "There will be no painless answers, nor were there any in the past."