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High Country News

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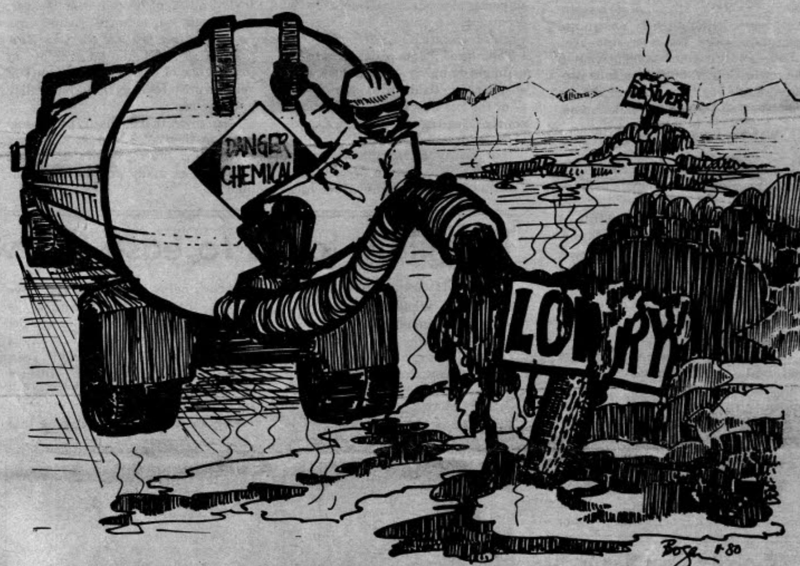


Channeling the stream of toxic wastes

by Michael Moss

ARAPAHOE COUNTY, Colo.— A winter's evening floats in over the prairie as the sun dips behind the Rockies. Fifteen miles to the northeast, the haze over Denver glows a dusty red; three men exhale frosty plumes and shift about to keep warm as they wait.

The scene around them resembles one of the nearby subdivisions: Lines of survey stakes run in several directions; brightly colored flags dangle on strings; and lights glow from the two office trailers.

Through the chain link gate a tanker truck approaches. Frank Hazlewood, wearing a yellow slicker and a helmet, steps out. There is idle chitchat. Documents are exchanged. A sample of his load is extracted. Ten minutes later he's on his way back to Denver, having pumped several thousand gallons of industrial waste into a 35 million gallon, rectangular pond.

Hazlewood has been in this business for five years. The evaporation pond he just helped to fill, however, is less than five months old.

It's part of the semi-completed, $6 million Denver-Arapahoe Chemical Waste Processing Plant, a polite euphemism for a hazardous waste dump.

When finished, the facility will encompass evaporation ponds, drum and barrel pits, and some 60 wells to monitor for leaks.

When operating at full tilt, it will absorb 19.3 million gallons a year of chemicals, including cyanide, arsenic and other poisons shipped from as far as Butte, Mont.

That figure, those wastes, and the fact that the plant will be only one of two in the entire seven-state Rocky Mountain Region, frightens nearby residents. As one neighbor says, "It's not what you see on the surface."

Their concern has a history. Adjacent to the new operation is one of the worst cases of mishandled wastes in the country. Since 1964, toxic chemicals of every sort were carelessly tossed into the city-owned Lowry landfill, plaguing its neighbors with odors, speeding trucks, and possibly serious health impacts.

The old dump was shut down last August, and the builder-operator of the new dump, Chemical Waste Management, Inc., one of three big hazardous waste handlers in the country, time and again has stressed that its facility will be carefully regulated and perfectly safe.

That may be, some of the 500 people attending a Nov. 20 public meeting seemed to agree. But as one speaker said, "Our complaint is that it doesn't belong in a populated area, or over the Arapahoe water supply."

The neighbors of the dumps vow to continue their fight to clean up the old one and stop the new. Similar battles are being waged throughout the region: Pueblo County commissioners to the south just denied a hazardous waste dump proposal for their area.

No one, it's clear, wants a dump in their backyard, whether they live in Colorado or New Jersey. And that sentiment has environmental regulators perplexed, as they grapple with what they're calling the most pressing environmental problem of the 1980s — hazardous waste.

A MATTER OF RULES

As defined by the U.S. Environmental Protection Agency, a substance is hazardous if it can ignite, corrode, or react with another substance or poison a living creature.

The list of hazardous wastes is long, published on several pages of the **Federal Register** last May, and includes the infamous PCB as well as the obscure K008, an oven residue from the production of chrome oxide green pigments.

There is an equally lengthy list of potentially hazardous wastes that are excluded from EPA's May roster, either because they are covered by other reg-

(see next page)

WASTE...

(continued from page 1)

ulatory programs or are yet to be fully scrutinized for controls.

That list, of particular importance to the Rocky Mountain region, includes radioactive wastes, mining overburden, and fly ash, slag and drilling fluids from energy development operations.

As a result of this regulatory division, the official hazardous waste label is restricted today largely to industrially produced substances.

Compared with the East and West coasts, the Rocky Mountain states generate very little officially recognized hazardous waste. The seven-state area produces only one-and-a-half percent of the nation's total 60 million tons produced each year. And half of that is from the Denver and Salt Lake areas.

WHO'S DUMPING WHAT

Nevertheless, the hazardous waste that is produced here is often mismanaged.

The manager of a rural landfill in Fremont County, Wyo., recently admitted he hadn't the faintest idea what was being dumped because he didn't inspect the shipments. "Oil, uranium waste, heavy metals, mercury, pesticides, you name it, we may be getting it in our dump," he said.

Residents of Pocatello, Idaho, have had their streets paved with slag from phosphate ore, with an as yet undetermined health impact.

And residents next to the Denver disposal site may be consuming a wide assortment of hazards through their water supply.

No regulatory official to date — local, state or federal — knows how much hazardous waste is being generated or where it's being dumped. Official figures, like the 60 million tons a year statistic, are mere guesses and may be way off.

Spurred by headlined disasters such as Love Canal and Valley of the Drums, the Environmental Protection Agency this year released several sets of rules for hazardous wastes.

The rules, promulgated under the 1976 Resource Conservation and Recovery Act, are possibly the most complex this country has seen. They require that all firms that produce, haul or store wastes notify the EPA. Almost 60,000 have done so and have been given identification numbers.

The rules also demand that each shipment of waste be accompanied by documentation intended to track the wastes from "cradle to grave."

The whole scheme is designed to end midnight dumping — hazardous waste abandoned in fields or along roadsides — or the less unscrupulous practice of simply using regular garbage dumps.

But there are problems.

Last Friday morning, and twice a month for more than a decade, **High Country News** has spun off the backroom presses of the local county newspaper.

During the print run, a gallon of water is mixed with three ounces of detergent V-2020 and applied to the printing plates to keep the ink off the paper's white spaces. Every few weeks, a solvent is used to clean the presses.

Neither substance, however, is used in sufficient quantity to qualify for a 2,200 pound a year minimum set by EPA for compliance with the new system; the printer of a small paper may, if he chooses, dispose of his toxic wastes at the local landfill.

There are thousands of similar small businesses throughout the Rockies. Fred Rotter, manager of Dave's Auto Body and Paint Shop in east Denver, which paints up to two cars a day, says he hasn't even heard of the new EPA regulations, and sees no problem in continuing to dispose of the quart of vent he produces daily in the back alley garbage can.

Generators that do qualify by producing more than 2,200 gallons a year, may be evading the regulatory net. EPA suspects as many as 10,000 delinquents.

THE FEAR FACTOR

Public opposition to the siting of hazardous waste dumps is creating obstacles that may make even careful disposal difficult.

The seven-state Rocky Mountain region has only two approved commercial disposal sites. If legally disposed of, organic chemicals produced in Montana travel to either Twin Falls, Idaho, or Denver; more dangerous substances such as pesticides may journey as far as Arkansas.

A phenomenom, known by regulators as the "public fear factor," has surrounded such facilities, but is often unjustified, said Hank Schroeder of EPA's hazardous waste office in Denver. "The gasoline truck filling their local stations is probably more dangerous than most hazardous waste transport," he said, while a modern disposal facility can be "perfectly safe."

Public opposition to disposal sites will be a particular problem in Wyoming and the Dakotas, which do not have commercial dumps yet, said Schroeder. Roger Thorvilson, Montana's hazardous waste chief, agrees. "We'll have lots

Recycling toxics to ease the waste burden

by Michael Moss

DENVER — When the federal rules to control hazardous waste came out earlier this year, they were heralded as the missing link in environmental protection, joining with air and water quality standards to "close the circle" of regulatory control.

But even if the hazardous waste program helps prevent future Love Canals, the closed system analogy is misleading. The new controls are not aimed at reducing the 60 million tons of hazardous waste created every year, and a massive waste stream, albeit a better managed one, is still flowing full throttle.

Regulatory officials are hoping that the complex and costly rules they've assembled will indirectly work to reduce waste volumes.

That speculation is shared by industry and many environmental groups. Several larger firms in the industrialized Front Range regions around Denver and Salt Lake have indeed started such waste reduction programs, at least partly in response to the new regulations.

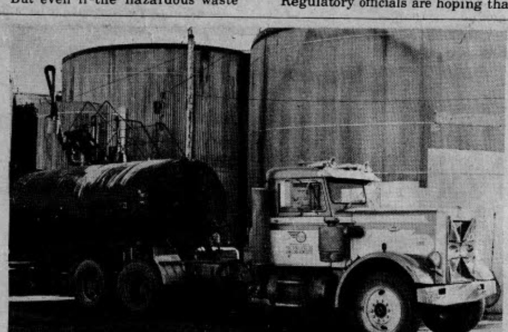
Such programs, however, are still out of reach for most of the small and medium size businesses scattered throughout the Rocky Mountain West.

Lacking the technical expertise and capital to retool their operations, the smaller firms are forced to continue wasteful manufacturing processes and dumping reusable hazardous waste.

Their impact is not inconsequential. Small industry generates most of the hazardous waste in this region. And the alternative to both costly disposal fees and recycling is often illegal dumping.

Furthermore, many observers fear that under the pressure of an undiminished waste stream, even the best designed management scheme could be swept under by a whirlpool of toxic chemicals.

As with all measurements in the



RECYCLING THE WASTE generated by this asphalt processing firm in east Denver is making more dollars sense to service representative Bill Brooks.

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Dear Friends,

We have a lot of catching up to do in this column. Lately, there just hasn't been room for it — we're writing too much. The result is a long backlog of news about our extended family. It's Thanksgiving, so we'll indulge ourselves.

Sarah Doll, our longtime editorial assistant, is resigning the editorial part of her duties, although she will continue to do bookkeeping for the Research Fund. Sarah's worked as a volunteer for **HCN** since 1975. She's hauled fresh papers up the stairs on press day and carried clipped papers down the stairs to the recycle dump, proofread miles of galleys, and written western roundups and centerspreads. Now she finds herself working for her husband David (an anesthesiologist) and the Sierra Club, giving music lessons, and busy finishing the solar greenhouse that she and David began two years ago.

We'll certainly miss Sarah's sharp eyes on the copy, but we're glad she's still keeping them on the HCNRF.

Louisa Willcox, too, has moved on from the masthead to teach a winter camping course, but she still lives up the street. She has been a jack-of-all trades during the three months she worked for us: writing, editing, doing layout and contributing editorial ideas. She has several stories under way that will appear in future issues.

Most of you will recognize the "new" names we've added. Dan Whipple is back. Dan flew the coop last year to work for **Business Week** in Houston. He never felt comfortable there — and the folks he interviewed, too, might have been nervous about this unkempt fellow in the three-piece suit and old running shoes. He decided it was more fun to be broke, work for **HCN**, and chink logs to keep warm through a winter in the Wind Rivers. At least here he can sing in the composing room.

When Michael Moss told us over the phone that he had stopped his incessant running during his three-month stint in Germany, we figured he would finally put on a few pounds. His postcards from pubs around Europe convinced us: if not the German cooking, then the Irish stout. Yet the tall fellow who appeared a few weeks ago has less wind-resistance than ever. He treated us all to German chocolates his first night back, as if to confirm his wierd metabolism.

But he returned plump with ideas. For the last five days he's been smacking the keys day and night on the opus that surrounds this column. From the list of story proposals he's throwing out, this is just an appetizer.

— the staff

of problems in getting both onsite facilities and new commercial ones approved," he said.

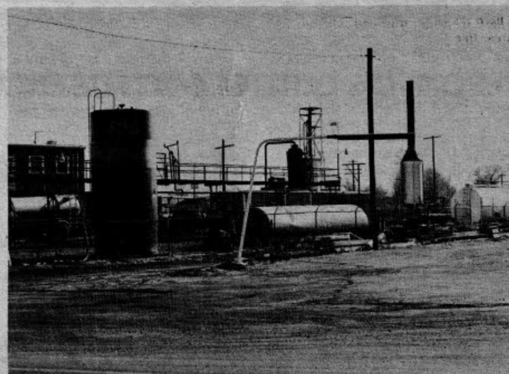
One new trend in the siting business, which Thorvilson calls a "great way to go," is the concept of transfer stations — firms that act as intermediaries between generators and distant disposal sites, temporarily holding the wastes until large, economical shipments can be made.

"Citizens would accept them more readily," said Thorvilson, "and they'd make compliance with EPA rules much easier."

EPA's Schroeder acknowledges the attractiveness of the concept, noting that Utah may soon have three such stations operating for Nevada and Idaho disposal sites. But, he cautions, if the transfer stations have a turnover of less than 90 days, they may be exempt from most EPA regulation.

The public fear factor has also created skirmishes over interstate shipments.

Montana, which generates annually some 60,000 tons of copper and lead smelting sludges and other wastes, sends some five percent of the most toxic to Oregon and Idaho.



MILT ADAMS, Inc. has tapped the waste oil recycling market to the tune of 3 million gallons this year, and is gearing up to lubrication oils if EPA rules don't interfere.

And Wyoming sends almost 4,000 tons a year of asbestos insulation and pathological hospital materials to Colorado, according to one study.

Host states are becoming more reluctant, however. An attempt last month to ship PCBs from the Rocky Flats nuclear weapons plant near Denver was turned back at the Arkansas border. And conversely, Janice Burnett of the Colorado Attorney General's Office has been researching techniques to legally restrict shipments into her state.

STATE CONTROL

Despite the public fear and borderline bickering, or perhaps because of those factors, states' interest in managing their own hazardous waste programs seems to be growing.

Colorado, Idaho and Wyoming now have joint state-federal programs, in which the states are paid by the feds to do some of the legwork, while EPA retains enforcement duties (spot checking for violations) and general oversight.

Montana and the Dakotas have applied for full state-run programs. Utah, the most advanced of all, has had a voluntary system for two years and was just given approval to do its own program, start to finish.

EPA officials claim to have pushed the concept of state control from the

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hazardous waste business, estimates vary widely as to how much waste can be eliminated. The experts simply do not know.

But most firms embarking on conservation programs expect cuts of one-third to one-half, with initial reductions of 10 percent or more achieved by simple machine adjustments or cutbacks in raw materials.

When it comes to recycling what is left, estimates range from 10 to 80 percent.

Most regulators believe some 6 million of the 60 million tons of hazardous waste generated annually in this country could be recycled, at a direct savings to the companies of some $300 million this year alone.

Again, the figures vary. But most observers say we are now recycling less than one percent.

At the root of the new federal hazardous waste management program is the 1976 Resource Conservation and Recovery Act.

As the name implies, the law focuses on waste reduction and recycling. It gives the U.S. Environmental Protection Agency the mandate to promote conservation-oriented programs.

In the rush to deal with dangers at thousands of existing waste sites, however, that focus has all but faded away.

"Their research and development budget for waste reduction is nil; zero," says Barbara Brereton of the League of Women Voters in Washington, D.C. "EPA is pushing solely towards landfills as the solution."

John Wardell of the EPA's hazardous waste division in Denver and other agency officials don't dispute that charge.

They say their budgets are limited, and they give a higher priority to managing existing waste nightmares than planning for the future.

One concept EPA **has** tried to promote is the idea of waste exchanges, where firms with excess raw materials or byproducts are put in touch with firms that need them.

The shopping list is long: organic chemicals, solvents, oils, fats, catalysts and sludges, to name a few. Their definition is one of attitude: they are wastes only in the eye of an unwilling holder.

About two dozen waste exchanges operate in the country. However, most are mere information services. Only seven are for-profit exchanges, functioning as broker-like operations, and only one emphasizes hazardous wastes. None are in the Rocky Mountains.

Paul Palmer, operator of Zero Wastes, Inc., in Oakland, Calif., one of the seven for-profit ventures, blames EPA for the dearth of exchanges.

"They're trying their hardest to get everyone to put everything in the ground," he charges.

But Rolf Hill, director of EPA's Waste Exchange project, couldn't agree more with Palmer's enthusiasm for recycling.

Hill's goal through the EPA project is to encourage private businesses to set up for-profit exchanges across the country. But, he laments, it's a "one man program with a zero waste budget."

"Three years ago, 80 percent of my time was on recycling," Hill says. "But with our shift in priorities towards management regs, it's only 20 percent now. I have (no allocation) in the 1981 and 1982 proposed budgets."

Promotion of hazardous waste recycling by state agencies is equally stunted.

About one-tenth of one person's time goes towards encouraging recycling, says Al Hazle, head of the Hazardous and Radioactive Wastes Division of the Colorado Department of Health. "We nor anyone else has an aggressive effort to encourage recycling, and it's unfortunate," he says. "But we don't have the legislative authority."

With government support out of the picture, private industry is being left on its own to weigh the economic advantages of recycling. The results are mixed.

Coors Industries, of Golden, Colo., spent some $600 a day this year to dispose of 14,000 gallons of sludge and oily waste, the daily byproduct of its aluminum can production facility.

The wastes contain toxic chemicals that are classified "hazardous" by the EPA. Facing substantial increases in dumping fees, Coors is embarking on a plan that, according to company spokesman Ben Franklin, will cut Coors' wastes and disposal fees by 50 percent.

Frank Hazlewood, operator of a waste transport company that handles 16,000 gallons of hazardous plating residue and lime slurries a month, says the increased cost of complying with new EPA regulations will make recycling "beautiful."

"I'm already seeing some of our customers cutting down on generation," he says.

But for smaller industries, economic analyses do not always yield similar conclusions about the need to reduce wastes or recycle.

Disposal fees would have to be "radically higher" to affect his operation, says Bill Brooks, service representative for Asphalt Supply and Service Co., a small assemblage of tanks and pipes in industrial east Denver.

The firm sold some one million gallons of asphalt for highway construction last year. In the process, it produced about 10,000 gallons of an acidic, asphalt slime with a disposal cost of $180.

Asphalt Supply is starting an effort this winter to recover the asphalt in that solution, eliminating much of its waste problem.

But the reason, says Brooks, is the higher value of asphalt, not disposal fees.

A wide range of small businesses, from auto painting shops to pharmaceutical manufacturers, feel, like Brooks, that it's still easier to dispose than recycle.

On the other side of the picture, the new EPA program may hinder some existing recycling efforts.

Milt Adams, Inc., is one of Denver's fastest growing waste oil recyclers. The company converted some three million gallons of used car oil and other lubricants into burner fuel last year, and is switching to more profitable lubrication oils next year.

But the new EPA rules have complicated his operation, says owner Milt Adams. "I have to spend the same amount of time and money whether I'm handling waste oil or PCBs."

Much of the neglect of recycling is due to a lack of technical know-how, according to Palmer of Zero Waste and other recycling advocates.

Conducting a two-year study of hazardous waste management for the Colorado League of Women Voters, Ardith Hunter says she "ran into a void" when it came to data on recycling efforts.

Not a single agenda item at a waste management workshop next spring sponsored by the Colorado School of Mines deals with recycling or waste reduction techniques. "We just didn't think of it," says professor of chemistry and workshop coordinator George Lucas.

The proposed final resting place for much of the hazardous waste in the Rockies is 15 miles southeast of downtown Denver — *the Denver-Arapahoe Chemical* Waste Processing Plant, adjacent to the old Lowry Landfill.

As the last stop for most wastes, it is also the last chance to salvage what can be recycled.

It's too early to predict what the capabilities of the waste plant will be. In fact, an outcry from nearby residents may block the new dump completely. But representatives of the facility's owner, Chemical Waste Management, Inc., at least pay lip service to recycling.

"Resource conservation and recovery. That's what (the Resources Conservation and Recovery Act) stands for and that's what it's going to come down to. Eventually we're going to be putting in the ground only what we have to," says facility engineer Jerry Pacocha.

The company is proposing a separation tank for oil recycling. Even if Chemical Waste Management proceeds with its operation, however, and builds the separation tank, it will only catch a fraction of the waste generated.

The key to recycling is to keep the byproducts separate at the factory, says Palmer. Once they are mixed in a barrel and driven to the dump, the cost of separation becomes prohibitive for most substances other than oil.

In many cases, it's a simple matter of minor adjustments in processing. The major hurdle, says Palmer, is attitudinal.

"It's the throwaway mentality of Americans," he laments. "'I have something that I don't want; therefore it is garbage and disgusting, and I should kick it over the edge of the earth and forget about it.

"But if it hurts to throw it out — and it does hurt no matter how regulated the disposal system is — why not keep the waste and reuse it?"

John James Audubon

The prodigal son became a conservation father

© 1980 by Peter Wild

Billing himself as an "American woodsman," John James Audubon shook his frontier locks and let it be known as he toured England that he was a crony of the famous Daniel Boone — then to prove it he howled like a wolf until he was hoarse.

He hinted at a mysterious background, encouraging the belief that he was none other than the Dauphin, offspring of Louis XVI and Marie Antoinette. In less expansive moods he claimed to have been fathered by a mere admiral in the French navy.

Audubon's romanticism found extravagant expression throughout his long life. Earlier, when accused of philandering with his art students, he escaped to wander penniless through America's woodlands. He called himself by a variety of names: Rabin, Laforest, Fougère. He reveled in the outdoors while his inheritance, his wife's dowry and borrowed funds ran through his fingers.

To top things off, Audubon's descendants, hoping to cast a more favorable light on their enterprising relative, bowdlerized his diaries, thus tangling the details of an already complicated life.

These confusions have only goaded scholars' attempts to unravel the truth. In fact, John James Audubon was neither an aristocrat nor a woodsman of Daniel Boone's intrepidity. Despite lofty dreams, he floundered for years, an amateur painter and inept storekeeper in various towns along the American frontier.

Unlike other dreamers, however, he possessed an unusual talent: he could paint birds as no man before or since has painted them. When one reflects on the "woodsman's" life, it is difficult to say which is more unusual: Audubon's books, which rank among the most remarkable contributions to science and art, or the career that produced them.

SATIN AND SILK

In 1803 Audubon's father, an honest French sailor, sent 18-year-old John James off to a farm he had purchased in the United States. Mill Grove, now a wildlife sanctuary and Audubon shrine near Philadelphia, offered the youth an idyllic setting for his dreams. The hilltop farmhouse overlooked a patchwork of cultivated fields and woodlands along Perkiomen Creek.

The new arrival had no responsibilities, and he certainly didn't volunteer a hand with the farm chores. Instead, he quarreled with the overseers of his father's modest interests for a larger allowance and generally played the dandy. Hard-working neighbors paused in their fields to look askance at the foreign teenager "roaming the placid Pennsylvania landscape" as one Audubon scholar pictures him, "in satin pumps and silk breeches." He had begun a pattern of self-indulgent wandering and delight in the outdoors that would take precedence over the needs of his family and the demands of angry creditors.

Sketchbook in hand, he often visited a favorite haunt, a small cave by the Perkiomen. Sometimes neighbor Lucy Bakewell went along, supposedly to watch the antics of nesting phoebes and to look on while he banded the birds. Lucy's father, a modestly well-off immigrant from England, liked John. But the gentleman farmer harbored reservations about the developing courtship, about the Frenchman's show-off glissades on skates, his flamboyant conversation, the dubious claims that his "admiral" father had known George Washington. Nevertheless, despite protesting letters from the elder Audubon and the apprehensions of the cautious Bakewells, the couple was married in the spring of 1808.

The day after the wedding the enthusiastic newlyweds left the Pennsylvania countryside for the Kentucky frontier. Though the groom enjoyed travel, pointing out sights along the way, it was a difficult trip for the bride. Gentle, homesick Lucy, used to the comforts of settled farm life, winced at the flea-infested public inns, at the greasy food and unwashed sheets. As the coach jounced over one steep grade in the Allegheníes, it lurched, then toppled over, and was dragged on its side by the frenzied horses.

PERSONABLE PRODIGAL

The mishap was a portent of things to come. In Louisville Audubon saw a prosperous future in the general store he set up along one of the frontier town's muddy streets. But he continued the pattern of Mill Grove. While his partner, a Frenchman named Rozier, measured out lace and flour, and while Lucy tried at home to feed a family from a depleted larder, Audubon was off painting birds. They were "the objects of my greatest delight" and "my days were happy beyond human conception" he says without a twinge of conscience. By 1810 he had a portfolio of some 200 birds. He had become a colorful figure in the community, valued for his dancing, his practical jokes, his bonhomie. The business, of course, had failed.

Typically, Audubon's reaction to failure was to repeat it. He moved 125 miles down the Ohio River to Henderson, whose 159 inhabitants demanded mostly gunpowder and whiskey — not the fineries he ordered from France. Again, Rozier brooded alone behind the counter and again Lucy made do with catfish dinners while the sportsman was off with rifle, dog and notebook. Briefly, they moved the store downstream to the mouth of the Ohio, then re-established it again in the unpromising Henderson.

This time Audubon's failure was worse than before. He borrowed heavily to build a huge lumber and corn mill — a behemoth far too large for the community's needs. Soon Hendersonites had had enough of the handsome but glib Frenchman. Ominously clutching muskets, creditors lurked outside the Audubon cabin, eager for payment of debts. Audubon had the sense to slip out of town, but his old haunts no longer provided a refuge from troubles. As the depressed artist roamed the forests, this time his beloved birds "all looked like enemies." Finally the law caught up with him and clapped the once effusive Audubon into debtor's prison.

His plea of bankruptcy released him into an unfriendly world. Disgraced in the eyes of family and former business associates alike, he set out for several years of roaming the Ohio and Mississippi River valleys.

His imagination now served as an escape from despondency. Later, the artist would draw from his diaries for the text of **Ornithological Biography,** a book that in some ways is as much about Audubon as it is about the habits of birds.

Painting provided another outlet. Years earlier a man named Alexander Wilson had visited Louisville, selling subscriptions to an unusual book. At a time when few American scientists considered the field of study worthy of their interests, Wilson's **American Ornithology** furnished the descriptions, habitats and distribution of many birds. Unable to afford the nine-volume work, Audubon gaped over Wilson's portfolio, its colored plates spread out before him on the counter of his country store. Audubon knew that he could do better than Wilson's rather stiff renditions. It occurred to him that he too might turn his talents into a profitable enterprise.

If anything, this sustaining dream grew larger through the years of repeated setbacks. In 1824 Audubon arrived with his own portfolio in Philadelphia. But Philadelphia's scientists, then at the center of American learning, were not about to admit this backwoodsman into their midst. When scholars sniffed at the "ill drawn" and "anatomically incorrect" birds, the painter stormed out of the City of Brotherly Love.

People in New York, in Niagara and Pittsburgh, if less brutal, were not encouraging. Having passed the age of 40, Audubon now saw that his choices were clear. Either he'd have to quit the book project entirely or make one last try for recognition. He wallowed in self-pity for a while.

Then, true to form, he took the more ambitious course. In 1826 Audubon sailed for England, his ticket partly paid for with money that Lucy had saved from a tutoring job.

LOUISIANA HERON by John James Audubon Courtesy of The New-York Historical Society, New York City

THE REWARD, AT LAST

Flushed with dreams of imminent success, Audubon no more than set foot in Liverpool than he was off buying expensive watches, one for himself, one to send back to Lucy. But that was the last gasp of his childish ways. He made the most of letters of introduction wrangled from people in the United States to establish influential contacts, among them literary luminary Sir Walter Scott. These contacts helped the personable woodsman to exhibit his work in Liverpool, Manchester, Edinburgh, London. Though he suffered his share of rebuffs, Audubon found Englishmen, with their long tradition of learning, fascinated by his combination of science and art. Easily slipping into the role of showman, Audubon repaid his new friends with witty conversation and tall tales of frontier life.

After years of humiliation the rewards came at last. In 1827 London engraver Robert Havell agreed to publish Audubon's drawings. It was a monumental undertaking. For 11 years craftsmen strained in Havell's shop, transferring Audubon's work onto copper plates for printing. The artist took breaks from fussing over the shoulders of Havell's colorists to stump for subscriptions to support the printing, and traveled to Florida, Labrador, and Texas in search of additional specimens to paint.

Havell and Audubon completed 435 plates issued in separate volumes over the years. They included 497 species, life-sized, set in their natural habitats — some flying, others tearing at a rabbit or spearing a frog. Spurred by recognition from both sides of the Atlantic, the aritist published **Ornithological Biography,** a text for his bird portraits.

Upon his return to the United States in 1839, Audubon was able, after 30 years of marriage, to give Lucy what she had always wanted, a permanent home. On the upper part of what is now congested Manhattan Island, he built a comfortable Victorian house amid 30 acres of wooded land overlooking the Hudson River. In Lucy's honor he called the estate Minnie's Land, incorporating her nickname. To that place of brooks and waterfalls, of hemlocks and hardwoods, he brought deer, elk and the other wild animals they both loved.

Courtesy of The New-York Historical Society, New York City

SNOWY EGRET, Audubon

For all the unsettled years of laborious self-promotion, Audubon had one more trip to take, another book to write. Approaching the age of 60, the artist fulfilled a lifelong dream, a journey to the American West of the upper Missouri River. It was by no means a lone and impoverished ramble this time, for when he boarded a river steamer at St. Louis he took along a group of naturalist friends. As always, he put in long days of painting, but he readily laid aside his brushes for hunting forays and chats with soldiers at the Army posts along the way.

As the **Omega** chugged up the sluggish Missouri, Audubon had his heart set on the fabled Rocky Mountains. He explored around the mouth of the Yellowstone River, then still a wilderness on the present Montana-North Dakota border, but he never made it to the West's spine. At Fort Union rumors of Indian troubles brought the trip to an end. In the fall of 1843 he returned to Lucy and Minnie's Land for serious work, using the skins of grizzly bears, wolves, and antelope he brought home with him as models for **The Viviparous Quadrupeds of North America.**

"I do not feel old," he insisted, sporting a white beard. Now, though not wealthy, he could afford servants. But to get them he had "laboured like a cart horse for 30 years," he observed. The 14-hour workdays of the past decades took their toll. First his eyes began to fail, then his mind. At last, led by a hired man, he wandered about his estate singing French ditties.

One day in 1851 an old acquaintance visited Minnie's Land. For an instant Audubon seemed to recognize his friend. He exclaimed, "Yes, yes, Billy! You go down that side of Long Pond, and I'll go this side, and we'll get the ducks." Then he slipped back into his mists. A few hours later he closed his eyes forever.

He could paint birds as no man before or since has painted them.

"I TOOK FIRE"

His bird portraits have moved people through the decades. Yet his name often is lost in the broad stream of his influence. Still, his work sparked the careers of several who became prominent conservationists.

"I took fire at once; it was like bringing together fire and powder," said John Burroughs remembering his discovery of Audubon's **The Birds of America.** The book set the youth's course: Burroughs went on to become the foremost nature writer of the latter 19th century.

In Scotland, John Muir, along with thousands of other youngsters of the time, first discovered nature writing through Audubon's work. The introduction was, testifies a Muir biographer, "the only part of his Dunbar schooling he enjoyed." Immigrant Muir went on to found the Sierra Club and become the most romanticized figure in American conservation.

Another youngster, George Bird Grinnell, never met Audubon. Some time after the artist's death Grinnell grew up in a house on the Manhattan estate, known then as Audubon Park. He played with the Audubon grandchildren and discovered some volumes of **Ornithological Biography** while he explored a barn. Grinnell also attended a school that aging Lucy conducted for the neighborhood children. Much under the Audubon influence, when the scientist, editor, and conservationist founded the first Audubon Society in 1886, he honored both the painter and his wife with his choice of the name.

Despite the lack of foresight in his own topsy-turvy life, the painter saw the future of wild America. He wrote of "woods...fast disappearing under the axe" at a time when America's forest heritage seemed unlimited. Among a handful of perceptive Western travelers, he was dismayed at the slaughter of buffalo. As to birds, then being massacred "in vast numbers for the sake of their feathers," he lamented, "This war of extermination cannot last."

Commenting on Audubon's paintings, Alexander B. Adams summarizes the artist's contribution:

> "Just as he intended them to be, they were whole pictures — birds and background and sky blended into one — each sheet representing a fleeting instant captured for all time. And they gave visions to other men, enabled them to help a pragmatic people see a bird for what a bird is, to think of golden plovers as something more than a crop that could be harvested free except for the cost of the shot, of beavers as something more than fur for men's hats, of trees as something more than firewood or planks."

Energy

Uranium tailings

"Defeated" Montana initiative now a winner

More than two weeks after the polls closed, Montana election officials announced that a statewide initiative banning the disposal of nuclear wastes in the state had passed, not failed, as originally reported. Unofficial tallies earlier indicated that Initiative 84 had failed by 2,207 votes. The final official count, released on Nov. 19, showed, however, that the initiative had passed by 623 votes.

The final count was 172,796 in favor and 172,173 against.

State election officials said they had never seen such a discrepancy before between unofficial and official returns. They could offer no explanation for the variation.

The results have caused a lot of strategy shifts among the interested parties. Ed Dobson, one of the chief organizers for the campign in favor of Initiative 84, had already been circulating petitions asking for a vote recount. The petitions are now unnecessary. Upon hearing of the surprise victory, Dobson said, "We won. I'll be damned."

On the other side of the coin, Montanans for Jobs and Mining spokesman Gary Langley said his group is petitioning for a recount. The industry-sponsored group spent about $100,000 to defeat the initiative, while Dobson's group spent only $1,000-$2,000.

Backers of the initiative believe that the opponents will lobby the state legislature in 1981 for amendments to the measure. Jim Lynch, spokesman for the Missoula anti-nuclear group Headwaters Alliance, told the **Missoulian:** "Its opponents are certain to challenge the law in the 1981 legislature. They have a lot of money invested in the initiative's failure, and they're not going to just give up and walk away."

According to Langley, a court challenge of the new law is also possible. His group has maintained throughout the campaign that the ballot description contained "deceptive language." Langley said that the initiative is a ban on uranium mining, despite the fact that the wording on the ballot said it was not. Supporters say the law will not prevent mining, but it will ban the disposal of uranium wastes and mill tailings in Montana.

Unless the recount reverses the new, official tally, Initiative 84 becomes law on Dec. 1.

ARCO gives $100,000 for Colorado coal road

by John Ponce

Atlantic Richfield Company has begun paving the way for a proposed 2.8 million ton per year underground coal mine in Gunnison County, Colo. Even though the company is still in the early stages of its permit process, ARCO has given a *$100,000 "good will"* gift to the Colorado Department of Highways toward the re-routing of Colorado Highway 133 from the north side of the Gunnison River to the south.

ARCO hopes to begin construction of the mine in the Spring of 1981. However, the donation enabled the highway department to begin the $689,000 bridge work. The re-routing project has lain dormant in the department for nearly 12 years. ARCO's $100,000 is being put toward a recently-let contract for the bridge.

Bob Moston, Department of Highways construction engineer for the project, said ARCO's donation does not set a precedent but "is certainly unusual." He can't remember a corporate donation of similar magnitude to state highway work.

The gift will spur immediate work on the switching of three miles of old roadway to the river's south side. The north side roadway lies in part on the Denver and Rio Grande Railroad right-of-way. ARCO benefits in two ways from the highway shift. First, Denver and Rio Grande will service the ARCO mine. It needs the space now occupied by the highway for return tracks on the loop from the mine. Secondly, the new bridge across the river can be used by the company's trucks as it begins construction of its mine, which is also located on the south side of the Gunnison.

Even though ARCO is still in the permit process with local state and federal agencies, the firm apparently has not attempted to use the highway gift as a pressure tactic for rapid approval, and has even avoided mentioning it to regulatory agencies. Jim Herron, reclamation specialist with the Colorado Department of Mined Land Reclamation, said he was unaware of the gift. Joanne Williams, Gunnison County planning director, said, "They haven't used it as leverage at all." Review agency personnel described ARCO in terms like "cooperative," "straightforward," and even "neat."

ARCO's proposed mine site is on the Western Slope east of Somerset, Colo. The area has been a coal mining district for generations. The Mt. Gunnison Mine will be built near the long-established Bear Coal Mine, Western Slope Carbon's Hawks Nest Mine and U.S. Steel's Somerset Mine.

Besides its leasing purchases, the $100,000 highway gift is ARCO's first visible investment in the area. For some time, Paonia, Hotchkiss and Delta Counties — the areas to be affected by the proposed 550-man work force — have seen ARCO as much talk, little action. The company has no offices in the area, no dusty pickups with "ARCO Coal" lettered on the door panels.

However, according to spokesman Curt Burton of the company's Denver office, "This coming spring and summer will not go to waste...things are beginning to happen." Cheryl Wehmanen, permit coordinator for the ARCO Coal Company, said, "We're looking for construction in early spring and we're shooting for early February."

Another ARCO spokesman, mine development director Ernie Kuchta, said that the mine would have begun construction even without the highway improvements. He said, "Either way, we were going to begin. We would have used the existing Bear Mine bridge — just beefed it up."

ARCO's hopes for an early start-up may be optimistic, however. Though the federal Office of Surface Mining seems disposed to approve the mine, they still have not received a complete application from the company. ARCO's lease contains almost entirely federal coal and much of it is part of the U.S. Forest Service's holdings on the Grand Mesa, Uncompahgre and Gunnison National Forests.

Walt Swain, an OSM environmental scientist, said it will be mid- or late December before OSM can determine whether ARCO's latest permit proposal is complete. The permit then faces as much as four months of further federal review. "That's assuming everything goes according to plan," said Swain. If any delays crop up, ARCO may be facing a summer — or later — start-up. However, Swain said no problems have cropped up so far — "None that I don't think can be worked out."

ARCO's tightest scrutiny may come from the Gunnison County government. Planning director Williams said, "Not until next summer, maybe not until the middle of it, can they do anything." County officials would like to see a revision of the company's socio-economic study. Issued in early 1980 by a consulting firm, officials say the study is riddled with errors about the people and institutions of the impacted area.

While county officials said they were pleased that the energy firm has come up with front-end money for the highway project, the company has not yet volunteered any funds for other potential impact problems. However, said Williams, "ARCO has been cooperative."

The mine will probably be welcome in the area, which has seen several generations of coal miners. Some local mines are currently working short weeks, but unemployment has not been a problem, even though the coal market has been very soft for the last year. ARCO expects to employ 560 to 570 people at peak production, and hopes to draw most of its work force from the area.

ARCO mine development director Kuchta said the company foresees a relatively small first-stage mine, operating at about 250,000 tons per year, until the coal market firms up. He said, "We haven't even sold the coal yet."

ARCO also operates coal mines in Wyoming and Utah, as well holding several leases in the West.

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John Ponce is publisher of the **Paonian Herald** in Paonia, Colo. Research for this article was paid for by the HCN Research Fund.

Hot Line

FINAL LEASING PLANS. The Interior Department has settled on coal leases in the Green River-Hams Fork region of southern Wyoming and northern Colorado totalling 450 million tons. The first tracts will be offered for lease in January, 1981. The level of leasing is designed to produce about 18 million tons of coal per year — down from earlier targets. Of the 450 million tons to be leased, about 100 million will go to expand existing mines; the rest will be for new mining operations. The lease target is way below recent Department of Energy targets for the area, which would call for a lease sale of 810 million tons; but higher than some environmentalists recommended. Three tracts in Colorado will be up for bids Jan. 13; three tracts in Wyoming will be leased Jan. 14, and three more tracts will be leased in April.

from The Complete Book of Insulating

Figure 16

A foil-faced isocyanurate board makes a very effective thermal shutter.

INSULATED WINDOW COVERS. A test conducted at the Pitkin County (Colo.) Courthouse is challenging the common belief that ceiling insulation is the single most effective means of reducing building heat losses. The test, conducted by Solar Power West of Aspen, Colo., found that moveable insulated window covers reduced gas consumption in the 100-year-old courthouse by fifty percent in comparison to the previous winter. The tests began in December, 1979. The courthouse has no insulation in its walls and only a small amount above the third floor ceiling. Raymond Augur, who owns Solar Power West, believes that the record of moveable insulation systems for windows leaves little doubt that they can be considered the most effective conservation improvement that can be made for most buildings, according to **Solar Flashes,** the newsletter of the Colorado Solar Energy Association.

GEOTHERMAL BRIDGES. According to the signs along the roadside, "Bridges freeze before highway." In order to defeat this heretofore vexing problem, the University of Wyoming and the Wyoming State Bridge Engineers have developed a system to de-ice bridges using geothermal heat. A network of pipes is placed under the pavement before the concrete of the bridge is poured. These pipes are connected to pipes containing liquid ammonia placed 100 feet underground. The heat of the earth at a depth of 100 feet is 43 degrees. This temperature

Energy

PLI: Enforcers undermining federal strip mine regulations

by Geoffrey O'Gara

An environmental group based in Denver has charged that the federal Office of Surface Mining and five western states have failed to police strip mine reclamation properly under the federal Surface Mining Control and Reclamation Act.

The report released by the Public Lands Institute said, "Far from overzealous enforcement, the agencies are under-regulating...No agency turned in a performance record that could be termed fair or better."

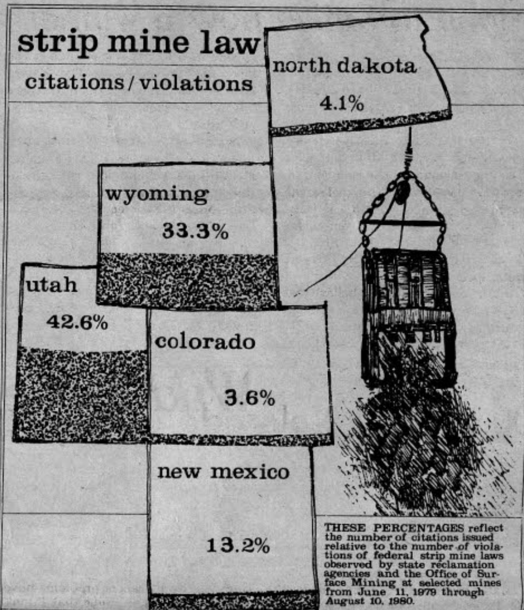
The study examined programs in Utah, Wyoming, Colorado, New Mexico and North Dakota, as well as the work of the federal Office of Surface Mining, to see if they were meeting interim standards set by OSM for enforcing reclamation.

According to reports filed by the states and OSM inspectors, the various agencies repeatedly failed to meet the required minimum number of mine inspections, and they had not issued citations for many of the violations found by mine inspectors.

Among the violations cited in the report for which citations were not issued were failures to obtain permits, failures to control run-off and save topsoil, and violations of waste disposal, water pollution and pollution monitoring regulations.

Donald Crane, director of the OSM's Region VIII office in Denver, which oversees the area's state programs and inspects mines on federal lands, said three weeks after the report was issued that he had "been out of the office a while" and would not comment "until the analysis is done." Region VIII officials are expected to meet with the report's authors this week.

The Institute's report has been published at a time when OSM is under fire from other quarters: Its budgets for on-site inspectors have been stripped by the Carter Administration's cost-cutting efforts (see **HCN** 7-11-80), and rumors from Washington indicate the Reagan Administration may try to eliminate OSM altogether. A conservative think-tank making reorganization recommendations to Reagan has singled out the agency as an example of "over-regulation."



THESE PERCENTAGES reflect the number of citations issued relative to the number of violations of federal strip mine laws observed by state reclamation agencies and the Office of Surface Mining at selected mines from June 11, 1979 through August 10, 1980.

Figures from PLI's "Stripping the Law on Coal"

The Public Lands Institute's Carolyn Johnson, who headed the team compiling the report, said it was not an attempt to undermine OSM. On the contrary, she feels that the report shows the necessity for a strong federal presence to oversee state mine reclamation programs, and noted that OSM performed better than any of the states in meeting the law's requirements.

Among numerous recommendations made in the study is a suggestion that OSM increase its staff and make inspection and enforcement its first priority. It also said OSM should issue citations on all observed violations, make more frequent inspections of mines and issue cessation orders — shut down a mine — when violations are not corrected.

While none of the agencies received good marks, OSM was ranked highest for its performance, followed by the Utah, Wyoming, New Mexico, North Dakota and Colorado state programs. Those states were attempting to comply with interim regulations under the strip mine act. Montana was not reviewed because it had installed a permanent program using different guidelines.

Chips Barry, deputy director of the Colorado Department of Natural Resources, echoing the comments of other state officials, told the **Denver Post** that the report failed to distinguish between the "magnitude of violations and the kind of violations." He said the authors' approach was "outrageous" *for not considering the "human judgment"* factor in issuing citations. "The test of reclamation is whether the land is reclaimed," he told the **Post**, "not a statistical chart."

The report, "Stripping the Law on Coal," is available from the Public Lands Institute at 1740 High St., Denver, Colo. 80218, $10 for businesses and government, $3.50 for individuals and public interest groups.

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causes the ammonia to vaporize, rising up the heat pipe system and releasing the heat into the pavement. A prototype test section of the bridge has already proven successful and the engineers will now build an entirely geothermally-heated bridge in Laramie, Wyo.

GAS PLANT GRANT. Wasting little time, the U.S. Department of Energy has granted a $1.5 billion loan guarantee to the Great Plains Coal Gasification Plant in Beulah, N.D. The guarantee came only five days after the application period closed for companies seeking a cut of the first $5 billion in synthetic fuel loan guarantees. The plant is scheduled to be in operation in 1984 and will produce 125 million cubic feet of gas daily from 4.7 million tons of coal. Total cost of the project will be about $2 billion. The partners in the project are American Natural Resources Co. of Detroit, People's Energy Corp. of Chicago, Columbia Gas System of Wilmington, Del., and Tenneco, Inc., and Transco Co., Inc., both of Houston.

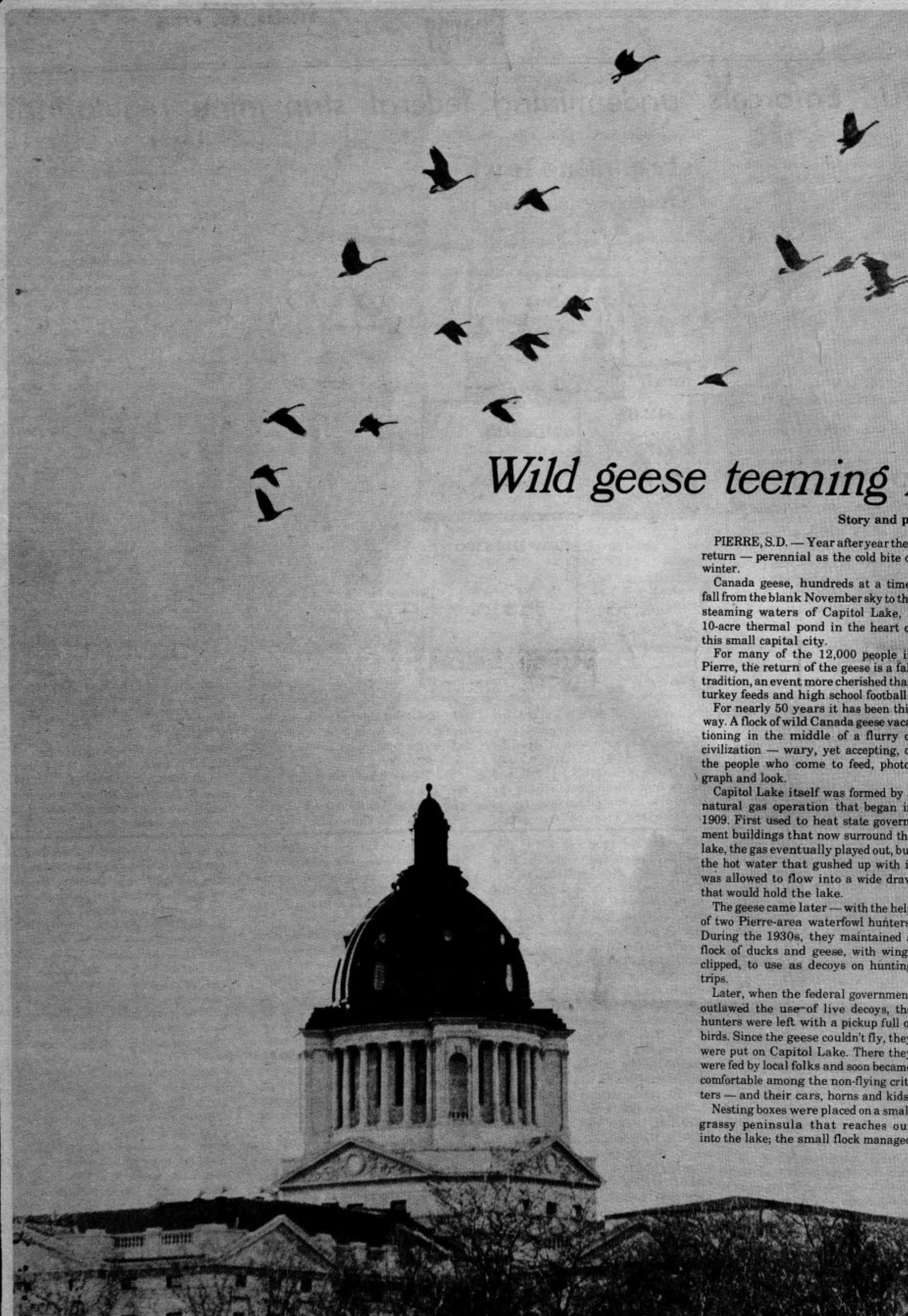
MINERAL WITHDRAWALS REVERSED. The wheels of government sometimes grind slowly. Interior Secretary Cecil Andrus has issued a new public lands order that modifies about 100 land withdrawals in the West made between 1900 and 1920. The order will open approximately 16.6 million acres of federal lands to oil, natural gas, coal and non-metallic mineral development. The lands had originally been withdrawn from development to protect the government's interest in minerals underlying the lands at a time when a settler who acquired the surface of public lands normally also acquired the minerals. The lands were withdrawn to keep them out of the hands of mineral speculators posing as settlers. Since those days, the government has been given authority for competitive leasing of minerals and the withdrawals are no longer necessary. Acreage totals affected are: Arizona, 48,500; California, 81,540; Colorado, 1,189,600; Idaho, 23,500; Montana, 312,602; Nevada, 123,300; New Mexico, 3,118,200; Utah, 3,988,400; and Wyoming, 7,779,400.

TRIBE GETS $3 MILLION. The Northern Cheyenne Tribe in Montana will receive $3 million from Peabody Coal Co. for the tribe's concurrence in an agreement between the company and the Interior Department, granting Peabody coal lease exchanges in return for its cancelled leases on the reservation. Peabody's lease on the reservation was cancelled as of Nov. 1 by legislation that became law this year. The tribe had been trying for nearly ten years to have Peabody's lease voided because of what the tribe considered to be irregularities in the negotiation of the leases. The $3 million will be paid over the next three years. The tribe reportedly intends to open coal lease negotiations with other companies in the next few months.

DOING IN DOE. The Heritage Foundation, a conservative think-tank advising Ronald Reagan, is urging the president-elect to abolish the U.S. Department of Energy. The group wants Reagan first to reorganize the department internally, a move that does not require congressional approval. Then, Reagan would submit a detailed reorganization plan to Congress to transfer most of DOE's functions to other agencies. DOE was established in 1977 by President Jimmy Carter. DOE has been criticized by conservatives for interfering in the free market operation of the energy industry.

NORTHWEST POWER BILL. The U.S. Congress has approved and sent to President Jimmy Carter legislation to increase electric generating capacity in the Northwest. Under the measure, the federally-owned Bonneville Power Administration would guarantee the power needs of over 120 public and private utilities and would help finance construction of both coal and nuclear power plants. BPA would also be able to force customers to adopt conservation and renewable energy programs. Rocky Mountain environmentalists have been critical of the bill, saying it gives BPA too much influence over the development of states' resources. Carter has said that he favors the legislation.

BASKET CASE. Dr. John Sawhill, temporary chairman of the U.S. Synthetic Fuels Corp., told four Western governors recently, "If the synfuels development program is to be successful, America must put all of its energy eggs in one basket." Sawhill intended to reassure the governors — Richard Lamm of Colorado, Scott Matheson of Utah, Ed Herschler of Wyoming and Tom Judge of Montana — that his new corporation would get Congress to pass an energy impact assistance bill for the West. And, Sawhill said, "We want to encourage the governors to move ahead quickly on a state and regional basis toward synfuels development funding." Herschler, speaking for the governors, said he was encouraged after talking to Sawhill. He said, "We must get involved with SFC or we will be overwhelmed." SFC has authority to distribute about $80 billion in federal grants and loan guarantees for synthetic fuel development.



Wild geese teeming in

Story and photos b

PIERRE, S.D. — Year after year they return — perennial as the cold bite of winter.

Canada geese, hundreds at a time, fall from the blank November sky to the steaming waters of Capitol Lake, a 10-acre thermal pond in the heart of this small capital city.

For many of the 12,000 people in Pierre, the return of the geese is a fall tradition, an event more cherished than turkey feeds and high school football.

For nearly 50 years it has been this way. A flock of wild Canada geese vacationing in the middle of a flurry of civilization — wary, yet accepting, of the people who come to feed, photograph and look.

Capitol Lake itself was formed by a natural gas operation that began in 1909. First used to heat state government buildings that now surround the lake, the gas eventually played out, but the hot water that gushed up with it was allowed to flow into a wide draw that would hold the lake.

The geese came later — with the help of two Pierre-area waterfowl hunters. During the 1930s, they maintained a flock of ducks and geese, with wings clipped, to use as decoys on hunting trips.

Later, when the federal government outlawed the use of live decoys, the hunters were left with a pickup full of birds. Since the geese couldn't fly, they were put on Capitol Lake. There they were fed by local folks and soon became comfortable among the non-flying critters — and their cars, horns and kids.

Nesting boxes were placed on a small grassy peninsula that reaches out into the lake; the small flock managed

Reference Target LRT-BE4-V2

n steaming S.D. capital

os by Kevin Woster

to reproduce.

Eventually, the birds increased and lured migrating geese to the warm water pond for all or part of the winter. Now sometimes the flock numbers 3,000 or more.

An understanding has developed between the birds and their human admirers: Come close enough to look, or even feed, but don't touch. For the most part, that treaty is observed, though an infrequent scrambling attempt is made to capture a meal by hand.

As long as they stay within city limits the birds are also theoretically safe from hunters. But, of course, when the birds fly out to feed in nearby cornfields during hunting season, they are fair game.

Waterfowl biologists worry that so many birds wintering on such a small pond may breed disease. But, so far, the birds have stayed healthy.

During much of the windy South Dakota winter, the flock spends the late morning and afternoon dabbling and preening on the lake, and flies out to feed at sundown.

As the geese pound their way in and out, ordinary human activities often stop. Cars suddenly pull to curbs as drivers fumble with lenses and camera cases. Eyes are riveted to the sky, children stand stiff as posts. Frustrated hunters pull imaginary guns and draw diagrams of success.

The town, just for an instant, holds its breath.

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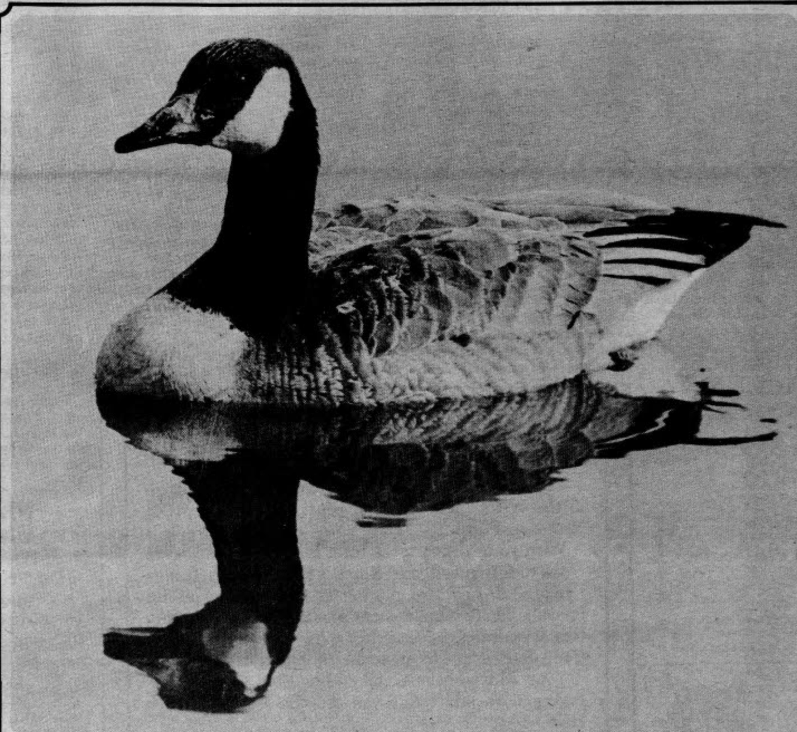
Kevin Woster is an outdoor writer for the **Sioux Falls Argus Leader** in Pierre, S.D. This article was paid for by the HCN Research Fund.



Frustrated hunters pull imaginary guns. Cars stop. Children stand stiff as posts.

Idaho miners find persistent courting of locals pays off

by Lonnie Rosenwald

The pickup truck rounds a curve on the road leading up to the Cyprus Mines Corporation's exploration site. For a moment a distant row of white-capped peaks 22 miles to the northeast comes into view. These are the White Cloud Mountains, popular hiking grounds easy to reach from Sun Valley, Idaho.

A dozen years ago Interior Secretary Cecil Andrus fought to save the White Cloud peaks from molybdenum mining. While running for governor of Idaho he goaded the U.S. Forest Service into blocking a proposed mine, an effort which helped elect him in 1970.

The White Clouds mine was proposed by the American Smelting and Refining Company — ASARCO. While ASARCO staked, Cyprus was quietly reserving its molybdenum claims in the Salmon River Mountains, which are less scenic than the White Clouds, but equally close to the pristine Salmon River. Cyprus did not announce plans to mine in 1968, when ASARCO did. Instead, Cyprus waited until 1979. By then, Andrus had left the statehouse, the price of molybdenum had jumped from $1.60 to $9 a pound, and Cyprus had been absorbed by Standard Oil of Indiana.

The times were right, it seemed, for a successful mining venture.

From the start, the Cyprus proposal did not attract anywhere near the public attention the White Clouds plan had. While ASARCO would have mined right at the base of the second highest peak in Idaho, Cyprus chose an unnamed, obscure 8,600-foot mountain. "It wouldn't be the sacrifice of such a great area," said wildlife photographer Ernie Day, who led the fight against the ASARCO mine.

Still, Cyprus has faced problems. The proposed mine is only five miles from the Salmon River. It would bring 1,500 new people into sparse Custer County, which now has 3,900 residents. It would be just a couple of hours' drive from the boundaries of the River of No Return Wilderness area.

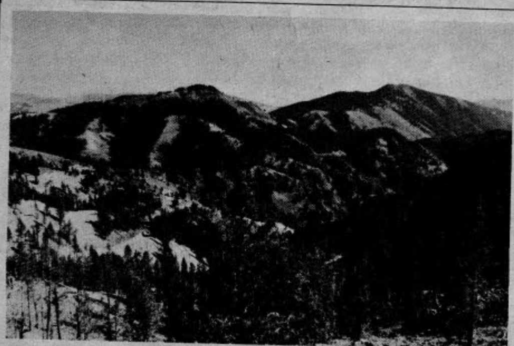


Photo courtesy of Idaho Conservation League

CYPRUS' proposed molybdenum mine has not attracted the attention that an earlier proposal in the White Clouds did, partly because it would not be in such spectacular country.

Besides environmental concerns, Cyprus has had to deal with residents of Challis, a small rural town near the mine where most of the miners would live. One resident, for example, hearing of Cyprus' intentions, immediately headed for Rock Springs, Wyo., to see what boom town future might hold for her.

The complexity and size of the mine led to a maze of regulatory requirments, 17 federal and state permits, including approval of the project by the Forest Service, which manages some of the land to be mined.

To clear the way for its mine, Cyprus hired the Denver Research Group Inc. and Resource Assessment Inc., two consulting firms that specialize in planning for industrial development.

DRG dispatched Jeff Thatcher, a 33-year-old planner who sat on the Gunnison, Colo., city council in 1978 when county residents there blocked a molybdenum mine proposal. In Idaho, Thatcher met with environmentalists, state officials and regulators, some "15 or 20 times" before submitting a permit application, he said.

The approach paid off. Because of Cyprus' "cooperation," said Gordon Partee, state permit coordinator for the U.S. Environmental Protection Agency, "it's likely they have gotten a more timely response."

Environmentalists, meanwhile, are worried about protecting the Salmon River.

"Our concern," said Bill Meiners, president of the Idaho Wildlife Federation, "is how are they going to neutralize or otherwise control those heavy metals so they don't get into the water?"

Jerry Jayne, a director of the Idaho Environmental Council, worries about the stability of a 600-foot-high embankment that would retain waste rock. "If the dam breaks and material gets loose into the stream, it could wreak havoc," Jayne said.

Thatcher and his staff took great pains to show the environmentalists how Cyprus would deal with these possibilities. In one case, Thatcher traveled all the way across the state to talk to IEC member Jacquelynn Johnson, who raised questions at a public meeting in August.

Environmental leaders continue to question the project, but acknowledge they cannot defeat it. Likewise Forest Service officials say they cannot refuse the company permission to mine under the federal Mining Act of 1872. The agency's environmental impact statement predicted the mine would have a major impact on fish and wildlife, by bringing greater fishing and hunting pressure, but the Forest Service recommended the project be approved.

Resource Assessment's team of 10 has worked for a year to help Challis ready itself for the influx of 1,500 new residents.

Bob Sheldon of the consulting firm, a former computer systems planner in New York City, and his wife Nancy, an environmental consultant to federal nuclear laboratories, applied for grants to improve Challis' sewer, water and transportation systems, aided in designing a new commercial zoning ordinance for the city and even held bookkeeping seminars for local businessmen.

Challis residents were inclined to favor the mine for economic reasons. With hard times come to ranching, the area's main economic sustenance, the town "needed some sort of employment," contended Clyde Rigby, 46, a pharmacist who serves on the Custer County Board of Commissioners.

This fall, it looked like Cyprus was certain to meet its goal of a January start on construction. The importance of the company's probable success has not been lost on its competitors.

"You might consider it encouragement," said Norman Kesten, assistant to the vice president of ASARCO. "It certainly shows the state is not inclined against mining."

Jacquelynn Johnson of the Idaho Environmental Council, worries Idaho will gain a reputation as being an "easy" place to open mines. Time will tell. Nornada Mines Ltd. is getting ready to seek approval for a cobalt mine that will have a work force equal in size to that of the Cyprus mine, in the mountains north of Challis. And Anaconda Inc. is exploring molybdenum deposits just west of the Cyprus site.

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Lonnie Rosenwald is a reporter in the office of columnist Jack Anderson in Washington, D.C. She formerly worked for the **Idaho Statesman**. This article was paid for by the HCN Research Fund.

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STAFF POSITION: Wyoming Outdoor Council, conservation organization with state-wide membership. Following skills helpful: writing, organizing, publicity, membership involvement, research, public speaking, lobbying, quick learner. Begin January 9th. Salary: $550-$700 monthly depending upon experience. Medical coverage. Mileage. Own automobile. Resume due Dec. 15th. Personal interview required. For job description: Peter Kozisek, WOC, Box 1184, Cheyenne, WY 82001. (307-635-3416).

GRASSROOTS ORGANIZER. Organizer wanted to coordinate activities of western Colorado grassroots organizations and build coalitions with traditional interest groups. Issues knowledge and experience in administration, organization, and fund raising required. $4800 for first six months. Contact Sue Cottingham, 303-349-5338, for more information. Send resume with references by 8 December to Western Colorado Congress, P.O. Box 3282, Grand Junction, Colo. 81502.

WASTE...

(continued from page 3)

start. But in Utah, admitted Schroeder, "they simply didn't want us in the state, and industry ramrodded" the scheme through the state legislature.

Dick Hartman, state planning coordinator for Wyoming, said a state-run program would "give us more say on selecting sites" as well as $150,000 a year in federal assistance funds. The Wyoming Association of Municipalities has also supported a state hazardous waste program, just to bring it closer to home, said association lobbyist Chad Fossen.

Industry generally has either favored state-run programs, or has been indifferent to the issue. That stand, following November's election results, may change.

Under RCRA, the 1976 law on waste management, state programs must be at least as strict as the federal government's. But campaign promises by president-elect Ronald Reagan to cut federal regulatory controls have inspired new speculation that, while perhaps equal on paper, the EPA-run programs may in the future get considerably less funding than state operations. Site inspectors could be the highest variable.

Industry spokesmen are tight-lipped. Some observers, however, foresee an industry switch to backing EPA-run programs.

Wyoming's Hartman said there's "no indication" of such a move. But one key player in the state legislature feels a new wind.

"I think EPA is going to be looking at a tighter personnel budget next year and I'm waiting to see what (happens)," said State Rep. Don Thorson (R). Thorson, from northeastern Wyoming, heads a committee on mines and mining, and introduced an unsuccessful state program bill last year. Because he owns an oil producing company, which to date does not fall within EPA's regulatory net on hazardous waste, he has a personal interest in the outcome.

Wyoming Gov. Ed Herschler (D) downplays speculation of a weaker EPA authority. "I don't know what (the new administration's) effect will be," he said. "Reagan doesn't consult with me."

SELF CONTROL

Even the best designed management program, whether state or federally operated, is destined for failure if the industry does not cooperate.

Industry attitudes to date have ranged from defensive to upbeat. "We need the industry that generates hazardous waste," a Shell Oil Co. spokesman told a small group of skeptical listeners at the recent public meeting on the Lowry dump. "Agricultural exports are paying for our oil imports and without pesticides agricultural production would drop 30 percent," he said.

The hazardous waste management industry itself tends toward the upbeat. "We face a moral obligation and professional challenge to search out for the safe handling of the byproducts resulting from society's demands for new synthetic products," a waste management company spokesman told **Waste Age** magazine.

State Rep. Thorson said that in Wyoming, "Most industries will pretty much take care of things...with common sense."

And Ben Franklin, environmental affairs analyst for Coors Industries in Golden, Colo., while declining to comment on the state vs. federally run program issue, said he also felt industry was taking a more responsible role.

For the larger firms concerned with maintaining a good corporate image, boardroom nightmares of the besieged Hooker Chemical Co. and Love Canal may be enough incentive to run a clean ship.

For the vast majority of small operators, however, that incentive may be lacking, and most effort may be directed at struggling out of the regulatory net.

Despite masses of media coverage, public awareness of the hazardous waste problem is surprisingly low.

A recent poll conducted for four federal agencies by Resources for the Future, a not-for-profit research group, found that two-thirds of the public did not associate toxic wastes with Love Canal, when asked what happened there.

(The same poll, however, found "very strong" opposition to hazardous waste dump siting, even given stringent safety and monitoring requirements.)

No one, it's clear, wants a dump in the backyard.

Furthermore, public concern often stops short of public involvement. At last week's meeting on the Denver hazardous waste dump, fewer than two dozen of the 500 attendees signed up for projects such as letter-writing campaigns.

"It's disappointing," said Toni Worcester of the Colorado League of Women Voters, who moderated the meeting. "People are frustrated. But there are solutions to the hazardous waste problem."

That includes, said Worcester, passage of the "Superfund," a proposal to establish a several billion dollar fund to enable government cleanups of chemical spills and toxic waste dumps, state control of plant siting, and emergency evacuation plans.

(A superfund bill this week passed the full Senate. While moderate in scope, it is being called a "good first step" by environmentalists.)

To neighbors of the Denver hazardous waste site, finding a new location is of utmost importance. And Bonnie Exner, who lives three miles from the dump, is hoping for regional cooperation.

"Cities have to stop fighting each other and work together to find disposal sites," she said.

"We've learned from our past," she said. "Our Love Canals."

»»«««

Backyard dump ignites homefront activism

AURORA, Colo. — Bonnie Exner sits at the dining room table, occasionally searching through her briefcase or glancing at the evening news.

Her husband Arden joins us, mostly in silence, and her two sons pop in and out.

She's tired. Tomorrow's another meeting. But she tells her story.

"The thing that really got to me was that it was all pushed on us," she says. "We weren't told about the old dump. We weren't asked about the new one. We've been treated like children."

The most volatile aspect of managing hazardous waste is not some unpredictable chemical reaction. Rather, it's the question of siting — where to put the millions of tons of unwanted byproducts generated every year.

Burying those wastes in the ground may well be the answer. But those living nearby invariably want no part of it. Their reaction is predictable, and usually explosive.

To industry and government regulators alike, the public is ignorant, emotional and uncompromising. Even the most confident official has visions of hearing rooms packed to the boiling point with irate, child-toting citizens.

That stereotype can be misleading.

Bonnie Exner, 37, is a housewife, mother of two boys, bookkeeper for the family business, and part-time school bus driver. Raised in Cheyenne, she and Arden moved to the Denver area in 1974.

They bought a modern home in the Gun Club Estates, a suburban patchwork on the Front Range prairie. Their house has two stories. Their yard, two horses. And their view includes, some three miles away, the largest chemical waste dump in the Rocky Mountains.

The disposal site, on the old Lowry Air Force bombing range 15 miles east of downtown Denver, is the stereotypical hazardous waste mess. Badly mismanaged by the city since 1964, the site was closed this summer. But a wide range of materials was carelessly discarded and no one is sure what is there, how to clean it up, who should clean it up, or what, if any, the health impacts have been.

Adding to the tempest, a new facility began operating this summer and may become the principal dump for the entire region.

"We found out about the sludge five months after we moved in," says Exner. "They told us it was safe enough to brush our teeth with. But we started smelling chemicals. Especially the women who were home all day.

"My lips tingled like they were cracked, but they weren't. And I started getting headaches.

"We were first concerned about the children. They all ride bikes and horses, and the trucks drive in very fast. But then everything went out of control. The sludge began overflowing, chemicals started leaking into the water, and we were getting two different stories from everyone."

Exner stepped into the fray, putting a hold on much of her personal life to slog through technical documents, rally neighbors, and hound decision-makers.

Several years later, she and her neighbors have reached a consensus and are demanding, unequivocally, that the authorities close the dump, clean it up, and disapprove any future hazardous waste operation on the site.

"When you're alone, you feel really stupid," she says. "I'm not an expert and don't know their jargon. The day I first went into the legislature, my knees were knocking.

"But I'm learning. I listened to them for awhile and realized they're just people — people facing a lot of pressure from special interests."

Exner now routinely calls legislators, and, speaking before an audience of 500 the other night, she was convincing and confident. Her activism has generated foul name-calling, miscellaneous harassment, and one night, a follower on a lonely road whom she suspects disagreed with her.

The fight has also affected the Exner family. "Mostly the boys," says Arden. "She's at daytime meetings and we both

go to evening ones. They're often left alone."

But it's had a positive effect on her children, Bonnie says. "They know the seriousness of this and haven't asked to get out. I think they've learned — that this is their country and it will be what they make of it."

Exner is a staunch Reagan supporter and launched a big countercampaign to another Lowry opponent's prophesy that a Reagan presidency would only exacerbate the hazardous waste crisis.

She places her trust in him as a Westerner, she explains. And if he dismantles the U.S. Environmental Protection Agency? Well, it wouldn't matter a whole lot.

"The EPA, I'm sorry to say, has been absolutely no help to me in all this," she says. Most of her support has been from state health officials and local legislators.

Would she do it again? "Yes. No doubts. It wouldn't have been right to have sold out after we found out what was included with the house."

Both Exners are a bit worried about one thing, however, and that's becoming caught up in the pace of activism and going on to work on other issues.

"It's gotten to me, these meetings and things," says Bonnie, "and I'm a little afraid about becoming a gypsy after it's all over. I don't think my husband would like that."

BLM names Wilderness Study Areas; regional re-

With little fanfare, the federal Bureau of Land Management this month moved to pare down public lands under consideration for protection as wilderness, releasing 150 million acres.

That leaves almost 24 million acres in 11 western states, excluding Alaska, that will get further consideration as Wilderness Study Areas. BLM lands in these states amount to 174 million acres.

Until studies are complete, WSAs will be managed "in a manner that does not impair wilderness suitability." Though the 1976 BLM organic act sets a 1991 deadline for completion of the wilderness review, BLM officials are aiming for 1987.

In some areas, such as the Overthrust Belt or along the path of the proposed Northern Tier Pipeline, accelerated wilderness inventories were completed earlier.

Proposals for WSAs in the regular inventory were first released last April. They were revised in response to comment this summer before final decisions were made this month. Protests can be filed until Dec. 15 (Dec. 31 in Montana) with the BLM, and BLM decisions on such protects can be appealed to the Department of Interior's Board of Land Appeals.

The BLM WSAs will be reviewed in detail over the next few years, and recommendations on which should be designated wilderness will be made to Congress.

Reaction to the BLM's decisions was mixed from state to state. *Bill* Cunningham, the Wilderness Society representative in Montana, said, "They cut things drastically all along." A spokesman for the Petroleum Association of Wyoming said, "We're pleased that the BLM has taken into consideration mineral development." (BLM officials say that potential mineral development was not a consideration in the inventory.) Bruce Hamilton, the Sierra Club Northern Plains representative, was generally pleased with the BLM's job in Wyoming, but disappointed by the lack of public participation.

A state-by-state rundown on BLM WSAs follows:

COLORADO

Ten percent of BLM's eight million acres have been identified as WSAs in Colorado. The 66 units include areas of alpine tundra and 14,000-foot peaks, redrock canyons and desert mesas, forests and eastern slope foothills.

Harold Belisle, the Colorado BLM wilderness coordinator, said the 804,432 acres identified as WSAs represent a 10,616-acre drop from the proposed decisions last February. But Belisle said no area was dropped because of development pressures if the area was otherwise qualified for wilderness designation.

Belisle said two areas that received much comment on both sides of the wilderness issue were Bangs Canyon (21,500 acres) and Hunter Canyon (13,000) near Grand Junction. "These were dropped because we determined they lacked outstanding opportunities for primitive recreation and solitude," Belisle said.

The most controversial WSA is the 14,000-acre Cross Mountain in northwest Colorado, "a pristine area with a spectacular gorge of the Yampa River," Belisle said. "There was a lot of opposition to our designation because of a proposed hydroelectric project there."

Belisle said hydroelectric and irrigation developers also opposed the inclusion of Gunnison Gorge (19,560 acres) and parts of Dominquez Canyons (75,800 acres) southeast of Grand Junction. Dominquez is the state's largest WSA.

The Gunnison Gorge unit is adjacent to the Black Canyon of the Gunnison National Monument and envelopes a portion of the Gunnison River proposed for wild and scenic river designation. The Dolores River Canyon unit (25,550 acres) southwest of Montrose, also a WSA, contains a stretch of river proposed for wild and scenic status.

The Colorado BLM received 900 substantive comments on the proposed WSAs and 2,700 coupons expressing general support for wilderness designation.

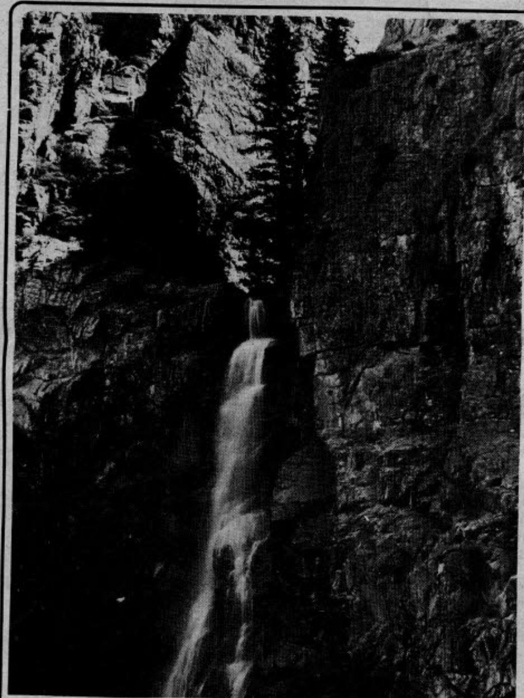


Photo Courtesy of U.S. Bureau of Land Management

FIVE SPRINGS FALLS, part of a Wilderness Study Area near Worland, Wyo.

IDAHO

The Idaho BLM perused over 3,200 responses to its initial proposals for WSAs and its final decision would protect 818,206 of almost 12 million BLM acres. In addition, 773,999 acres had earlier been designated WSAs.

According to Pat Ford of the Idaho Conservation League, the Idaho High Desert Study Group will appeal many of the areas dropped by BLM.

Conservationists objected to the dropping of several parts of the roadless high desert area in the BLM's Boise District, including Reynolds Creek Canyon and the East Fork of the Bruneau River.

Ford was pleased that the Grandmother Mountain area, Hell's Half Acre and the Bruneau River were all included as Wilderness Study Areas.

But the reaction of conservationists was generally negative. Some commented that they had been distracted by other issues, like the struggle over the River of No Return. "It's pretty skinny," said Ernest Day of Boise. "Usually they give us only rocks and ice. This time they gave us only rocks."

UTAH

Utah BLM state director Gary Wicks reported a slight rise in WSAs over the proposed figures announced last spring, for a total of 1.9 million acres. Added to accelerated inventory lands and instant study areas, that means 2.5 million acres, or 11 percent of BLM's land in Utah, will get further wilderness consideration.

Wilderness Society Director William Turnage called the Utah BLM's wilderness study choices "a real disaster." He criticized the elimination of most of the Kaiparowits Plateau, which is underlain by rich coal deposits.

The Utah BLM also drew fire for dropping desolate plateau areas, such

	BLM acreage inventoried	Wilderness Study Areas acreage identified Nov., 1980 (number of tracts)	BLM acreage previously identified for wilderness study
COLORADO	8 million	804,432 (66)	0
IDAHO	11.9 million	818,206 (25)	773,999
MONTANA	8.14 million	167,376 (17)	292,872
NEW MEXICO	12.8 million	895,083 (62)	148,026
SOUTH DAKOTA	276,297	0	0
UTAH	22 million	1.9 million (81)	560,641
WYOMING	17.8 million	525,504 (43)	55,631

action mixed

as Mancos Mesa in the southeastern corner of the state, because they lacked "outstanding opportunities" for solitude or "primitive or unconfined recreation" (See **HCN** 5-16-80 for previous story). Dick Carter of the Utah Wilderness Association argued unsuccessfully that areas like Mancos Mesa, large and isolated and broken by canyons, did indeed meet wilderness criteria. Of the 90 comments received by BLM on Mancos Mesa, 79 — some of them form letters — favored making it a WSA. Said the BLM: While opportunities for solitude "are present," they are not outstanding.

Among other controversial areas identified as WSAs were Carcass Canyon and Desolation Canyon.

WYOMING

BLM officials in Wyoming have slated 525,504 acres of public land for further wilderness study. Forty-three units are included, ranging from the craggy, eroded Dubois Badlands to the deep gorges of the Encampment River.

The figures represent a slight rise from BLM's initial proposal announced last April, in which 497,000 acres were proposed as wilderness study areas.

An additional 48,005 acres were identified last year as WSAs in an accelerated inventory of lands in the energy-rich Overthrust Belt, and the Scab Creek Instant Study Area contains 7,636 acres.

Maxwell T. Lieurance, BLM's Wyoming director, said the most important public comments over the last six months gave specific information on an area's wilderness characteristics, rather than simply stating a pro or con position on wilderness designation.

Of the Wyoming lands subject to the wilderness inventory (excluding Overthrust Belt areas), about three percent are WSAs.

"By and large," said Bruce Hamilton, the Sierra Club's Northern Plains representative, "the BLM stuck with its original (March) decision." Hamilton expressed dismay that certain areas in the Red Desert were dropped, though the BLM included such desert landmarks as the Oregon Buttes among its WSAs.

On individual areas, public comment ranged from as high as 58 comments (on the Encampment River Canyon) to no comment at all (Anvil Wash-Butte Creek). Areas such as the Lysite Badlands and Whiskey Mountain, which were dropped from the inventory, received less than 10 public comments.

Lieurance said the BLM will move first to do wilderness studies on areas that have potential conflicts with energy projects.

Nearly half of the WSAs in Wyoming are in the southwest quarter of the state.

Photo courtesy of Montana Travel Promotion Unit

MUCH MISSOURI RIVER country was dropped from Montana's final Wilderness Study Areas proposal.

MONTANA

The BLM in this state provided the biggest shock of the wilderness inventory, dropping the WSA total from a proposed 534,000 acres last spring to only 167,376 acres. Admitting that the enormous change would be difficult to analyze, BLM state director Michael J. Penfold extended the public comment period from Dec. 15 to Dec. 30.

Wilderness Society representative Bill Cunningham said it would be difficult, even with the extension, to adequately respond. With winter closing in, units dropped from wilderness consideration will be hard to reach and study.

Cunningham and other Montana environmentalists generally agree that Penfold is a good and responsive BLM manager. In a sense, it was his thoroughness that led to the sharp reduction in the final WSAs.

"The opposition — primarily ranchers — was well organized," said Cunningham. "They checked every square inch out there" for intrusions such as vehicle tracks and livestock wells. Penford apparently reassessed firsthand many of the BLM's earlier WSAs and issued an "extremely cautious and over-reactive" final report, in Cunningham's view.

Among the areas of particular concern to convervationists that were left out of the Montana WSAs are most of the wild Missouri River area, lands adjacent to the Charles M. Russell National Wildlife Refuge, and the Deadhorse Badlands near Miles City.

Penfold kept the Bitter Creek area north of Glasgow in the wilderness study category despite strong local opposition and the threat of the Northern Border Gas Pipeline.

Selected controversial areas that failed to become WSA s	Selected controversial areas that became WSA s	
Bangs Canyon, Hunter Canyon	Cross Mountain, Gunnison Gorge	COLORADO
Reynolds Creek Canyon	Hells Half Acre, Grandmother Mountain	IDAHO
areas along the wild Missouri River and the C.M. Russell Wildlife Refuge, Deadhorse Badlands	Bitter Creek	MONTANA
		NEW MEXICO
		SOUTH DAKOTA
Mancos Mesa, Burning Hills	Desolation Canyon, Blue Hills-Mt. Ellen	UTAH
Lysite Badlands, parts of the Red Desert	Oregon Buttes, Sweetwater Canyon, Dubois Badlands	WYOMING

Western Roundup

New policy eases land transfers

Eight western states with land claims against the federal government will have more flexibility in choosing lands as compensation under a new Department of Interior policy.

The claims involve several hundred 640-acre sections that were granted to states joining the union, but subsequently retracted by the federal government to make blocks of parks, military bases and reservations.

States have been allowed to make selections from federal holdings in lieu of the lost lands. However, a total of some 600,000 acres are still owed to Arizona, California, Colorado, Idaho, Montana, South Dakota, Utah and Wyoming.

Federal and state officials have disagreed in the past over whether the states were restricted to an acre-for-acre exchange basis.

The U.S. Supreme Court, earlier this year, denied a claim by Utah to 156,000 acres of oil shale land in the Uinta Basin, ruling the states must trade for property of equal value per acre.

The new policy allows states to select fewer acres having a greater value per acre.

Secretary of Interior Cecil Andrus said the program would meet with court approval and predicted the remaining land transfers will be completed by 1984.

Idaho nongame may get tax bite

If the state wildlife agency has its way, Idaho may join the growing list of states using income tax returns to fund nongame management programs.

Frustrated by consistently sparse budget authorizations, the agency is pushing for a checkoff space on state income tax forms by which contributions could be made to the Fish and Game Trust Fund, earmarked for species of animals that aren't hunted or trapped.

Nongame programs have traditionally been poorly funded in most states, compared with lavish expenditures for managing game species.

The agency predicts that six percent of the taxpayers will chip in some $48,000, increasing to $80,000 by the second year.

Other states having similar programs include Colorado, where 12 percent of the taxpayers gave $650,000 in their 1980 returns.

Predator control: from Interior to Ag?

Responsibility for federal predator control would be taken from the U.S. Interior Department to the Agriculture Department under an appropriations bill that passed the Senate this week.

The move, which still would have to be approved in a House-Senate conference, was applauded by sheep ranchers. The ranchers feel the Interior Department's predator control policies under Secretary Cecil Andrus are partly responsible for their livestock losses.

Andrus announced a year ago limits on the traditional methods used by federal officials in killing predators.

Photo by Michael McClure

Colorado town gets tough on tepees

The Old West met the New West in Steamboat Springs, Colo., recently when county health officials got wind of some tepees sprouting near the Elk River Estates.

County commissioners pondered the question, reported the **Denver Post**, unsure whether they dared interfere with a way of living that predates their stationary dwellings and mobile homes by hundreds of years. Finally, they decided that tepee dwellers must pass muster with the county environmental health officer and then pay a $25 building permit. If a dweller loaded a tepee on a travois and moved it, another $25 would be charged.

County Attorney Dan Maus told the **Post** that there were about 20 tepees inhabited in the county now, but that summer may bring them in droves. "These people will be working on construction jobs and will have no place else to live," said Maus. "They can't afford housing."

The two tepee dwellers near Elk River Estates agreed to make one concession to modern mores: They are installing holding tanks for their sewage, washing and cooking wastes.

Solutions for INEL clean-up years away

An engineering firm hired by the U.S. Department of Energy has proposed six alternatives for disposing of radioactive waste at the Idaho National Engineering Laboratory near Twin Falls, Idaho.

INEL presently puts its radioactive wastes into the ground through injection wells, a method critics and a state citizens' task force feel could cause contamination of the Snake River Plain Aquifer.

The Fluor Corp., of Irvine, Calif., said the waste water could be kept out of the ground through various systems of holding and evaporating ponds. The various approaches could cost anywhere from $4 million to $14 million.

Gov. John Evans (D) told the **Idaho Statesman** that he favored an option that called for a 40-acre, lined evaporation pond for the wastewater. After evaporation, waste solids would be removed and stored.

But Evans said it could be two to three years before Congress would fund such an operation. The cleanup project has the support of Sen. James McClure (R-Idaho), the new chairman of the Senate Energy Committee.

The citizens' task force which Evans appointed last year to review INEL's problems will meet again to consider the Fluor options.

Dorian Duffin, of the Snake River Alliance, expressed concern during an Evans press conference that tritium — the predominant radioactive pollutant in INEL's waste water — would escape into the air under the favored proposal.

State officials said little tritium would enter the air, and that the radioactive properties of the element were not great.

Opinion

Bureaucrats show unusual zip when squandering coalgas $

While the federal government is daily criticized for the tortoise-like pace of its accomplishments, the approval of $1.5 billion in federal loan guarantees for the Great Plains Coal Gasification Project moved through the bureaucracy like a hare at the business end of a cattle prod.

Seventeen companies, in addition to the Great Plains consortium, filed requests for guarantees. DOE's total first year authorization was $5 billion. None of the others have been funded yet, but Great Plains got its guarantees after only five days of deliberation and comparison. That works out to $300 million a day — a torrid pace by any standard.

Was this burst of activity a temporary aberration, or can we look forward to such whirlwinds of paperwork in the future? "How," we asked DOE, "could you possibly evaluate the merits of the Great Plains project relative to the 17 other applications in only five days?"

Well, it turns out that they didn't. According to one DOE public relations man, "The Great Plains proposal had nothing to do with the other proposals. Great Plains was the furthest along, so we gave them the money."

Great Plains did not move along under its own steam. Before DOE promised them success, Congress, at the end of 1979, had already committed $22 million specifically for the project. Apparently $22 million was not anywhere near what the company had in mind. Last spring, they submitted an unsolicited proposal to DOE asking for a $250 loan guarantee. At that point, Congress was still considering — but had not passed — the legislation authorizing the $1.5 billion approved last week.

On May 14, 1980, after receiving Great Plains' $250 million request, DOE placed a notice in the **Federal Register,** announcing that they were considering giving "special treatment" to Great Plains' unsolicited request. In a neat twist of logic peculiar to bureaucracies, DOE said in its notice that synfuels loan guarantees would be "based on competitive selection where possible." In the same notice, DOE announced that no other gasification project "can compete (with Great Plains) on the basis of timing and readiness." DOE reached this conclusion before it received any other application for a synthetic fuels loan guarantee. DOE also apparently never questioned whether "timing and readiness" was an appropriate basis for the dispersal of $250 million in federal loan guarantees. The guarantee was approved in mid-July. Last week, DOE simply upped the ante to $1.5 billion.

If this method of dispensing federal largesse doesn't make sense to you, remember that the energy-starved American public is the beneficiary. For our $1.5 billion, DOE says, we are establishing a high-Btu coal gasification industry one year earlier than we would have had it if Great Plains had competed on an equal basis with everybody else.

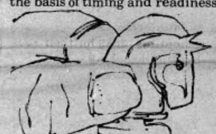
A further irony is that the Great Plains synthetic gas plant won't do much to make the U.S. independent of foreign sources of energy. Lost amid the rhetoric is the fact that the U.S. imports only a very small amount of natural gas, and that comes from Canada and Mexico, not from those nasty Persian Gulf states.

In addition, high-Btu synthetic gas will cost substantially more than gas produced from conventional sources. And because you have to put more energy into the production of synthetic gas than the gas itself contains, it is a questionable route to freeing ourselves from the high cost of other energy sources.

If you still don't find this technological quick-fix thrilling, you are in good company. No less a connoisseur than General Motors Corp., the nation's largest single consumer of natural gas, is not crazy about it either. Most of the gas from the North Dakota facility will go to the Great Lakes region, the home of General Motors. The consortium members wanted to get their customers to pay for the increased cost of the synthetic gas via a surcharge. GM is understandably upset by the prospect of paying an extra $50 million annually to underwrite the project.

If there is a consolation in this monument to colossal waste and bureaucratic reasoning, it is that the bureaucrats are finally taking the advice of elected legislators. In the congressional debate over the legislation that authorized the synthetic fuel loan guarantees, Sen. Dale Bumpers (D-Ark.) said, "The American public is demanding that we do something, even if it's wrong." So they did.

— DSW



Reagan's conservative choice: *Synfuels aid,* or free market?

An interesting struggle may soon take place for the heart and mind of Ronald Reagan, and it bears watching from our region.

On the one side we have the implacability of federal programs, which, once in place, sink their talons deep into the Capitol dome. Roosting there since summer is the Synthetic Fuels Corp., designed to provide an $88 billion federal handout to the energy industry. It would not be easy to dislodge. Behind the scene, it may have influential friends: some of Reagan's closest advisors work for the Bechtel Corp. and the Fluour Corp., two California-based construction industry giants who have contracts to engineer and build most of the synfuels projects now on the drawing boards.

Among those flocking to challenge the Synfuels Corporation is Reagan himself — who said this year that he opposed the government's financial involvement in the effort. Let private industry handle it, let the free market reign, he said. He is supported by another set of advisors — in this case, the Heritage Foundation, a conservative think-tank that is helping Reagan formulate policy. The foundation has recommended that the Synfuels Corp. be abolished (along with the Department of Energy).

The West is the oversized chessboard of synthetic fuels development, and the key pieces in the battle for Reagan's mind will move across this landscape. If oil shale advances, northwest Colorado will have to cope with its extensive wastes. If tar sands move, Utah will be the object of attack. If coal gasification fires up, Montana and Wyoming will host the waste piles and enormous plants.

But synfuels have been talked about since the 1920s, and up until now only a few pilot plants have been built. Without the federal subsidy, it just hasn't been worth it. And as new energy reserves of a less expensive and less polluting sort are discovered — and they **are** being discovered, particularly natural gas — synfuels never will be worth it.

That is, not unless underwritten by the Synfuels Corp.

Our fear is that Reagan might allow the Synfuels Corp. to survive as a relic of Carter's era. Reagan could be blameless, and the energy industry happy. Charles Schultz and Casper Weinberger are two important parts of his California brain trust — the former is vice chairman of Bechtel, the latter vice president and general counsel. Bechtel has contracts to build coal gasification plants near Douglas, Wyo., and elsewhere around the country. What will Schultz and Weinberger advise Reagan on Synfuels?

We'll have to wait and see. Reagan has tried to show that he is more moderate than rightwing — he has softened his more rigid conservative stands. He is likely to compromise his tax cut plans and positions on welfare programs. Will he also dilute his objection to federal subsidies for synthetic fuels?

In this case, there's a lot to be said for stiff-backed conservatism. Muzzle the Synfuels Corp. and let the free market speak.

— GOG

Letters

GREAT GREY SNOWED

Dear HCN,

While reading the Oct. 31 issue of **HCN** I came across an error in the article on snowy owls by Thomas Jenkins. He says in paragraph four "The snowy owl is the largest...of all North American owls." According to Roger Tory Peterson in **A Field Guide to Western Birds** and Miklos D.F. Uduatchy in **The Audubon Society Field Guide to North American Birds** the great grey owl, not the snowy, is the largest North American owl.

A pair of the rare great greys nest on the ranch where I live.

Nick Anderson
Wilson, Wyo.

WHIFF OF DANGER

Dear **HCN**,

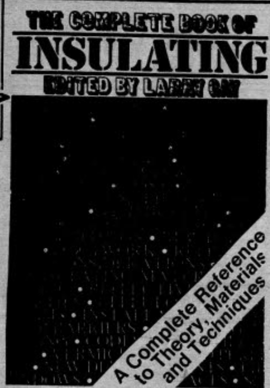
I'm afraid most of us in the conservation-environment community have been too preoccupied with other matters in our rapidly changing world to see the recently creeping, now racing, perils involving our great public lands heritage in the West. Only a few have caught the whiff of danger in the so-called "sagebrush rebellion." We know that Reagan is committed to the give-away; that Laxalt of Nevada is his chief public lands adviser; that a potent, well-financed combination involving mining, livestock, timber and banking interests is deep in the plotting.

Somehow, and soon, a concerted countering force consisting of a nation-wide collection of people and organizations fully aware of what high values are at stake and completely dedicated to the defeat of this latest attempted great land grab, must be put together and activated.

If the scenario already so clearly disclosed becomes reality we can forget about wilderness boundary squabbles; forget about reclamation of public land surfaces overlying coal seams; forget about whether there's enough water for slurry; forget about where toxic wastes are to be stashed — and all the rest of the things right before our eyes that have so preoccupied so many of us these latter years. They will be completely meaningless in the new rush to rip our resources off the hills, gouge them out of the soil, and get the proceeds into the bank not later than day after tomorrow.

William Voigt, Jr.
Blackshear, Ga.

Books



Edited by Larry Gay, The Stephen Greene Press, Brattleboro, Vt., 1980, paperback, $7.95, 178 pages.

Review by Geoffrey O'Gara

A good portion of the world — some of it living unwittingly with six inches of fiberglass batting over its head — probably hasn't the slightest interest in **The Complete Book of Insulating.** It's another volume written for that very select, albeit growing, gang of handypersons who wouldn't hesitate to spend a winter evening curled up by the fire with a book about thermal shutters.

I don't think of myself as a member of that band. I often **buy** such books, visions of an energy-tight retrofit dancing in my head, and then suffocate in the first few bucketloads of BTUs and R-values. A stack of slightly-thumbed cellulose now forms a rather effective heat-retaining barrier against my north wall.

Be that as it may, I'm happy to report that Larry Gay's book is a good one, that I read it all the way through, that I actually encountered some **wit** in it, and that it seems thorough and knowledgeable enough to be used with confidence by those who have an urge to stumble among the attic joists with wierd materials in their hands.

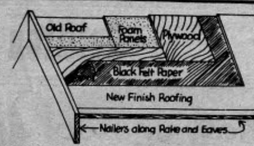


Figure 65 Insulating above an existing roof is easier and more effective than insulating the roof from below.

Though it was written by five authors, its tone is consistent throughout: confident and casual. The first chapter admits that some studies have shown heat losses from "huff and puff" (chimneys, window slits, etc.) can make a fancy insulation job uneconomical. The authors acknowledge, too, that the soft trigger of a caulking gun does not give its handler quite the Marlboro Man kick that woodsplitting does. And after 36 pages on the theory and mechanics of insulation, one contributor writes: "Now for something interesting."

But amid the entertaining flippancy, there is well-researched information. Thermal curtains and shutters, we find, are better (and less expensive) insulators than storm windows. The differences among various caulking compounds are explained, sometimes emphatically (lead base: "Don't use it!"), more often with subtle distinctions that allow a reader to make an informed choice.

The book covers the topic generally, then has detailed sections on weatherstripping and caulking, the properties of different insulating materials, retrofitting old houses and insulating new ones. There is also a section on laws, codes and government programs, which is useful, if not quite current.

It's a fine book and — considering its colorless subject — not a bad read. I'm not saying your average bored teenager or Japanese tourist will want to pick it up to pass the time. But for those prepared to put down their Turgenev to read about urea formaldehyde, this wouldn't be a bad place to start on a wintry evening.

afield

bins full barn doors shut
harvest over

sixteen hour days
taking it all in

hauling berries
from the gleaner's belly

to the grain elevator
at Haggard

dust settling
an ocean of wheat vanished

odor of midnight skunk
run down tossed in the ditch

pheasants walk the stubble
dazed

hawks swoop
for prairie mice unsheltered

proud fields chopped off
at the knees

waiting for the tractor's
next torture

anhydrous ammonia
2,4-D

chimes tinkling on the porch
blades of the windmill

turning wind to power
desert to farm

how quick the earth kneels
giving in

to the tricks of machinery
the knife-edged discs

and how fast we come to
expect her submission

stalks bending before the blow
our tables full of grace

— Art Goodtimes