

High prices, doubts plague wind power revival

Wind power advocates enjoy telling stories about winners such as farmer John Brown of Circle, Mont., who for about \$250

Brown of Circle, Mont., who for about \$250 and a little ingenuity got a reliable source of power for his greenhouse and his home. However, stories of wind power losers are also circulating — people who bought expensive systems, only to have a blade crack, parts fall off a spinning turbine, or a tower topple. If you have a personal interest in wind power, you may wonder how to insure you'll be as satisfied a customer as John Brown.

Unfortunately, at this stage in the industry, some luck may be involved. You'll be unlikely to find a farmer who's willing to sell a sturdy, old wind machine at any price — much less for \$250. Instead, you'll probably turn to one of the 25 kinds of commercial systems now manufactured in the U.S.

ably turn to one of the 25 kinds of commercial systems now manufactured in the U.S. or one of several kinds of foreign-made machines. Most of the domestic firms have so few sales that the price is high — more than 10 times as much as Brown paid for his 2.5 kilowatt machine — and reliability is unpredictable. Foreign machines, while they may have a good track record, sometimes are hard to get, and, some purchasers say, have been declining in quality.

You'll have to keep in mind that the cost of the wind machine itself is only about half the story. Most systems also require an inverter and battery storage, which can add another 50 percent to your costs.

No definitive consumer report has been

the story. Most systems also require an inverter and battery storage, which can add another 50 percent to your costs.

No definitive consumer report has been published on small wind machines, probably because it's too early to tell which will be consistently good. In interviewe with seven domestic companies, HCN found that together they had sold only about 300 machines — a number of those to the government. Four out of the seven companies had sold less than a dozen machines each. Jim Sencenbaugh of Sencenbaugh Wind Electric in Palo Alto, Calif., says, "When I get to where I can build them like a Chevy transmission (in volumes of 50,000 to 100,000 a year), costs will go down 20 to 50

percent." His company has sold 80

percent." His company has sold 80 machines in its six years in business.

Most other manufacturers won't say that cost cuts are coming. The consumer is stuck with an uncertain future and the fact that small wind machines aren't competitive with conventional power sources now, except in remote locations. While people in the Rockies are paying from two to four cents a kilowatt-hour for electricity from the utilities, they'd probably pay 12 to 15 cents a kilowatt-hour for wind-generated power, according to manufacturers' estimates. If a person is too far from civilization to plug cheaply into utility power, however, wind power may prove cheaper than the alternatives at a windy site.

The U.S. Department of Energy defines a "small" wind machine as anything rated under 100 kilowatts of capacity. Home-sized wind systems are usually eight kilowatts or less.

So far, most small machines have been sold either to people in remote locations, to romantics with moniey or to experimenters backed by government funds.

John Brown is an exception to this rule.

John Brown is an exception to this rule. His farm has an electrical hookup. But because he didn't have to buy a high-priced new wind machine, he can generate electricity from wind power that probably is cheaper than utility power. His machine is the wind-power Cadillac of another era — a Jacobs wind plant. Jacobs machines were

"Somebody has to try these things out."



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Dear HCN.

Ow! I feel as though someone had hit me with a fast tennis ball somewhere below the navel, not once; but twice. In the last paragraph of your 6-1-79 article on the Texas slurry line:

Texas slurry line:

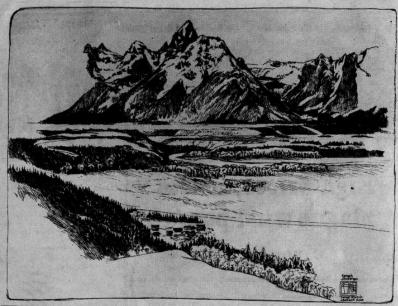
(1) You say, "A spokesman for Energy Transportation Systems applauded the rejection. I don't applaud it at all! I might understand it, but my hope is that the two entities continue to work out answers to the "unanswered questions."

(2) Although ETSI helped obtain legislation in Texas to permit coal pipelines to pass under railroad tracks, our terminals are Arkansas, Oklahoma, Mississippi, and Louisiana. Houston appears to be better served by either the Texas Eastern endeavor or the San Marcos line from Colorado. orado.

To applaud a nihilistic approach to problem-solving is not — and I hope never will be — my concept of a happy and challenging life style.

Rocky Mountain Area Manager Energy Transportation Systems Inc. Casper, Wyo.

(Ed. note: We apologize for the choice of the word "applaud" in referring to Mr. Odasz's reaction. However, we stand by the remainder of the story.)





by Hannah Hinchman

JACKSON, Wyo - Can't decide which I like better — the blue of mountain bluebirds, faithfully blue in any light, at any angle, or the blue of a lazuli bunting. The bunting's color is brown until the light,

the bird and my eye strike an accord. I feel that I have a part in creating that luminous blue, so much more elusive than the bluebirds.

Missed the lupines, geraniums and stonecrop in Jackson Hole by just a few days. From a cobbly bench drew a view across the valley while violet-green swal-lows circled at eye level. Red-tailed hawks at intervals. First aware of them by their faint windblown scream. Assorted colors of butterflies in pairs. Cumuli schooners riding the surface of an air layer — I don or doff my extra shirt every 10 minutes or so as they go over. Sounds of cattle, highway, picketpins (ground squirrels), then broadtailed hummingbirds doing their pendulum dance with dash and enthusiasm.

From a north-facing forest that evening I hear a Swainson's thrush. The thrush symbolizes for me the quiet center of my life; that is why I sign my drawings with it. The capacity of natural forms to become part of a landscape of meaning for humans, individually or socially, is a quality of wilderness we have used since ancient times. I don't think my life will ever be barren if I am able to hear a thrush in the spring, with all its powerful associations.

High clouds signal an approaching storm. It arrives and snow on Jackson Hole, Togwotee Pass, even a little in Lander. The cold, clear air in its wake comes laden with the smell of high altitude evergreens.

PSST...

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ts the only regional en-Rocky Mountain West has got going for it. Think about that. For only \$12a

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Monticello, Utah

SOLAR CONTROVERSY

In the "Hot Line" column of the April 20 issue of HCN, there was an item about the Department of Energy's Solar Energy Research Institute requesting proposals for a solar power system for Saudi Arabia. This 350 kilowatt system would supply power

for 3,500 people. In the "Energy 1979" column of the May 4 issue of HCN, there is an item about an "environmental" (very doubtful) group op-posing a "small" (?) 100 kilowatt solar power system at Natural Bridges National Monument in south and the solar

power system at Natural Bridges National Monument in southern Utah.

In Saudi Arabia, this size solar power plant could supply electricity for 1,000 people. At Natural Bridges National Monument it will supply power for five permanent residents and about eight seasonal employees.

permanent residents and about eight sea-sonal employees.

In my opinion, \$3,000,000 is a rather ex-orbitant price to charge taxpayers so that a few Park Service employees can use their electric clothes dryers at night, Think of the number of energy conserving houses using passive solar heating that could be built for \$3,000,000. It is unfortunate that the federal government doesn't have to jus-tify the cost of a project like this.



demnation of gasoline lines. Lines are "abhorrent," "deplorable," and a "sign that the nation lacks leadership," to mention only a few of the epithets.

Once in a while, an event unites all Americans. This usually is some sort of catastrophe, like the bombing of Pearl Harbor or the assassination of a president. In recent days the unifying catastrophe, unlikely though it seems, has been gasoline lines.

Politicians and pundits of every stripe and feather are unanimous in their condemnation of gasoline lines. Lines are "abhorrent," "deplorable," and a "sign that the nation lacks leadership," to mention only a few of the epithets.

I would like to propose that gasoline

I would like to propose that gasoline

I message the best thing to happen to energy conservation since wool. Californians adapted quickly and well to the lines at gasoline tate. And, do you know what they did? Why — lol and behold! — they drove less! Fuel consumption decreased 15 percent. Ridership on public transportation increased dramatically. Freeway traffic thinned out. And all of this happened after only about two weeks of inconvenience. This, I am given to understand, is the purpose of energy conservation measures — to induce people to use less fuel. But, instead of latching hold of this tactic to

The moral of the story is a simple one The moral of the story is a simple one—
people are willing to pay. And pay. And
pay. They don't care very much what
gasoline costs, as long as it is readily available. If they need more money to buy it,
hey will simply get more money from their
employers, fanning inflation and all of the
other awful things that politicians warn us
about when they aren't warning us about
gasoline lines.

Convenience is the watchword of American society. We don't require goods to be

convenience is the watchword of Ameri-can society. We don't require goods to be reasonably priced or of good quality — we expect them to be readily available and plentiful. Hence we are a society of TV din-ners, electric pencil sharpeners and fast

I have often wondered how many barrels of that precious oil we could save if McDonald's did not wrap its 75 billion hamburgers in styrofoam, a material made

A friend of mine recently asked a

McDonald's waitress for a hamburger without the excess packaging. The poor girl was baffled. She explained that even girl was battled. She explained that even it she didn't turn the controversial Big Mac wrapper over to the customer, she would have to throw it away. "That's how we know how many hamburgers we sell," she

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"Couldn't I just have it on a plate?" my

"Couldn't i just nave it with the friend asked.
"No, we don't do no dishes here," the McDonalder replied. All of that foreign oil is wrapping Big Macs so that teen arge boys and girls aren't forced to learn subtraction or do dishes. This is convenience run ram-

n politicians are serious about saving energy, they don't have to make it expensive, they just have to make it inconvenient. Most people wouldn't stand in line regularly for gasoline, even if it only cost 30 cents a gallon.

Mining catastrophic for wildlife

biologists have generally viewed the great increase in mining activity in Wyoming as a catastrophe.

While there have been benefits to the state's economy from increased ax revenues and increased employment, the Wyoming Game and Fish Department has seen habitat destruction; increased poaching and harassment of wildlife; proliferation of roads, railroads, powerlines and suburbs; creation of new towns; markedly increased demand for hunting and fishing: stream diversion; sedimentation and polution; and a great increase in demand on our employees time. With a few exceptions, we have received no benefits from mining.

In the face of this, I think our agency had three choices—(1) ignore the development and endure the losses, (2) scream like hell, or (3) try to work with the state regulatory agency and the mining companies to prevent or modify wildlife problems created by mining. We opted for the latter.

Wildlife is probably now more important in Wyoming than ever before. This is because many species are more abundant on with a tany time since the turn of the

cause many species are more abundant now than at any time since the turn of the century and be and because wildlife in the West en on national importance as wild-

has taken on national importance as wildlife decreased elsewhere.

Many people in Wyoming and most
tourists are wildlife users. A herd of antelope, a golden eagle or a bull elk is likely
to be remembered as long as the view of the
Tetons. We estimate that consumptive
uses of wildlife (hunting and fishing) contributed more than \$1.15 million to the
state's economy in 1977. Of that figure,
only about one-tenth was spent on license
fees; the rest was motels, gasoline,
groceries, souvenirs, clothing, and so on.
We believe nonconsumptive users are
much more numerous and their expenditures significant, but we currently know of
no reliable way to calculate what they are.

The gist of all this is that wildlife is extremely valuable to the state. Likewise,
the state is extremely valuable for wildlife.

the state is extremely valuable for wildlife.

The Powder River Basin is the center of

The Power River Basin is the center of the largest concentration of pronghorn an-telope in the world. That also happens to be one of the centers of coal mining activity in Wyoming.

The west slope of the Big Horn Moun-

the west supe of the Big Horn Mountains supports wintering mule deer, elk and bentonite mining. The Red Desert has the last really migratory herd of antelope in Wyoming, and proposals for a dozen uranium mines. proposals for a dozen uranium mines.
I could go on, but I think I've made my

A little prior planning helps. Early in discussions with mining companies we stress avoidance of problem areas if possi-ble, though we know that often the com-

by Harry Harju
Wyoming Game and Fish Department
Wildlife managers and many other
biologists have generally viewed the great
increase in mining activity in Wyoming as
a catastyponie.

We also promote use of a mixture of seeds containing several species — shrubs as well as grasses. For wildlife, diversity is the key word.

the key word.

There's a comment I've heard and read between the lines in many environmental impact statements that says roughly, "Why worry about a few animals? We've got plenty of them."

I would counter that by saying, "Why mine or apply for new leases on coal, or



Wildlife is not a renewable resource without habitat.

uranium or gypsum? There are plenty of other companies mining."

The answer is that there is a demand for

The answer is that there is a demand for the resource, and mining companies make money by supplying a needed commodity. Well, wildlife is a renewable resource, but it is not renewable without habitat, just as a mine doesn't exist without a min-

just as a mine doesn't exist without a min-eral deposit.

A recent full-page ad in Time magazine and large ads in the newspapers illustrate that mining companies know how to take advantage of the public relations value of reclamation for wildlife. We ask that those ads be remembered when mining companies plan reclamation.

Excerpted from Wyoming Wildlife.

POPULAR REALITIES

Pinball Profligacy

In a brightly lit room, machines are humming, ringing, buzzing and even ap-plauding. It's not the scene for some futuristic Ray Bradbury novel but merely the local pinball parlor. Here the Lander youths spend most of their time and all of

Mention the energy crisis here, and Mention the energy crisis nere, and you'll get pure skepticism. "There ain't no energy crisis," says one patron. "It's all a hype by the government. They need some fast bucks." Do these kids feel guilty about using alectricity for nursely regressional. fast bucks. Do these kids lest guitty about using electricity for purely recreational purposes? "Hell, it's better than leaving the house lights on all night, like my folks do. At least I'm doing something," says one. "I'm paying for it, right? The machines are

Right. When idle each of the 18 machines here uses about .25 kilowatts per hour— about the same as a crock-pot. That figure jumps to 2.5 kilowatts when in use. During a slow month, the machines use 1,724 kilowatt-hours, or five times the amount consumed by the average household in the same neried.

same period.

Are the kids worried that the energy will be all used up when they grow up? Concentrating heavily on keeping the ball out of the side gutter, a kid answers vacantly, "They'll think of something by then."

On the Road

Bumper stickers can be an amusing, if not a particularly precise, measure of the popular pulse. HCN's correspondent in Cheyenne, Phil White, reports the following sightings:

On the rear end of a bus-sized travel



home: "conseRVe energy"

— On the back of a frazzled-looking bicyclist near the top of a pass: "Wide Load"

— On the bumper of a mobile mansion just about to pass the poor pedaler: "We ahare the road with bicycles." White says, without the aid of a bumper sticker, "Not much of it."

High Country News

Wind power revival plagued...

(continued from page 1)
sounds like a swooping whoosh — like an
owl when he flies over you at night,"

own when he flies over you at night,"
Reinhart says.

The Jacobs design has proved so successful over the years that a number of modern
entrepreneurs have made a good living selling reconditioned machines or Jacobs

Dakota Wind and Sun, Ltd. in Aberd Dakota Wind and Sun, Ltd. in Aberdeen, S.D., which sells Jacobs copies, has enjoyed almost mercurial success. The owners, electrical engineer Orville Lynner and metal sculptor Paul Biorn, have sold about 70 machines after only two years in business. And they're 25 orders behind.

Bob Mackenzie of the Wyoming Energy Extension Service ordered four of the Dakota machines that are being installed at windy Wyoming community colleges. He paid \$3,400 each for the four-kilowatt machines. "They were the most cost-

He paid \$3,400 each for the four-knowar machines. "They were the most cost-effective wind turbines around," he says. However, retail prices on the Dakota machines have since gone up to \$4,500 tc \$5,000 according to the manufacturer.

ROMANTICS WITH MONEY

Olinger's Mortuary in Denver falls into the romantics-with-money category of wind power purchasers. Although the company's two Dunlite wind machines probably will never pay for themselves, after three years they are still a reliable source of power. The mortuary chose wind power to light its giant cross on a hillside near Denver not because it made sense financially but because the firm had "a pioneering spirit," construction superintendent Mel Frees says.

"Some people thought they were wasting electricity, so they decided to light the cross with wind power," says a business associate of the firm.

While the two Australian-made wind machines.

sociate of the firm.
While the two Australian-made wind
machines are supposed to produce a maximum of two kilowatts, they almost never
do "because we don't have a reliable wind
source," Frees says. The machines are designed to produce maximum power in a 25
mph wind.
Wind is no problem in Cheyenne, Wyo.,
where a 15-kilowatt Grupman machine is

mpn wind.

Wind is no problem in Cheyenne, Wyo., where a 15-kilowatt Grumman machine is supposed to be generating electricity at Warren Air Force Base. But civil engineer Lt. George Burnley says that the machine has been down for repairs more often than not during the 18 months it's been on the base. Most recently, Grumman Corp. recalled the machine when it realized the dowell pins probably were faulty.

When asked about the advisability of buying a small wind generator, Burnley says, "Wait 10 years.",

At the University of Wyoming dairy farm in Laramie, a similar Grumman wind machine's failure was more dramatic. On what was not a particularly windy day, a bolt broke, sending the hub of the turbine flying off its 40-foot tower. The \$40,000 system had only been in operation for about six weeks.

Project manager Don Smith, a professor

about six weeks.

Project manager Don Smith, a professor in the university's mechanical engineering department, says other problems were emerging before the breakdown. Due to difficulties in the electrical system, the machine had never come close to achieving its rated power of 20 kilowatts. In addition, bearings in the machine creaked like a squeaky door when the temperature dropped to 40 below, Smith says.

Smith is using the machine as part of a

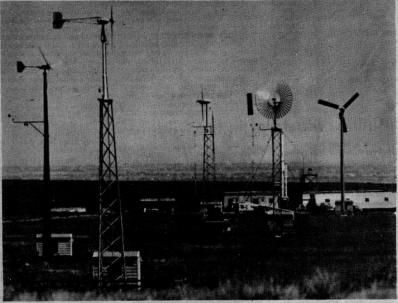


Photo courtesy of Rockwell International
THE ROCKY FLATS TEST SITE. From left to right the
machines pictured are the Elektro (a Swiss import), a
Zephyr, an American Wind Turbine and a Grumman.

\$224,500 study funded by the Old West
Regional Commission to provide a practical answer to the question: "When does it pay for a farmer or rancher to invest in a wind plant?" The answer will be delayed now since he wants to collect a full year's worth of generating date, at the yield rise. worth of operating data at the wind site. Grumman had intended to begin com-

Grumman had intended to begin commercial production of the machine used in Laramie, but it has halted that effort "due to design difficulties," according to Robert Hadden of Grumman Energy Systems. "It's been a very expensive venture for Grumman but not a discouraging one," according to Hadden. The company is paying for the repair of both the Chey enne and Laramie machines. "The difficulties have given us an incredible amount of working knowledge, something we can all deal with and improve upon."

THE FEDERAL TEST

A comprehensive picture of the products of the wind power industry is supposed to be emerging from a team of 75 Rockwell International employees stationed on a gusty plain above Golden, Colo., at Rocky

Rocky Flats is best known for its nuclear weapons plant, which is also run by Rockwell. The weapons facility still looms as the most imposing project on the plain. But in the northern corner, far from the armed guards and the three-lane private highways, is a farmer's gate and a dusty dirtroad that leads to Rockwell's other project—small wind machine testing and development for the federal government. Here, the U.S. Department of Energy calls the shots and foots the bill. Rockwell follows orders.

Rockwell has lined up an impressive selection of wind machines available to

Manufacturers of small wind-powered generators

Aerolectric 13517 Winter Lane Cresaptown, MD 21502

98 Fourth Street rkeley, CA 94710

Aerowatt, S.A. c-o Automatic Power, Inc P.O. Box 18738 Houston, TX 77023

Altos: The Alternate Cu P.O. Box 905 Boulder, CO 80302

American Wind Turbine, Inc. 1016 East Airport Road Stillwater, OK 74074

Jay Carter Enterprises, Inc. P.O. Box 684 Burkburnett, TX 76354

Dakota Wind & Sun, Ltd. P.O. Box 1781 811 First Avenue, NW Aberdeen, SD 57401

Dominion Aluminum Fabr 3570 Hawkestone Road Mississauga, Ontario Canada L5C 2V8

P.O. Box 420 Norwich, VT 05055

Grumman Energy Systems 4175 Veterans Memorial Highway Ronkonkoma, NY 11779

Rt. 832 Fairview, PA 16415

Kedco, Inc. 9016 Aviation Boulevard Inglewood, CA 90301

Millville Windmills & S Equipment Company P.O. Box 32 10335 Old Drive Millville, CA 96062

North Wind Power Comp. P.O. Box 315 Warren, VT 05674

Pinson Energy Corporati P.O. Box 7 Marstons Mills, MA 02648

Sencenbaugh Wind P.O. Box 11174 Palo Alto, CA 94306

650 Fort Street Colorado Springs, CO 80915

Winco Div. of Dyna Technology 7850 Metro Parkway Minneapolis, MN 55420

Wind Power Systems, Inc. P.O. Box 17323 San Diego, CA 92117

W.T.G. Energy Syr P.O. Box 87 1 LaSalle St. Angola, NY 14006

Whirtwind Power Comp 620-12th Street Denver, CO 80204 (303) 534-1567

Wind Energy Corp P.O. Box 5936 Lubbock, TX 79417

allure of a resort, rather than the excitement of a center of scientific inquiry.

But what appears to be a peaceful place is exceptionally well-auited to the testing of wind devices, according to Rockwell officials. The average wind speed isn't over 10 mph. But at least twice a winter, winds sweep down through the notch in the mountains at speeds of over 85 mph.

"Keeping a wind turbine out in that is incredible," says Darrell Dodge, Rockwell's information specialist. "Every place in the country will experience an 80 or 90 mph wind sometime during a machine's lifetime. Here, it occurs every year."

After 2½ years of work, the Rockwell team has produced, belatedly some observers say, its first report on nine of its 16

team has produced, belatedly some observers say, its first report on nine of its 16 wind machines' performances. The report shows how much power the machines have produced at various wind speeds and discusses operating problems that have occur-

While this report and others to follow are While this report and others to flow are designed to help both consumers and manufacturers, Dodge is cautious about making generalizations about the data in the report. Of the machines discussed — Altos, Sencenbaugh, Jacobs, Grumman, American Wind Turbine, Dunlite, Kedo, Zephr. can Wind Turbine, Dunlite, Kedco, Zephr and Elektro — only the Sencenbaugh machine operated without interruption through two winters. The Altos and the Dunlite also stayed in operation long enough to provide reliable data, Dodge says. The rest of the nine were shut down for repairs. Some of the problems, Dodge says, were caused by Rockwell's data collection devices rather than the machines' design.

oesign.

Four machines showed design problems, but Dodge warns against making a purchasing choice based on this data. "One machine isn't a fair test of a company's products," he says.

He sees this report as one small chunk of evidence in the comprehensive picture of the industry that Rockwell hopes to pro-

vide over the next few years.

When asked about the machines' reliability so far, he says, "It's an art that's been in the closet for quite a while. We're just now coming up to speed on it."

TO BUY OR NOT

While high cost is generally regarded as a major barrier to the widespread use of wind systems, a recent development in the industry offers wind power advocates new

industry offers wind power advocates new hope.

The Enertech Corp. of Norwich, Vt., has just gone into full-scale production with a machine that it says will provide power cheaper than the utilities can in the New England states, which have high priced power and reliable, strong winds.

In the Rocky Mountain region, where electricity is relatively cheap, the machine would probably not be competitive yet, says Ned Coffin of Enertech. But the system, because it is the first home-sized alternating current generator on the market, ternating current generator on the market, can offer wind power at 75 percent less cost per kilowatt-hour than other wind sys-

tems, he says. tems, he says.

Most wind systems produce direct current, which is changed by an inverter to the alternating current needed to power most modern appliances. Cost reductions are possible in the Enertech system because it produces alternating current directly, eliminating the need for an inverter. If a

Contar woter policy netorms fore fourth congressional fest

just interested in being a part of the alternative energy thing."
"Yes, if you're after self-sufficiency," says Mario Agnello of Aero Power in Berkeley, Calif. "We serve the guy back in the hills in Northern California. Were all stacked up in these cities living in each other's hip pockets. Wind machines let people get out of there — get independence."

One wall-information

dence."

One well-informed consumer who has decided to purchase a wind generator is Roger Peterson, a hydrologist in Cheyenne, Wyo. An electrical hookup to his homesite 16 miles west of town would cost him more than a good wind system, he says. And the idea of being a pioneer appeals to him.

"If we have an energy problem it's going."

as to nm.

"If we have an energy problem, it's going to be the Yankee, the pioneer, or the Wyomingite who solves it," he says. "Somebody has to try these things out."

MEINEM

Rocky Flats: just what the wind power industry ordered?

The manufacturers of small wind systems are caught in a vicious circle, some observers say. Until the market expands, it will be difficult to get the bugs out of the systems and the price down. But the market is likely to stay small until wind machines are as cheap and reliable as the alternatives.

alternatives.

The Rocky Flats Small Wind Systems Program was founded by the federal government as a way to break the circle. The company managing the program, Rockwell International, buys wind machines and tests them at the Rocky Flats site near Golden, Colo. Soon, in addition to the machines already purchased for Rocky Flats, Rockwell will be buying 125 machines for "field evaluation" at various sites around the country.

The testing is designed to help manufacturers improve the systems and to assure consumers of the machines' reliability. The program also produces informational materials on wind power, including Guide to Commercially Available Wind Machines and Wind Power for Farms, Homes and Small Industry, which are available from the National Technical Information Service (5285 Port Royal Road, Springfield, Va. 22161).

In short, the program is designed to boost

the wind power industry, as well as to aid

the consumer.
Some manufacturers and others are edgy some manufacturers and others are edgy about the program, however. For the com-panies, the stakes are high. One Rocky Flats engineer, Prince Jones, says that while lack of a federal stamp of approval on

Flate engineer, Prince Jones, says that while lack of a federal stamp of approval on a system couldn't stop a wind firm from selling its products, it could make it very difficult to stay in business.

"They are learning on your machine," says one manufacturer. "If it happens to survive, great. But Rockwell shouldn't be testing or certifying because they don't have the experience."

A wind power expert who is not a manufacturer says that many of the Rocky Flats machines weren't put up according to their instruction manuals. He says that Rockwell made the mistake of hirring people who were inexperienced in the field of wind power — "high-tech engineers and retread nuclear project managers."

Darrell Dodge, information specialist for the program, says that very few members of the staff came from the nuclear industry. But, he says, "It's a problem to find people with a background in wind. Part of our job is creating an industry, training new people."

The "glacial pace" of government has believe existing a mindustry with the residence of the program and the background to the program and the proposition of the proposi

ple"
The "glacial pace" of government has also been criticized. "The publicity Rocky Flats has given wind power has been helpful," says Orville Lynner of Dakota Wind & Sun Ltd. "But its impact on research and development has been negative. It slows you down. The number of man-hours spent at the test site is very high, but output is lear."

Two other manufacturers echoed Two other manufacturers echoed Lynner's concern, saying that Rockwell spends so much time gathering data and reviewing its reports that they're no longer timely when finally published.

Mario Agnello of Aero Power says the government is distorting the market by buying large numbers of wind machines and offering grants to produce certain.

buying large numbers of wind machines and offering grants to produce certain kinds of machines. If a small company makes big investments to fill a government order, can the real market sustain his increased production after the order is filled? "I doubt it," Agnello says. "Some little guy will go into debt to fill the order and then be dropped like a hot potato. A lot of people are going to get hurt," he says.

Dodge doubts that the number of machines Rockwell is purchasing — a couple of dozen for the test site and 125 for the field evaluation program — could have any

field evaluation program — could have any significant effect on the market. Others in the wind industry support the

Others in the wind industry support the Rocky Flats effort.

"Rocky Flats is giving the American people something for their money," says Devon Tassen of Millville Windmills & Solar. "It's a good test program that is fair to the small company."

Deana Bennett of Dean Bennett Supply Co., a distributor of wind machines in Denance with the test a trangram is sorely.

ver, says that the test program is sorely needed by the industry. She says, "If I were going to buy something that expensive, I'd want to know whether it's going to work or



THE AERO POWER wind machine at Rocky Flats. A company spokes says, "We serve the guy back in the hills in Northern California."

Carter water policy reforms face tough congressional test

by Dan Whipple

With stiff opposition from Westerr states, Congress is gearing up to debate some of the key elements in President Jimmy Carter's new water policy, Particularly controversial is Carter's plan to force states to participate in sharing the costs of federal water projects.

The cost-sharing plan calls for states to put up 10 percent of the cost of water projects that provide irrigation water, hydroelectric power or water for municipal or industrial use. States would share five percent of the cost for flood control, recreation, or projects that benefit fish and wildlife.

Carter first proposed his water policy reforms a year ago. At the time, they were greeted with cautious approval by many Western governors, but in the last few weeks a number of regional organizations, including the Western Governor's Conference and the Missouri Basin Governor's Conference, have gone on record opposing

Harris Sherman, executive director of Colorado's Department of Natural Resources, says, "The proposed water policy is a disaster. The cost-sharing proposal makes it increasingly difficult for states to utilize water for uses most compatible with the environment, agriculture, fish and wildlife or recreation.

"Cost sharing will make water projects increasingly attractive for energy and municipal and industrial usee, which, in Colorado, usually involve transmountain diversions," Sherman says.

Under the Carter proposal, if a state puts up 10 percent of the cost of a project, it will receive 10 percent of the revenues from the sale of the water or power produced by the water. Sherman says, "If the state puts up 10 percent of the cost of a project designed to assist agriculture, it will receive back little, if any, of that investment. However, if the state puts up 10 percent of an energy or municipal or industrial project, it will get it all back, plus interest.

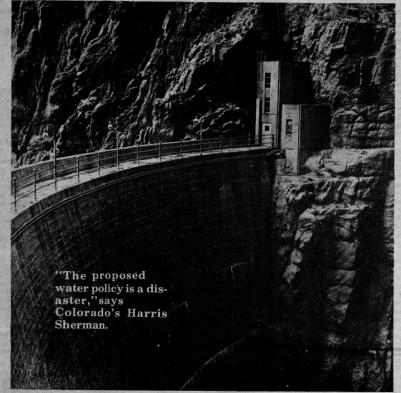
"This reates a disincentive for investing in anythme other than energy or municipal projects. The legislature will put money into these projects because they offer the greatest economic return.

"In the past, the states and the federal government established mechanisms to develop water for users less able to pay. For instance, excess revenues from the sale of hydropower were to be used for the development of irrigation. Under the cost-sharing approach, those excess revenues cannot be used by the states."

cannot be used by the states."

Brent Blackwelder of the Environmental Policy Center strongly disagrees with Colorado's position. He says, "The cost-sharing proposal will go a long way toward preventing environmental damage. If the beneficiaries were made to pay for these atroctites, it would prevent many of the worst projects. They are making the ridiculous argument that only coal companies will get the water projects. This is a pretty specious argument. If they built only irrigation projects, the energy companies would simply buy up the water from the irrigators." the irrigators.

Sherman says, however, that the states generally do not have the economic resources to build irrigation projects. He says, "The general fund for the state of Colorado for new projects was \$10 million—that's for all of the new projects. Ten



FEDERAL DAMS would be financed partly by state funds if Congress approves President Carter's proposal. Pictured is Buffalo Bill Dam near Cody, Wyo.

percent of the Narrows project alone (a con-troversial federal water project in eastern Colorado) would be \$13 million."

Sherman also says, "The implication is that the states aren't sharing costs of projects now. This is simply not true. We have instituted other mechanisms to share costs. For instance if recreational facilities are attached to a project, we put up 50 percent of the cost. States must provide easements and rights-of-way for flood control projects, which is often in excess of 25 percent of the total cost of the project."

Another major factor leading to opposi-tion to cost sharing, says Sherman, is that "the states are asked to share in the costs, but the states are not asked to share in the decisions and responsibilities."

decisions and responsibilities."

The U.S. House of Representatives has scheduled hearings on the cost-sharing proposal in early July. Colorado's Sen. Gary Hart (D), who has been a vocal opponent of the policy, is taking a wait-and-see position. Kathy Bushkin of Hart's office says, "His position is that we ought to look at it very carefully. He's not strongly for it, but he's not strongly against it, either. In an era of cost cutting and a balanced budget, it should be studied."

Blackwelder is less than optimistic about the chances of passage. He says, "I

don't think it will pass, at least not in the form that the president wants. The committees are controlled by the same porkbarrellers that have always controlled

Several other portions of Carter's water reform plan also need Congressional approval. Carter has suggested a \$25 million grants program for planning assistance for water projects and \$25 million for technical assistance for water conservation, which would be matched with funds from the states. However, Congressional committees have pared the funding to \$10 million in each of the categories.

In addition, funding is needed for the Water Resources Council to conduct independent reviews of proposed water projects. This, too, has run into trouble. The Senate Appropriations Committee has approved \$100 million for the independent review, but the House Appropriations Committee approved nothing. Officials are hopeful that the money will be restored when the bills go to conference committee, however.

A large portion of the water policy re-forms can be introduced administratively, however, without Congressional approval. To accomplish this, 19 task forces, under

the direction of the Interior Department, have been established to institute the policy. John Cunningham, coordinator these task forces, says that their work is

these task forces, says that their work is about 50 percent completed. Regulations have been proposed to im-plement the Fish and Wildlife Coordina-tion Act. This is a 1958 law, which has never been implemented, that describes how the U.S. Fish and Wildlife Service coordinates with other federal agencies in planning water projects. The rules are de-signed to describe how the consultation

Indian water rights are also a major con-cern. A plan is being drafted regarding how Indian water rights can be quantified, a process that is expected to take about 10

In addition, the manual of standards and procedures is being changed; water conservation programs are being integrated into other federal programs, such as housing programs; and non-structural alternatives for flood control and other types of water projects are being examined. "Non-structural alternatives" includes methods of providing water or preventing floods that do not require building dams or levees. Cunningham says that the agency hopes to have completed most of the policy reforms by September. In addition, the manual of standards and

Wyoming wilderness review worst of the bunch

sentative.
Bill McDonald of the BLM agrees that the roads and pipeline that had caused BLM to propose dropping the area from wilderness consideration were "not that

Hamilton considers this just one of the "shaky decisions" reached by BLM in the preliminary stage of its inventory of potential wilderness areas. The agency's re-commendation that only seven percent of its lands in Wyoming be considered for wilits lands in Wyoming be considered for with derness designation was the lowest in the Rocky Mountain region and was made es-sentially without field studies. BLM officials in Colorado and New Mexico each recommended 14 percent of their public lands for intensive wilderness inventory, Idaho 31 percent, Utah 32 percent, Mon-

tana 33 percent and Arizona 45 percent.
Terry Sopher, chief of the BLM's wilderness staff in Washington, D.C., says that he thinks one or two districts in the state eliminated areas from further study for the wrong reasons, but he "can't conclude that the state's inventory was generally deficient." He says the districts have been told to review and, if necessary, to improve

their evaluations of areas.
The Wilderness Society says as much as 500,000 acres in Wyoming should be reas-

Todd Bacon of the Public Lands Institute and Debbie Sease of The Wilderness Soci-ety, who have been watching BLM's wilderness review throughout the West, say Wyoming's review is clearly the worst. "It's too early to judge, but in most states,

reviews to this point look relatively d," Sease says.

good," Sease says.

At this stage, the BLM has directed its state offices to narrow lists of roadless areas by eliminating from further study those areas that "clearly and obviously" don't have wilderness characteristics. The next stage is the intensive inventory, in don't have wilderness characteristics. The next stage is the intensive inventory, in which BLM will look at areas still on its list to determine if they have wilderness characteristics. A wilderness, as defined by the 1964 Wilderness Act, must be a natural area of at least 5 000 acres with outstanding opportunities for solitude or primitive unconfined recreation. Outstanding area of elses than 5,000 acres may also be chosen if they are manageable units. Congress will review BLM's recommendations and make the final decision about which areas to put in the National Wilderness Preservation System.

vation System.

Conservationists say that in several states BLM failed to encourage relevant public scrutiny of its decisions. In Colorado, Idaho and Wyoming the agency asked the public to comment on areas that had been chosen for intensive inventory rather than those that were to be dropped.

"The Dubic Land Institute heliaves it is

The Public Lands Institute believes it is

By relying on maps instead of field studies Wyoming BLM officials may have made some embarrassing mistakes in the first step of their wilderness inventory. What on maps look like significant man-made intrusions that would be inacceptable in a wilderness are sometimes almost invisible on the ground, according to a Sierra Club representative.

On a trip with BLM officials to the Casper Sand Dunes, "We went right past a pipeline without realizing it," says Bruce Hamilton, the club's Northern Plains representative.

derness program that proper attention be given to those areas proposed for release," Bacon says. "It is the only opportunity for the public to examine these areas."

Sopher says there is some justification for criticisms of some states' public input methods. Representatives of 10 different methods. Representatives of 10 different methods representative says and properties of the wilderness are workshop for state wilderness coordinators held recently in Albuquerque, N.M., and as a result, Sopher says, guidelines for the rest of the wilderness review will be clarified.

Conservationistic in Wyoming have ob-

review will be clarined.

Conservationists in Wyoming have objected because the BLM in that stateset the deadline for comments so early that neither they nor BLM's employees could inspect many of the areas. State BLM Williams. inspect many of the areas. State BLM Wilderness Coordinator Wayne Erickson says
the deadline was set May 15 to allow time
during the summer for the intensive inventory, the next step of the review process.
The deadline was never officially extended.
However, until the decision on the initial
inventory is announced in Wyoming—
sometime around the end of June—comsects will be accepted and considered the ents will be accepted and considered, he

Hamilton fears that many areas may be overlooked because the conservationists don't have the resources to check on every

one; BLM proposes dropping nearly 17 million acres in the state.

"Besides, the public shouldn't have to do gather all the data," he says.

HeN Bulletin Board VIET

LOONEY LIMERICKS by Zane E. Cology

Some think that wind is too gusty To power a nation so lusty.

The light bulbs won't glow

When the wind doesn't blow,

But, next to a nuke, wind looks trusty.

WALKING IN AND FOR WILDERNESS

WILDERNESS
The Montana Wilderness Association is sponsoring 23 walks through Montana's wild lands this summer. The walks will focus on learning about and enlisting public support for Montana roadless areas. For further information and a schedule, contact MWA, P.O. Box 635, Helena, Mont. 50001

AUDUBON CONVENTION

AUDUBON CONVENTION
The National Audubon Society convention in Eates Park, Colo., June 29 to July 1 will feature Jerry McAfee, chairman of the board of Gulf Oil Corp., Lt. Gen. John Morris, chief of the Army Corps of Engineers; William J. Whalen, director of the National Park Service; and Robert L. Herbst, assistant Interior secretary for fish, wildlife and parks. For further information, contact the society at Box 3557, Boulder, Colo. 80307. Colo. 80307.

DESERT FARMERS SOUGHT

The Meals for Millions Foundation is attempting to survey individuals and organizations experimenting with desertadapted agriculture. If you grow crops in the low desert of Arizona, New Mexico or

southern California using organic or dry-land methods, innovative irrigation or cropping techniques or drought-hardy plants, the foundation would like to inter-view you. Contact the Meals for Millions Foundation-Southwest Program, 715 North Park Ave., Tucson, Ariz. 85719.

WHAT ABOUT WINDOWS?

WHAT ABOUT WINDOWS?
What About Windows? is a guide to insulating the interior of windows in order to save money and energy. The 53-page report offers a rundown on costs, annual savings and other valuable information, including how to do it. It can be obtained from Jim Buesing, 1300 Linden Drive, University of Wisconsin, Madison, Wisc. 53706 for \$1.50.

FISH AND WILDLIFE COORDINATION RULES

The departments of Interior and Commerce have proposed joint rules that define the requirements and procedures federal agencies must meet to comply with the Fish and Wildlife Coordination Act when planning water-related projects. A public hearing on the rulemaking will be held in Denver June 27 at 9 a.m. at the Bureau of Reclamation Auditorium, Entrance W-1, Bidg. 56, Denver Federal Center, Denver, Colo. Hearings will also be held in San Francisco, New Orleans, Dallas-Fort Worth, Washington, D.C. and Twin Cities, Minn. Copies of the rules may be obtained from the Regional Director (ES), U.S. Fish and Wildlife Service, P.O. Box 25486, Denver Federal Center, Denver, Colo. 80225. Comments must be submitted by July 17 and should be sent to Director (ES), FWS, Washington, D.C. 20240.

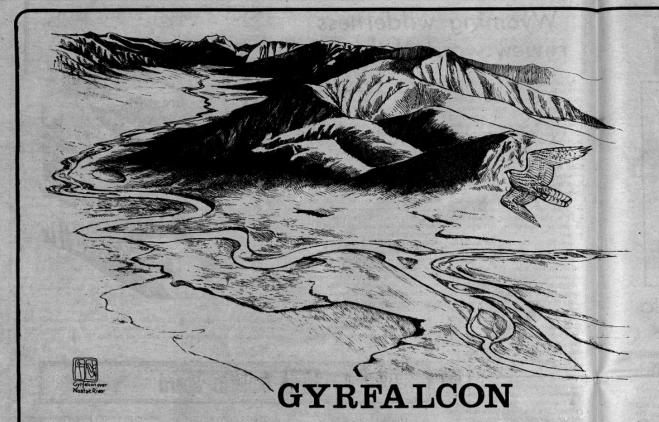


TETON WORKSHOP August 13 through August 20, 1979

nally known artist, will conduct a 6-day works itton with Dave Hutt, prominent professional p taneous workshop in photography. The photo techniques. An added feature will be evening by both instructors. The instruction will encon

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by Thomas M. Jenkins

With eyes watching every flicker of movement below, the gyrfalcon glides like a winged ghost over the barren tundra and arctic woodland.

a winged ghost over the barren tundra and arctic woodland.

Able to sustain higher speeds than any other bird of prey, it is the only falcon that relentlessly pursues, from ground level, the pintail or widgeon, which are speedy long distance fliers. Rather than striking from above as the peregrine does, the gyrfalcon overtakes its prey and strikes with a blow that disables the prey and sometimes kills it instantly. If a return pass is required, the prey is killed by a bite through the neck.

The gyrfalcon preys mostly on other birds, particularly the ptarmigan, its mainstay in the arctic. It winters in California and the northern United States.

The female gyrfalcon will also attack big-winged, slow-flying birds such as cranes, herons and buzzards. These war-like flights were admired by medieval fal-coners. Ornithologists are not sure what motivates such attacks since the gyrfalcon motivates such attacks since the gyrfaton loses all interest in its quarry once it is dead. Falconer and author Frank L. Beebe says that perhaps the female gyrfaton takes the role of protector. The willingness of the females to attack large, bigwinged birds may have originated as a sexually-coded behavior pattern. To some

extent, they equate all big-winged birds with eagles, their most feared and hated aerial competitors," he says.

In contrast to such aggressive behavior when awake, the gyrfalcon is apparently imper turbable when asleep. Its inward and downward-facing rear toe, unlike that of other birds of prey, allows the gyrfalcon to sleep on its breast with its feet flat on the ground under its body. Its body is completely relaxed, the wings fall loosely to the sides, and the head falls forward to one side resting on the ground, as if the bird were dead. dead.

dead.

The gyrfalcon is not always awakened by the sound of approaching footsteps, and often it can be touched before becoming aroused. Some biologists believe this behavior may have developed during long periods of time spent under snow during blizzards, when the metabolic rate slows.

blizzards, when the metabolic rate slows. Winter and spring food supplies determine whether the falcon will produce young each year, but it will always return to the nesting site on the same rocky ledge that its predecessors have used for generations. If it finds another bird's nest on that spot, it aggressively removes the intruders and takes over the nest.

Partly because of its aggressive behavior and its color, which varies from nearly pure white to a dark grey, the gyrfalcon has long been a favorite with falconers. It can be easily trained because it isn't excitable and is more responsive to human attention

than any other bird of prey. Some of the birds develop strong attachments to the trainers. In some instances, an experienced trainer can teach these birds within a week to fly free to natural quarries chosen by

to hy ree to natural quarries chosen by the trainer.

Falconry was once the sport of kings, and in Arabia, it still is. The khans of the Mongols and the nobility of medieval Europe valued these birds highly. Europeans sent elaborately outfitted expeditions to the east coast of Greenland to capture gyrfalcons in their white phase.

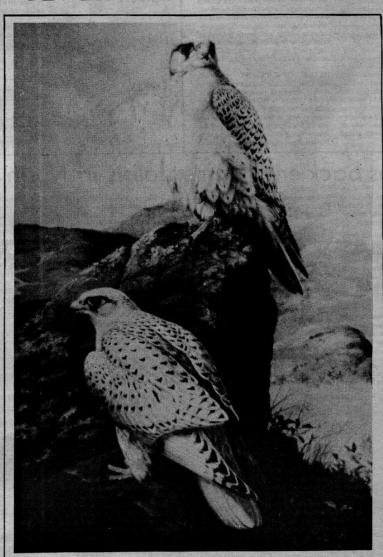
While the number of falconers is growing, the sport is wrapped in mystery, suspicion and legal tangles. Some people consider falconers to be bloodthirsty indulgents engaged in a cruel sport. Others distrust irresponsible falconers. As a consequence, complex laws control what kind and how many birds a falconer can have, where he can get them and how they are to be treated. be treated.
This has contributed to the rise of a black

market — American smugglers working with unscrupulous falconers. Arab sheiks reportedly will pay \$10,000 for a good gerfalcon.

Thomas M. Jenkins is the director of communications and arts at the Red Rocks Campus of Community College of Denver.

Falcoury was once th sport of kings, and tl white, aggressive gyrfa con was valued highly

FAVORITE OF KINGS



of kings, and the aggressive gyrfalvas valued highly.



NUCLEAR PLAN DROPPED. Idaho Power Company has recently abandoned its plans to investigate the possibility of building nuclear power plants in Idaho. A spokesman for the company said that IPC will not recommend building a nuclear power plant in Idaho until problems of radioactive waste disposal are solved.

URANIUM IN MONTANA. Interest in Montana's uranium reserves is growing, according to the Department of State Lands. The department says that over the past six years, it has issued 73 uranium permits. There are another 156 uranium leases covering 72,000 acres pending, according to the Missoulian. In the last year, 220 new lease amplications have been sub-220 new lease applications have been sub-

CANADIAN POWER PLANT
"CLEAN." The U.S. Environmental Protection Agency says that sulfur dioxide
emissions from the 600 megawatt Poplar
River power plant just north of the
Saskatchewan-Montana border will not
violate Montana or federal ambient air
quality standards. The agency said that a
combination of the use of low sulfur Canadian coal and high-efficiency air pollution
control equipment will keep the sulfur
emissions from the plant at acceptable
levels. The plant has been a major point or
contention with Montana and the U.S. and
Canadian governments. Ranchers near the
site in Montana have feared crop damage
from the air pollution. The EPA report covers only the initial 600 megawatt complex,
however, and Saskatchewan Power is considering adding additional generating
capacity. Concerns about water quality in
the Poplar River, which flows from Canada
into the U.S., are still being studied.

HELLS CANYON DAM

DAM RECONSIDERED. Rising opposition to nuclear power has prompted a group of public utilities to reconsider building a public utilities to reconsider building a dam near the Hells Canyon National Re-creation Area in Idaho, according to the creation Area in Idaho, according to the Idaho Statesman. An official of the Pacific Northwest Generating Co., based in Portland, Ore., is proposing another look at a 400-megawatt hydroelectric facility on the border of the protected area. Russ Dor-ran, president of the company, says, how-ever, "We're not withdrawing our support for Pebble Springs (two nuclear plants proposed in northwest Orgon)." The hyd-roelectric project has been blocked in the past because it would dam up one of the last ctric facility on

free-flowing sections of the Snake River, one of the few sections of wild river left in one of the few sections the Pacific Northwest





Churches back environmentalists in North Dakota

Spurred by a desire to stem the loss of productive farmland, several church groups are pouring money into environ-mental activism in North Dakota.

The result is the Dakota Resource Council, which was formed a year and a half ago to provide a broad-based citizens organization to deal with coal issues. Its founders are concerned that reckless development of are concerned that reckless development of the state's energy resources could disrupt traditional lifestyles and values, as well as the state's number one industry, agricul-

Prior to January of 1978, the state's pre-dominant environmental voice was the United Plainsmen, a farmer-conservationist group that was very active but financially shakey.

The United Plainsmen has not dis-banded, according to Randolph Nodland of Dunn Center, a member of the DRC board

of directors and last president of the United Plainsmen. However, the group has relin-quished its role to the DRC.

Ted Nace, a Protestant parish pastor and treasurer of the DRC, explained how the church funding came about.

"Churches have historically been con-cerned with hunger," Nace says. The DRC suggested that the churches, rather than concentrating wholly on feeding programs, could address one of the roots of the prob-lem, the loss of productive farmland.

In addition, Nace says, "The stewardship of the earth has strong Biblical grounds."

A steering committee composed of North Dakota church leaders and laymen worked for a year-and-a-half planning the DRC. Funds for establishing the group's office in Dickinson and for paying the staff have come primarily from the churches. For example, during the second fiscal year of the

group's existence, churches contributed 70

percent of the \$38,000 budget.

The United Church of Christ recently called for a special offering for "the stewardship of the earth" from which the DRC

wardship of the earth" from which the DRC has received money.
Other large contributions have come through the hunger program of the United Presbyterian Church, and an American Lutheran Church committee concerned with the coal impact in North Dakota.
The funding has created some controversy within the churches, Nace says, since contributions to churches can't be diverted to politics.

verted to politics.

verted to politics.

In defense, he says, "Our staff members do not lobby. They coordinate the efforts of the people." The DRC concentrates on regulatory agencies, the bureaucracy, rather than on the legislature.

Although the majority of the DRC's members are farmers and ranchers, there are some members from the cities — people

who are aware of the problems of agriculture and of the overwhelming lobby of the power companies, Norton says.

Two-thirds of the registered lobbyists in the legislature represented energy interests, Norton says, and "they proved to be awfully influential."

Norton says the DRC spent a minimum of time in the legislature. "We found out early that there weren't many ears that were sympathetic." However, he says, the group did follow bills concerning the coal severance tax and protection of prime farmland from energy development, neither of which was successful.

DRC is also concerned about the possibility of new uranium development in the state and about air quality, especially pollution from oil fields in Dunn County.

Anyone interested in more information about the group could contact John Norton, Dakota Resource Council, at Box 254, Dickinson, N.D. 58601 or call (701) 227-1851.



THE THREAT OF DEVELOPMENT to North Dakota's productive agricultural land has spawned an alliance of environmentalists and churches in the state

Babcock & Wilcox fund helped finance investigators' campaigns

copyright 1979 by Edward Roeder

WASHINGTON, D.C. - Congressional wASHINGTUD, D.C. — congressional investigations into the reasons a nuclear reactor went out of control at Three Mile Island last month are being conducted in large part by politicians who received campaign contributions from a fund set up by Babcock & Wilcox Company, the firm that

designed the reactor.

A dozen U.S. senators, including three of the Republicans on the subcommittee that has been holding hearings on the incident, have accepted contributions totaling more than \$7,000 from the fund. The list of 12 includes Rocky Mountain Republican Sens. Alan Simpson (Wyo.), Pete Domenici (N.M.), James McClure (Idaho), and Wiliam Armstrong (Colo.).

Simpson, who is ranking Republican on the Nuclear Regulation Subcommittee, re-cently returned the \$300 contribution he received, however, saying, "It's been an embarrassment, and I don't need it." Another \$8,150 was contributed from

Another 5,750 was controlled in the fund to 1978 campaigns of 30 members of the U.S. House of Representatives, including the chairman, ranking Republican, and two highest-ranking Democrats on the House subcommittee investigating Three Mile Island.
The "Babcock & Wilcox Good Govern-

ment Fund" is a political action committee (PAC), legally established under the Federal Election Campaign Act to solicit and receive contributions from executives, directors and stockholders of Babcock & Wilcox, then transfer the money to political

mpaigns.
The B & W PAC contributed \$21,000 to influence federal elections in 1978. About a third of the money was given to winning candidates for Senate seats. Another third went to House candidates who won their campaigns, and the rest was contributed to candidates who lost or was transferred to

other PACs.
Under the Federal Election Campa Act, a corporation may not make direct contributions to influence federal elec-tions, but may establish a fund of voluncontributions from company officials stockholders, which can then make contributions as the corporation sees fit.

The B & W PAC is one of nearly 2,000

PACs established over the past decade, about two-thirds of which are connected with business interests. Other PACs are connected with labor unions and political

nd ideological organizations.

PACs affiliated with corporations con

The HON

Hot Line

tributed \$9.8 million dollars to federal candidates in 1977 and 1978, an average of more than \$14,000 from each corporate-affiliated PAC. PACs connected with trade

affiliated PAC. PACs connected with trade associations and other business organizations contributed \$11.5 million.

The Federal Election Campaign Act, with its provision for establishing PACs, was enacted to restore confidence in government through fully disclosing the extent of campaign contributions from special interest groups. One result of the reforms here that contributions that cial interest groups. One result of the re-forms has been that contributions that formerly were made in under-the-table cash are now publicly reported. But the volume of reports generated is so large that few citizens, public interest groups, and journalists bother to analyze them. The most recent B & W PAC contribu-tion was made in March just before the

tion was made in March just before the emergency core cooling system failed at the Three Mile Island nuclear reactor near

"When you have a fundraiser," Simpson explains, "you just have a great big PAC list and you grab that baby and send out your invitations to them all. I didn't know what had come in with regard to Babcock &

Simpson says he generally accepts contributions from "any free enterprise company that favors less regulation, is probusiness, and generally conservative without the Neanderthal touch."

Another member of the Nuclear Regula-Another member of the Nuclear Regula-tion Subcommittee, Domenici, said through a spokesman that he was not aware of the \$600 given to his campaign by B & W PAC in two \$300 contributions last September and October. "If he had known EACH OF THESE SENATORS accepted campaign contribu-tions from a fund set up by the Babcock & Wilcox Company, the firm that designed the Three Mile Island nuclear reactor. Each is also on one or more congressional committees that could affect the company's fu-

From left are: Alan Simpson (R-Wyo.), William Armstrong (R-Colo.) and James McClure (R-Idaho).

Simpson recently returned the fund's money. "It's been an embarrassment," he said.



lic Works Committee, Domenici is a member of the Energy Regulation Sub-committee of the Energy and Natural Resources Committee.

sources Committee.

Another member of the Energy Regulation Subcommittee who received money
from Babcock & Wilcox is McClure.
McClure received two contributions totaling \$600 from the B & W PAC, and another \$100 from a vice-president of Babcock & Wilcox. Armstrong received \$700.

Each of the 12 Senators who received B & W PAC contributions sits on one or more Senate committees with jurisdiction over legislation affecting Babcock & Wilcox corporate interests in energy policy, nuclear safety, environmental policy or military procurement. In addition to having built nine nuclear reactors for civilian power generation, Babcock & Wilcox supplies reactor components, nuclear cores, and related equipment to the U.S. Navy. Consumer advocate Ralph Nader, who has called for a permanent shutdown of all nuclear power plants, has charged that members of Congress who have accepted contributions from the nuclear industry "have compromised their independence by taking money from special interests."

After being told of the B & W PAC contributions in a telephone interview, Nader proposed that "Any senators of representatives who take special interest money should disqualify themselves from voting at the committee and floor levels on all matters which relate to the industry which is financing their political campaigns." is financing their political campaigns."

is financing their political campaigns."
While none of the members of Congress interviewed agreed with Nader, it is clear that the contributions create an awkwardness. "Something has to be done about the present method of financing political campaigns," Simpson says. But he's not ready to go along with public financing of campaigns because he thinks it might simply assure the re-election of incumbents, who already have an edge over challengers.

gers. "When you boil it down, distill it, it's embarrassing to know that you've accepted it when you're in a sensitive area, and in the future it's something that I'll have to weigh heavily," Simpson says.

all this before, I'm sure he wouldn't have taken the \$600," said Peter B. Wellish, a press aide in Domenici's office. "But he didn't have a crystal ball and he didn't know Three Mile Island would happen and Babcock & Wilcox would be builders of the

Wellish said Domenici "is very concerned about getting money from any or-ganization where perhaps some sort of spe-cial favors will be solicited later," but "he's not concerned about this contribution given to him by the company as being anything he's going to worry about I don't think he's worried about there being any conflict at all."

In addition to the Nuclear Regulation ubcommittee of the Environment & Pub-

SOLAR HOME AWARDS. The U.S. Department of Housing and Urban Development has announced awards totaling \$1,396,000 for designs and construction of homes using passive solar heating systems. Awards of \$5,000 each went to 145 designs for new homes and awards of \$2,000 each for 17 designs retrofitting existing buildings. A publication will soon be released describing the winning design. To obtain "First Passive Solar Home Awards," write the National Solar Heating and Cooling Information Center, P.O. Box 1607, Rockville, Md. 20850.

EPA RELAXES AIR STANDARDS. The Environmental Protection Agency, in an effort to step up production of unleaded fuel for the summer, has lifted a ban against an anti-knock additive, MMT. The action is designed to keep motorists whose cars have catalytic converters using unleaded gasoline, but it will result in some additional hydrocarbon emissions. The lifting of the ban on MMT could result in increased production of 340,000 barrels of unleaded gasoline daily, according to EPA



Edward Roeder is a freelance journalist in Washington, D.C., who writes on campaign finance issues.



SEARS GOES SOLAR. Sears Roebuck and Co. has become the first major U.S. retailer to enter the off-the-shelf solar hot water market. The Sears Kenmore Solar Power 120, a system using distilled water to avoid corosion, is being test marketed in Houston, Washington, D.C., Tampa, Memphis, Cleveland and Hawaii. Sears insists that the installation be done by their own personnel. The company is offering a 10-year warranty on the system. SEARS GOES SOLAR, Sears Roebuck

STATE OF WYOMING

Financial statements of Insurance Companies which are Authorized to do business in Wyoming

Published in High Country News June 1, 15,29; July 13,27; August 10, 1979



Western Roundup



Udall hits development of "non-wilderness"

Congress and the administration are battling over the Forest Service's announced policy on areas recommended for "non-wilderness" by the second roadless area Review and Evaluation (RARE II). Agriculture Secretary Bob Bergland has told House Interior Committee chairman Morris Udall, (D.-Ariz.), "We believe it is essential and in the public interest that we move ahead with our plans on areas to be

essential and in the public interest that we move ahead with our plans on areas to be managed for uses other than wilderness." However, only Congress can create a wilderness area, and Udall says that the department is eliminating congressional options by allowing a potential wilderness area to be destroyed before Congress can take any action. Congress is only beginning its consideration of the RARE II recommendations recently submitted to them by the Forest Service.

Udall has requested Bergland to with-

Udall has requested Bergland to withhold action for six months on 77 roadless areas in California recommended for non-wilderness. The areas cover a total of

nia.

Bergland says that his agency is willing to block uses in a few areas, but not on as large a scale as Udall wants.

A Forest Service directive on how to

A Forest Service directive on how to planners to be sensitive to controversial areas and to proceed with deliberate speed in non-wilderness areas, according to Public Lands News.

Because of the Forest Service policy, the Sierra Club is urging its members to obtain

1.3 million acres. Udall may also ask for "holds" on other areas outside of California. information about upcoming actions in areas recommended for non-wilderness. If there is a conflict in the areas, the club is urging its members to protest to the Forest

urging its memoers to process that Service.

Under the RARE II recommendations sent to Congress, 15.4 million acres of roadless lands would be designated wilderness, 36 million acres would be non-wilderness and 10.6 million acres would receive further planning.



Feds to renew coal leasing in 1981

Interior Secretary Cecil Andrus has announced a new coal management plan intended to lease 1.5 billion tons of federal coal by 1987 and up to 200 billion tons of federal coal over the long term. The plan, which has been under study for two years,

has clearly affirmed the right of the federal

government to own and manage lands."

Another approach is being advanced by
Rep. James Santini (D-Nev.). Santini is

preparing federal legislation to convert public lands to state or private ownership for agricultural uses or for community ex-

an 86 percent of Nevada is feder-

lifts a moratorium on leasing that was imposed in 1971.

Areas targeted for leasing are the Green River-Hams Fork regions of Idaho, Wyoming, Utah and Colorado (531 million tons in sales beginning in January 1981); the Uinta-Southwestern Utah region, extending through Utah into western Colorado (109 million tons beginning in mid-1981); and the Powder River Basin of Wyoming and Montana (776 million tons beginning in 1982).

and Montana (776 million tons beginning in 1982).

The program has four major steps. First, lands suitable for mining will be identified. Second will be "coal activity planning," a schedule of coal lease sales and their environmental impacts in each region for the four upcoming years. Third, the Secretary of interior will select leasing levels. First, leading the program sets out procedures for the program sets out the pro

of interfor win select leasing levels. Frailly, the program sets out procedures for managing coal sales.
Further information about the leasing system can be obtained from the Interior Department, 18th and C Sts. N.W. Washington, D.C. 20240.

Carter approves MX missile system

The Carter administration has approved the development of the MX missile system (HCN, 5-4-79). The missiles will be deployed in a 4,000 mile network of 8,800 shelters spread over New Mexico, Arizona, Utah and Nevada.

The 200 missile system will cost a total of about \$30 billion. Missiles will be moved periodically so that enemy forces won't know where they are at any given moment. Senior defense officials told the As-

Senior detense officials to the As-sociated Press that the system will "strengthen the stability of the strategic balance" between the U.S. and the Soviet Union. In addition, approval of the system is expected to ease the Senate ratification of the SALT II treaty on strategic arms

A White House spokesman says that the MX "means there can be no Soviet advantage in an arms race." But Senator George McGovern, (D-S.D.), says that the MX "could represent the biggest single waste of public funds since the Vietnam War."



Nevada claims 49 million federal acres

Anti-federal sentiment is running high in Nevada, where legislators have passed and the governor has signed a bill declarand the governor has signed a bill declaring state sovereignty over 49 million acres of federal land managed by the U.S. Bureau of Land Management. The bill will force the U.S. Supreme Court to decide ownership of the land. The bill appropriates \$250,000 for the defense of its claim. Nevada says that it was blackmailed into giving up the acreage as a condition of statehood in 1864.

According to Public Landa News. the

statehood in 1884.
According to Public Lands News, the success of the "take-over" has encouraged other states. A California legislative comittee has passed a similar bill and Oregon is considering the same type of legislation. Alaska and Utah have passed resolutions Alaska and Utah have passe supporting Nevada's actions. One congressional aide to

ressional aide told the News One congressional aide told the News however, that the Nevada initiative was "totally unrealistic" and "counterproduc-tive." The aide says, "The Supreme Court

Lamm wants Front Range growth study

Colorado Gov. Richard Lamm is initiating an effort to help the state handle rapid ing an effort to help the state handle rapid growth along the Front Range during the next decade. He is trying to establish a planning group that would not limit growth, but that would stimulate development "in a way that would be compatible with the future Colorado lifestyles," according to Land Use Planning Reports.

according to Land Use Planning Reports.

Lamm says that there is a "vast area extending in a strip almost 200 miles long from Fort Collins to Pueblo being urbanized at a rapid rate." He indicated that he hopes efforts will lead to private and public investments in housing, commercial developments, highways and parks in the

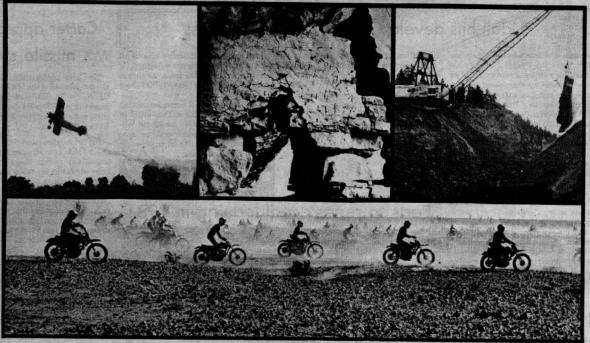
Most project members have not been named, but members will represent state business and civic groups, as well as state and local governments.



NEVADA has claimed ownership of 49 million acres of federal land within its borders. Pictured are the Clan

Alpine Mountains in Nevada, which are managed by the U.S. Bureau of Land Management.

What are they doing to your public lands?



Photos from files of EPA, BLM and High Country No

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The Wyoming homestead where I grew

up with my eight brothers and sisters roller skates, skate boards, tricycles, bicycles, hot wheels, swimming pools, fishing pools or publicly financed recreation prog-

But in the spring and summer we had wild flowers.

We knew nothing of botany. I doubt we even heard the word until well along in school. But we watched eagerly for the first brave blooms that followed the snow. In our area this was a tiny mat-forming phlox, usually white, sometimes tinted pink or lavender. We didn't know its name so we made up our own — "little white flower." This wasn't to be confused with the "little white daisy" that followed soon

We were well accustomed to the hardy yellow violets that grew close to the house, so it was a great thrill to discover the rarer blue ones in a moist dell.

The front ranks of blooms appeared around May 1st. But on at least one May Day we failed to find blossoms for our May haskets.

Late May and early June brought an overwhelming profusion of varieties. We rambled the hills gathering bouquets to take to Mother, shouting with delight at each discovery.

The Indian paintbrush grew in a vastly wider range of colors than described in Field Guide to Rocky Mountain Wildflowers. It mentions largely red and yellow varieties, but ours were white, pink, yellow, salmon, orange, red and all shades between.

The flower the field guide calls false lupine was wild sweet pea to us; later we

ment provides only sand, they will try to resisted changing to its other common

The leopard lily, Fritillaria atropurpurea, we called wild tulip. Bitterroot was rock rose; stonecrop, Sedum stenopetalum, was star flower; the evenlacked much for an exciting childhood by ing primrose, Oenothera caespitose was today's standards. We had no ice skates, simply a lily. The scarlet falsemallow, Sphaeralcea coccinea, was tomato flower. I used to like to chew its leaves. We called biscuitroot, Lomatium macrocarpum, wild carrot, and Dad warned us that he believed it poisonous.



The member of the primrose family that most people call shooting star we called Johnny-jump-up, and the scarlet gilia was skunk flower from its musky scent.

Penstemons and mertensias known to us as bluebells and purple bells.

There was a cream-colored flower on a prickly plant that grew among the sandstone ledges that I have never found in a botany book. It bloomed at dusk and put out a heady fragrance. We called it evening

We knew of a snowball that has no resemblance to the cultivated shrub.

Since we seldom had a chance to go to the higher altitudes, we were deprived of ac-quaintance with monkey flowers, columbines, wild geraniums, forget-me-nots, iris and harebells. But my early experiences with the familiar ones are some of the most precious memories of an undramatic life.

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by Dr. Helen Caldicott. Autumn Press, Brookline, Mass. 02146. \$3.95, paper. Bibliography; 119 pages.

Review by Will Murphy

Dr. Fritjof Capra, a theoretical physicist at the University of California at Berkeley, has praised Nuclear Madness as being the most precise lapperson's explanation of the fission process available. He may be right about the two chapters in the book devoted to the fission process and its medical ramifications. However, the bulk of the work is a one-sided Philippic against small-minded politicians, bureaucrats and doctors who condone the expansion of nuclear power. expansion of nuclear power. anyone who is

Reading more like a rhetorical essay anti-nuke mov

Nuclear Madness
What YOU
Gan Dol
than an informative handbook, Madness is full of statements like: "such advertising (for nuclear power) in institutions of learning is illegal; if it is not illegal in the United States, it should be;" which imply Caldiout hasn't fully researched important aspects of the integer. of the iss

For those who would use Madness as a guide to effective anti-nuke action, there is a chapter entitled "What YOU Can Do." it is predominantly a history of Caldicott's successes and failures as an anti-nuke crusader in Australia and America. Unfortunately, she tells us what we already those between the control of the cont know: letter writing has some effect, politi-cians know very little about the issue of nuclear energy, and utility lobbies are ex-tremely wealthy and powerful.

Deep conviction is apparent on every page of Madness. But until Caldicott abandons her inspirational style and fo-cuses more on sound research and statis-tics, it is doubtful that she will convince anyone who is not already a member of the

by Philip White

The cover painting of the April 15th New York Times Magazine depicts a caricatured, white-haired gentleman painting on an ease-held canvas. Posing for him, comfortably seated in a wheeled office armchair, is a gorgeous king pen-

guin.

Both artist and subject have long noses and pot bellies. The artist is dressed in a short-sleeved sport shirt and white knit pants. Although the penguin appears content, I can't help but feel it would prefer a lease

lowered thermostat.

The artist is Roger Tory Peterson, who has made many trips to Antarctica and written a book about penguins illustrated with his drawings and photographs. The Times cover article by Joseph Kastner is about this man Peterson and his proclivity for painting life-size penguins to hang above the bathtub in his Connecticut berge.

The bulk of the article, however, involves a phenomenon from which Peterson has derived his fame and in which he wants to remain "king penguin." The article is entitled "Battle of the Bird Books."

entitled "Battle of the Bird Books.
Kastner says that the burgeoning numbers of bird-watchers (membership in National Audubon Society grew tenfold during the period 1960-75, from 32,000 to nearly 335,000 and stiff competition from



ver field guides has cast some urgency on the revision of Peterson's revolutionary A Field Guide to Eastern Birds.

While in his 20s, Peterson conceived the idea of a simplified bird guide with lines pointing to the important distinguishing marks of each bird. Rejected by four publishers, the Peterson guide was finally published by Houghton Mifflin in 1934. The first printing sold out in a week and it went through three printings in a year.

A Field Guide to Western Birds followed. To date, the two books have sold more than three million copies and have

become THE Baedeker for some 10 million to 20 million birders in America today. Peterson's European bird guide has been translated into eight languages.

Peterson began planning his Eastern guide revision 10 years ago. But according to Kastner, he was so happily busy with other projects that "friends thought he would never actually get around to it."

About that time, however, a Golden Press book, Birds of North America, began to catch on. With fine paintings by began to catch on.

began to catch on. With fine paintings by Arthur Singer printed directly opposite the Arthur Singer printed directly opposite the text, range map and song diagram for each species, the Golden guide's lower price, convenient format and inclusion of all North American birds in one volume eventually made it "the best-selling bird guide ever," according to Kastner's article.

Then in 1977, the Audubon Society Field Guides hit the best seller list, using photographs instead of paintings. In 1978, almost 800,000 copies of the two Petersons, the two Audubons and the Golden were sold, but the Petersons were fal-ling behind.

These events have created a real bustle in the Peterson house. He is painting all new illustrations, more than 1,000 of them, all to be published in color in the first revision of the Eastern guide since 1947. His wife, Ginny, is drawing the range maps, which will be printed opposite the bird portraits. Peterson expects to have the work to the printer by mid-1980. After that, he plans to revise the European guide and finally the Western guide.

Now 70, Peterson grew up in Jamestown, N.Y., where he developed an early love of nature and painting. His first bird guide launched him on a career as conservationist, lecturer, editor and artist. Peterson tells his old friend, Kastner,

that "my eyes are still good, but my hear-ing is better." He has seen all but three of the birds in his Eastern guide.

"My eyes did bother me once," Peterson is quoted as saying. "I went to an eye doctor who said my eyes were O.K., but it would help if I got outside more and exercised them. Watching birds might be good for that, he told me, and he knew a good book to get me started on."

Millions of folks with binocular eyes—ten are avoingly any string the good to the control of t

train are anxiously awaiting that good

Dear Friends. -

With sadness we note the passing of Mountain Gazette, one of the region's most eccentric and delightful publications. As its last editor, Gaylord Guenin, describes it in a parting letter to friends and subscribers: The magazine had a "naive, capricious, passive and perhaps completely mad approach to publishing. In the end it failed."

However, this peculiar approach pleased the Gazette's small band of readers for the 13 years it managed to survive in one form or another, albeit in the red. One year, we remember, Friends of the Earth gave it the "Loose as a Goose Award." The Gazette was never as concerned about marketing as it was about something Guenin calls "progging" — giving writers and photographers the freedom to poke

around and pass on whatever they found. Because of the quality of the people who contributed — Edward Abbey and George Sibley were among our favorites—the results were often extremely good reading.

In its final letter, the Gazzette went out in the fine style in which it had entertained us for so long. First, a quote from Jeremy Bernstein: "Many Asian societies have long realized that by preparing endless cups of tea the consideration of vexing, perturbing and possibly even irrelevant questions can be postponed or even deflected completely."

Then, a terse sign-off: "Along with everything else, I fear we also have run out of tea."

With twice last year's turnout, it wasn't easy, but we survived the Third

Annual HCN Citizens Footrace. The event began as an excuse for a few staffers and friends to tune up physically after a long winter, to jog with slightly more fervor than usual. The first year a pleasant few showed up, the next year only a few more. But this time, with about 120 runners and 30 walkers, things became so hectic that we fear we may have to give up running for mob handling if interest grows as much next year.

handling if interest grows as much sav-year.

Among the HCN staffers who made it around the five-mile course this year were two of the people seriously injured in the auto accident last August, Mar-jane Ambler and Dan Whipple. That's a milestone for us—and solid proof of the wonders that can be wrought by nine months of determined healing.

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