

SPECIAL ISSUE

High Country News

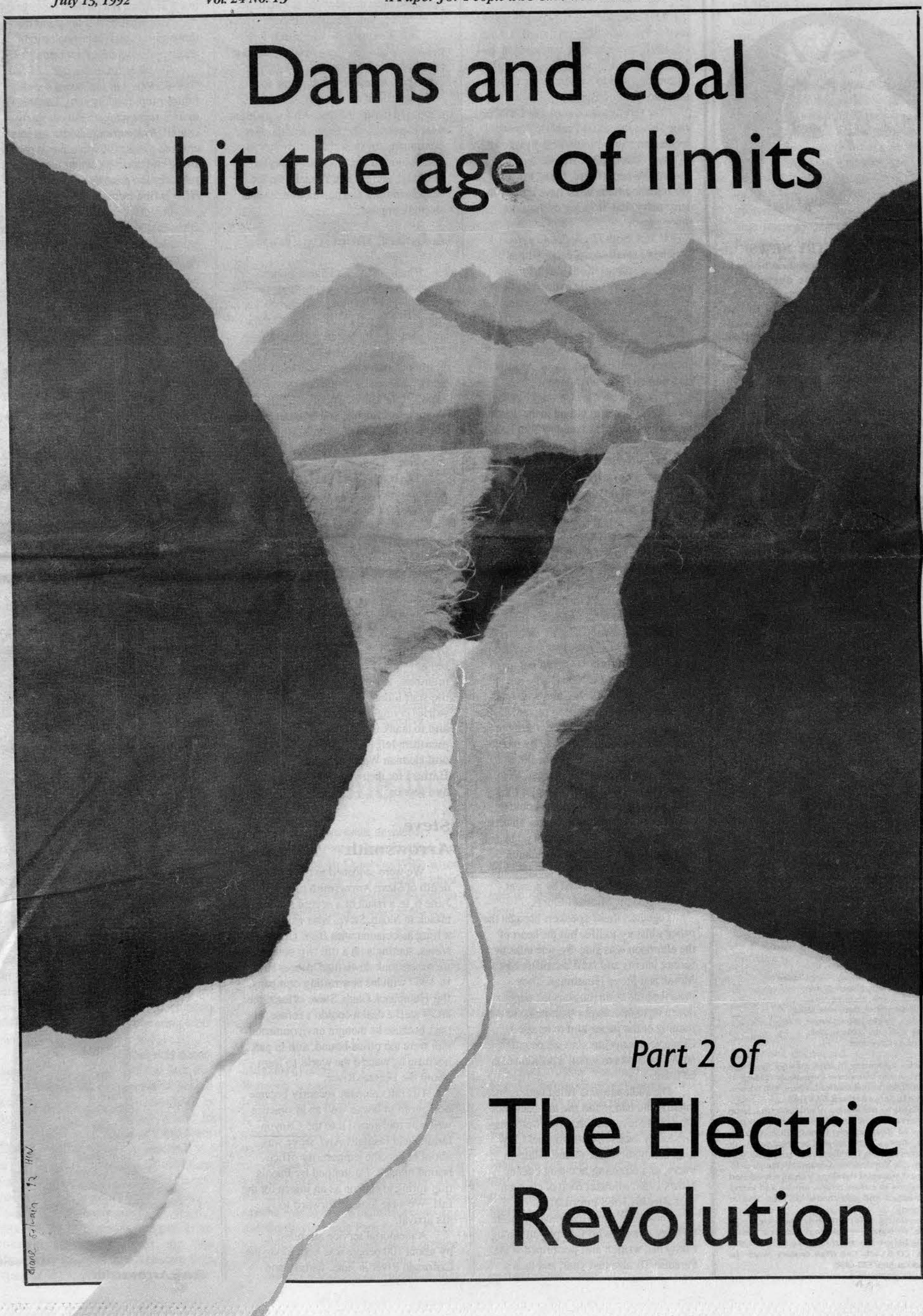
July 13, 1992

Vol. 24 No. 13

A Paper for People who Care about the West

Three dollars

Dams and coal hit the age of limits



Part 2 of

The Electric Revolution

Photo by [illegible]

Dear friends,



HIGH COUNTRY NEWS

(ISSN/0191/5657) is published biweekly, except for one issue during July and one issue during January, by the High Country Foundation, 119 Grand Avenue, Paonia, CO 81428. Second-class postage paid at Paonia, Colorado.

POSTMASTER: Send address changes to HIGH COUNTRY NEWS, Box 1090, Paonia, CO 81428.

Subscriptions are \$24 per year for individuals and public libraries, \$34 per year for institutions. Single copies \$1 plus postage and handling. Special Issues \$3 each.

Tom Bell
Editor emeritus

Ed Marston
Publisher

Betsy Marston
Editor

Linda Bacigalupi
Associate publisher

Florence Williams
Steve Hinchman
Staff reporters

C.L. Rawlins
Poetry editor

Diane Sylvain
Production/graphics

Cindy Wehling
Desktop publishing

Ann Ulrich
Typesetting

Kay Henry Bartlett
Business

Gretchen Nicholoff
Circulation

Rita Clagett
Mark Tukman
Mike Foster
Mark Dooley
Interns

Victoria Bomberry, Forestville, Calif.
Maggie Coon, Seattle, Wash.
Judy Donald, Washington, D.C.
Michael Ehlers, Boulder, Colo.
Bert Fingerhut, Aspen, Colo.
Tom France, Missoula, Mont.
Karil Frohboese, Park City, Utah
Sally Gordon, Buffalo, Wyo.
Bill Hedden, Moab, Utah
Judith Jacobsen, Boulder, Colo.
Dan Luecke, Boulder, Colo.
Geoffrey O'Gara, Lander, Wyo.
Diane Josephy Peavey, Carey, Idaho
James B. Ruch, Flagstaff, Ariz.
Farwell Smith, McLeod, Mont.
Emily Swanson, Bozeman, Mont.
Lynda S. Taylor, Albuquerque, N.M.
Andy Wiessner, Denver, Colo.
Board of Directors

Articles appearing in *High Country News* are indexed in *Environmental Periodicals Bibliography*, Environmental Studies Institute, 800 Garden St., Suite D, Santa Barbara, CA 93101.

All rights to publication of articles in this issue are reserved. Write for permission to print any articles or illustrations. Contributions (manuscripts, photos, artwork) will be welcomed with the understanding that the editors cannot be held responsible for loss or damage. Enclose a self-addressed stamped envelope with all unsolicited submissions to ensure return. Articles and letters will be edited and published at the discretion of the editors.

Advertising information is available upon request. To have a sample copy sent to a friend, send us his or her address. Write to Box 1090, Paonia, CO 81428. Call *High Country News* in Colorado at 303/527-4898.

Taking a break

Twice a year, staff foregoes the pleasure of publishing an issue of *High Country News*. This summer, we skip the July 27 issue. The next issue will be dated August 10.

The dedication

One hundred and fifty people gathered in Paonia, Colo., on Saturday, June 20, 1992, to celebrate a milestone in the history of *High Country News*, to honor its founder, and to remember its difficult past and human losses.

The setting was out of *The Last Picture Show*: the small Paradise Theatre located on a two-block-long downtown in a tiny community. But the resemblance was superficial. Small towns in the Intermountain West have their problems today, and blowing away is not among them.

In fact, both *High Country News*, which is a small-town paper with a widespread circulation, and the town of Paonia are better anchored today, thanks to a newly remodelled 3,600-square-foot office building. Its sense of openness, clean lines and wonderful, natural light delighted and surprised even board members, who had approved the plans and worked hard to finance it.

With former *High Country News* editor Geoff O'Gara presiding in the theatre, the building was dedicated to Tom Bell — the educator-journalist-visionary-rancher who founded *HCN* in 1970 and ran it for four years, until it had exhausted his stores of energy and money.

Bell recalled for the audience how he had transformed *Camping News Weekly*, whose main feature was a front-page photo of the Travel Trailer of the Week, into a biweekly that went where no Western newspaper had gone before: into environmental journalism.

The people who took over from Tom Bell and carried *High Country News* from 1974 to 1980 — Joan Nice and Bruce Hamilton — could not make the ceremony. But O'Gara, who ran the paper in the early 1980s, and who transformed it from a struggling private business still owned by Bell into a struggling non-profit corporation owned by its subscribers, was there to describe the paper's early quarters in Lander, Wyo. Its bathroom-darkroom tripled as the back issues storeroom and as home to several families of black widow spiders.

The audience was brought up to date by former High Country Foundation board presidents Robert Wigington and Andy Wiessner, followed by present board president Michael Ehlers.

Together, these speakers brought the paper's history to life, but the heart of the afternoon was side-by-side talks by former interns and staff members Mary Moran and Steve Hinchman. They described the contributions the paper's dozen or so interns per year make to the running of the paper and to its spirit. Graduate interns are also the people *HCN* first looks to when a position is to be filled.

The audience was filled with former interns who had made the trip back, but Mary and Steve said that two were missing: Emily Jackson and Michael Crawford. Emily died last spring, while an intern, of a climbing accident outside Moab, Utah. Michael died of cancer a year after his 1988 internship.

Their talks were followed by music by Gary Jensen, who first played a song Emily had written and performed at the Paradise Theatre last year, and then a

song he had written in her memory.

Toward the end of the dedication ceremony, Paonia Town Councilman Richard Gentzler, on behalf of the town council and mayor, presented *High Country News* with a "Citizen of the Century" plaque.

The afternoon culminated with a reading by Charles Wilkinson, author and professor of law at the University of Colorado, Boulder. His reading began after the 90 minutes of recalling *HCN*'s past, and most members of the audience thought they were ready to leave.

But Wilkinson — who reads in a powerful, lilting voice — pinned them to their seats with his essays on language, on Native Americans and on his son.

As with all ceremonies, not much happened during the day. And yet a great deal happened. The *High Country News* community, by honoring its straitened and at times tragic past, put that past behind it, and prepared to take on the responsibilities that new resources and strength impose.

A board meeting, too

The board of the High Country Foundation squeezed a five-hour meeting into the morning before the dedication ceremony. It first welcomed three new board members into its ranks — Maggie Coon, who is with the Nature Conservancy in Seattle, Judy Jacobsen, who teaches geography at the University of Wyoming, Laramie, and lives in Boulder, and Farwell Smith, a long-time subscriber from the Bozeman area.

The board found time to review the January-through-May financial and circulation results; to resoundingly reject a staff recommendation that the institutional and business subscription rate be abolished; to rededicate itself to raising the additional money needed to pay for the building; to discuss a retirement plan for staff; to discuss potential new board members; to suggest to the staff literally dozens of stories crying out for coverage; and to thank former board members Jeff Fereday of Boise and Herman Warsh of Santa Barbara for their years of help and service.

Steve Arrowsmith

We were saddened to hear of the death of Steve Arrowsmith on Saturday, June 6, as a result of a severe asthma attack in Moab. Steve, who was 30, had a long association with *High Country News*, starting with a raft trip some staff members took down the Dolores River in 1987 with his new rafting company, the Humpback Chub. Steve offered the *HCN* staff a deal it couldn't refuse, in part because he thought environmentalists were too office-bound, and in part because he wanted the world to learn about the Dolores River.

His raft company recently became non-profit in law as well as in practice when he transferred it to the Canyonlands Field Institute. And Steve was about to become temporarily office-bound himself. He stopped by Paonia this spring to sign on as an intern for the fall. We were looking forward to his arrival.

A memorial service attended by about 100 people was held along the Colorado River in June. Family and

friends ask that contributions be made in Steve's name to: Canyonlands Community Recycling Center, P.O. Box 97, Moab, Utah 84532.

Renew early

If a subscriber in the early 1980s sent in a check for a three-year subscription, it sent the staff into a panic. The panic came from a fear of commitment. Staff could imagine putting out the paper for another few fortnights. But for three more years?

And what if, at some point during those three years, someone bought another three-year subscription?

As the insert in this issue of *HCN* shows, both staff and board see the future more brightly now. The insert invites subscribers to Renew Early — to extend your subscription for up to another three years. The incentive to renew ahead of time is a coming increase in the subscription price by \$4 per year — *HCN*'s first increase in four years.

The offer expires Sept. 1, 1992, when the new rates go into effect. The increase is caused largely by postal rate increases and is about a year overdue.

—Ed Marston, for the staff



Steve Arrowsmith

Mike Podmore

WESTERN ROUNDUP

HOTLINE



One of eight Inland Empire Land Council billboards

What motorists see in Spokane, Washington

A large timber sale in Washington's Colville National Forest has turned Spokane environmentalists into publicity experts.

To protest the imminent logging of eight square miles of forest — almost a year's worth of sales — the environmental group Inland Empire Land Council is shelling out \$1,500 a month for an ad campaign. The money pays for eight billboards that show dramatic photos of clearcuts with the words "Forest Service Approved" stamped over them. Dave Crandall, a member of Inland Empire, says the pictures were taken at locations within the Colville National Forest

where clearcuts have already leveled trees.

A Forest Service spokesperson, however, insists the billboards show areas logged before 1989 regulations required leaving some live trees to shelter seedlings. Colville forest staffer Deborah Janke says billboard photos may even show a blown-down or insect-infested area — not a clearcut.

Crandall says the campaign aims to show Spokane residents how their forests are managed and to direct opposition to timber sales to Washington Sen. Brock Adams and House Speaker Tom Foley, both Democrats.

"We can't bring all the people to see the forest's management, so we brought the clearcuts to the streets of Spokane," Crandall says. He hopes the resulting "wake-up call" to Foley will rouse him to work for legislation protecting eastern Washington's forests.

The billboards are part of an ad campaign that included distribution of 40,000 leaflets to households in May. Crandall calls the effort a success, since people have flooded the offices of Adams and Foley with calls and letters protesting timber cuts in the Colville National Forest.

— Mark Dooley, HCN intern

Coalition speaks up for the owl

Bumper stickers in the Northwest may soon read, "Protect an owl to save a fisherman." A new coalition of commercial fishermen, tackle manufacturers and conservation groups lobbied Capitol Hill in June. They told lawmakers that if the endangered owl's forests are cut, the region's \$1.2 billion fishing industry — along with 62,750 jobs — could be jeopardized. The group cited wildlife biologists who point out that logging and road-building erode hillsides. Silt then clogs streams, which eventually raises water temperatures and reduces oxygen levels needed for fish. Conservationists in the coalition say that 90 percent of Washington and Oregon's critical fish habitat lies in old-growth forests. "It's long-term sustainable fishing jobs versus short-term timber jobs," Bob Doppelt, a member of the Eugene-based Oregon Rivers Council, told AP. Concerned that some fisheries are 10 percent of what they were 100 years ago, the coalition warns it may sue the Interior Department to block logging if current injunctions protecting owl habitat are lifted.

Utah halts crane hunt

In a surprise and welcome move to environmentalists, the Utah Wildlife Board voted June 26 to the end hunting of sandhill cranes. The hunt was authorized three years ago despite vigorous opposition from the Utah Wilderness Association, Audubon Society and Humane Society of Utah. Before that time, the huge birds had not been hunted in Utah for over 75 years, and Utah was one of only a few states that allowed hunting of the greater sandhill crane. The board made its decision after listening to nearly two hours of public testimony opposing the hunt. Critics said the birds weren't a major cause of crop depredation, but an important factor in the board's decision seemed to be the magnificence of the species. One wildlife board member said, "We don't hunt great blue herons and we shouldn't hunt sandhill cranes either."

Mintzmyer charges she was target of conspiracy

Saying the Department of Interior waged a "conspiracy" against her, former National Park Service official Lorraine Mintzmyer has come forward with more specific charges against her superiors and White House officials.

In disclosures to *High Country News*, Mintzmyer and her attorney released documents and information in support of her charge that high-level officials arranged to water down Yellowstone's so-called "Vision" document, and then remove her from directing work on it.

"At the time that all this was occurring, I wasn't cognizant of the fact that there was a real, organized effort behind it all," says Mintzmyer, who resigned in April after receiving a job transfer to Philadelphia. "Now that it's apparent that's the case, I'm frankly shocked. We have the sworn deposition of the (Park Service) director identifying the people that literally directed my reassignment."

"It was a concerted covert effort," agrees Carl Hartmann, her pro-bono counsel. Orchestrating it, he and Mintzmyer say, was then Assistant Secretary of the Interior Scott Sewell, a for-

mer Louisiana real estate developer.

Mintzmyer says Sewell called her into his office in October, 1990, after John Sununu, then the President's chief of staff, told Sewell the Vision document was "politically unacceptable."

Mintzmyer says Sewell also met with Western senators and representatives from logging, mining and agricultural groups to change the 60-page draft document to weaken its prescriptions for protecting the Yellowstone ecosystem.

While Sewell denies in his deposition to Hartmann that he ordered any substantive changes in the document, he says he was aware of industry's concerns and did discuss with Park Service Director James Ridenour transferring Lorraine Mintzmyer to a different region.

Sewell admits to complaining that

Mintzmyer was "lobbying" in her efforts to preserve the document, and was "performing under her capabilities." He also says he canceled all national public hearings to discuss the document, replacing them with local meetings. Mintzmyer

'It was a concerted covert effort.'

— Carl Hartmann,

Lorraine Mintzmyer's attorney

now charges these meetings in the communities surrounding Yellowstone were "stacked" with special interests.

Hartmann says Director Ridenour was also told to move Mintzmyer by three other White House representatives, John Schrote and Charles Kay of the Office of Policy, Budget and Administration, and Thomas Weimer, Interior Secretary Lujan's chief of staff. Weimer was recently portrayed by the *New York Times* as Vice President Dan Quayle's right-hand man for gutting environmental regulations.

Ridenour, in his deposition, says he does not recall any conversations with Sewell about Mintzmyer's transfer. He says he does recall discussing the industry group's dissatisfaction with the Vision document. He also describes a meeting called by Sen. Alan Simpson, R-Wyo., to voice concerns over the plan, but says he did not attend it.

Mintzmyer says Sewell is lying by denying his involvement in changing the Vision document, which was released 49 pages lighter last July. In support of the former Rocky Mountain director, NBC last week uncovered an internal memo written by Mary Bradford, Sewell's assistant, describing his help to special interests in re-working the Yellowstone plan.

That document should aid in the congressional investigation of Mintzmyer's case by the House Committee on Civil Service, says Mintzmyer.

"I didn't know of the existence of that document," she says. "It's very wonderful to know there is something out there more substantial than just my word. For a while, I felt very alone."

— Florence Williams

HOTLINE

Klump stomped

Seventy-six cattle seized in May from Arizona rancher Wayne Klump were sold recently by the government. Bureau of Land Management officials say the cows were grazing illegally on public land. Insisting he "owns" the area his family has leased for generations, Klump had refused to sign a grazing permit for a 2,489-acre allotment near Bowie. The Klump family has also received impoundment notices for illegal cattle on four other allotments, says the BLM's Larry Humphrey. He says that while the Klumps hold title to about 25,000 private acres, their claims on federal and state land are invalid. In recent months the Klumps have worked to evade BLM regulations by filing numerous appeals, making last-minute switches in land titles among family members and attempting to stake a property claim on federal land (HCN, 9/9/91). In 1990, the Klumps asserted 103,000 acres belonged to them because they had ranched the area since the turn of the century, which they described as the "beginning of time."

Letters bombard Forest Service

A spring avalanche of 30,000 letters rolled into the Forest Service's Washington office last month. They came in response to Agricultural Secretary Edward Madigan's proposal to eliminate public appeals from the timber-sales process. Two-thirds of the letters supported his proposal, including one engraved on a door-sized piece of plywood. Forest Service Chief Dale Robertson told AP he favored the change. "My whole career I've supported the appeals process, but I've got to tell you I no longer can make it work." Sen. Wyche Fowler, D-Ga., disagreed, saying, "Killing the appeals process is killing the messenger without addressing the underlying problem." House Speaker Tom Foley, to the surprise of many environmentalists, recently announced he opposed eliminating appeals. Foley told the *Spokesman-Review* in Washington that the move would erode public confidence.

Nature Conservancy loses ranch deal

A consortium of Warner Valley ranchers beat out The Nature Conservancy in a last-minute deal to purchase three eastern Oregon ranches from Vail, Colo., resort owner George Gillett. After months of negotiations with Gillett, TNC's Oregon office had received formal approval from its national board of governors to buy the MC, Roaring Springs and Kueny ranches. But the okay came with contingencies Gillett would not accept, said TNC spokesman David Allen. On June 19, two days after the Conservancy deal fell through, a group of 17 local ranch families completed an agreement with Gillett to buy the ranches, reports the *Lake County Examiner*. The ranchers had been negotiating with Gillett before TNC signed an exclusive option on the properties in April, and were "stunned and angry" to be cut off by the nonprofit conservation group. Now, if the ranchers can quickly raise the money, a large corporate operation will pass into the hands of local families. But if the consortium fails to raise an undisclosed sum by Gillett's deadline, the deal is off. Either way, said TNC's Russ Pinto, "I suspect our interest (in the properties) is over."

Wyoming tribes lose again in court

If water is a property right that belongs to us, how can (the Wyoming Supreme Court justices) go on to say, "You have a property right that belongs to the state (of Wyoming)?"

— John Washakie, co-chairman, Joint Business Council of the Northern Arapaho and Eastern Shoshone tribes of the Wind River Indian Reservation

The Wyoming Supreme Court has rejected a plea to reconsider its 3-2 ruling that restricts the Northern Arapaho and Eastern Shoshone tribes' use of "future" water and makes the state the administrator of federal reserved-water rights.

The tribes last month asked the court to reconsider its June 5 decision, which gave the state of Wyoming control over the two key water issues.

Shoshone Tribe attorney Susan Williams said the splintered nature of the five separate opinions issued by the five justices was a factor in the tribes' decision to ask the court to reconsider its ruling. Now they may appeal the decision directly to the U.S. Supreme Court.

The ruling, which overturns a lower state court decision, is the latest in a complex and bitter water rights dispute between the state and the tribes. The state initiated the legal battle in 1977, when it sued the tribes and federal government. The landmark case is the first in which Indian water rights have been adjudicated by state courts.

The case returned to court in 1990, when the tribes sued the state for refusing to curtail state permittees from taking water the tribes had dedicated for instream flow on the Wind River. For years, permittees in the reservation's U.S. Bureau of Reclamation irrigation districts have de-watered the same stretch of the Wind River, considered an important tribal fishery. The tribes argued before the state's high court during a November 1991 hearing that their federal reserved rights are different from state water rights and subject to the tribes' sovereign control, not to state administration.

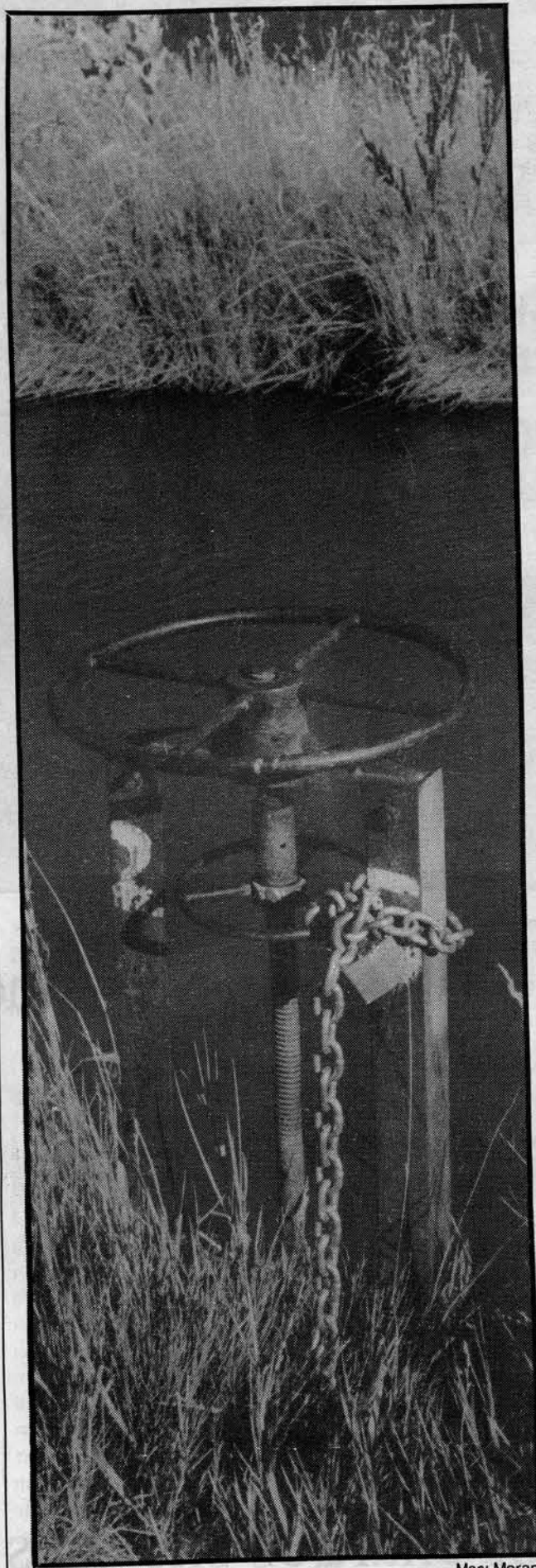
The Wyoming Supreme Court disagreed.

In 1989, the U.S. Supreme Court affirmed that the tribes had the best and earliest water rights on the Wind River. But the Wyoming Supreme Court's most recent decision effectively says that special status belongs only to water the tribes are already using, not to "future" water the courts quantified for the tribes' future use.

The Wyoming ruling essentially restricts the tribes' future water to agriculture. The court ruled the tribes cannot leave water in the river to maintain instream flow for fisheries, but can only divert it to meet the state's definition of "beneficial use."

Retired Justice C. Stuart Brown, who sat on the case instead of Chief Justice Walter Urbigkit, who declared a conflict of interest, disagreed with the court's restrictions on how the tribes can use their future water. The majority decision improperly treats the tribes' "reserved water right substantially as an appropriation under Wyoming statutes. The effect of the majority determination is to make marginal farmers out of the tribes forever," he wrote in his opinion. The court also upheld the state's claim that only it can own an instream flow and therefore it outlawed the tribal instream flow permit.

On June 10, tribal leaders expressed publicly for the first time their disappointment with the decision, which Williams said is based on "blatant legal



Mary Moran

Irrigation headgate

errors." Tribal leaders said the decision effectively takes the tribes' federal reserved rights to more than 500,000 acre-feet of water — about one-third of the water that flows through the reservation in an average year — and places it under the yoke of state water law.

"Despite the court's decision, the tribes will not go away," Arapaho Business Council Chairman Burton Hutchinson Sr., stated. "We will continue to make every effort to obtain maximum benefit for our membership from our water resources."

Explaining the Wyoming court's reasoning behind the June 5 decision, Justice Richard Macy wrote: "Our decision today recognizes only that which has been the traditional wisdom relating to Wyoming water: Water is simply too precious to the well-being of society to permit water-right holders unfettered control over its use."

Wyoming Supreme Court Justice Michael Golden, who was the only justice to dissent on both issues, criticized his fellow justices. "If one may mark the turn of the 20th century by the massive

expropriation of Indian lands, then the turn of the 21st century is the era which the Indian tribes risk the same fate for their water resources.

"Today some members of the court sound a warning to the tribes that they are determined to complete the agenda initiated over 100 years ago and are willing to pervert prior decisions to advance that aim. I cannot be a party to deliberate and transparent efforts to eliminate the political and economic base of Indian peoples under the distorted guise of state water-law superiority."

Wyoming Attorney General Joe Meyer has said he will make no public comment about the court's decision because "we're still in negotiations with the tribes, and the last thing I want to do is polarize anything."

Wyoming Gov. Mike Sullivan, who last year denied he was using economic aid to leverage a settlement from the poverty-stricken tribes over water rights, said he was "pleased" with the decision. The ruling is consistent with the state constitution and state water law and "in keeping with the court's earlier decision affirming the tribes' reserved water rights," he stated.

In its constitution, the state of Wyoming claims ownership of and authority over all water within the state's boundaries. The state was established in 1890, 22 years after the Fort Bridger Treaty of 1868 established the reservation.

The Wyoming governor also said the state and the tribes should now move ahead on working

cooperatively to resolve water shortages this summer, in response to a proposal offered by the tribes prior to the June 5 ruling. In a June 1 letter, the governor announced that he had accepted a recent tribal offer to reduce instream flow requirements and other measures to prevent economic injury to non-Indian irrigators on the reservation faced with a water shortage this summer.

The tribes, in a June 10 release, however, suggested that if a mutually satisfactory long-term state-tribal agreement on water management cannot be reached, the tribes will embark on extensive agricultural projects. Such projects, the tribes' release suggested, will leave state-permitted irrigators within the reservation in worse shape than the use of water for protection of instream flows on the Wind River. Tribal leaders did not specify how they would fund such projects or their cost.

— Katharine Collins and Debra Thunder

The reporters work for the *Casper Star-Tribune*.

Nevada sides with environmentalists against rancher

CARSON CITY, Nev. — The state of Nevada has intervened in the battle between rancher Wayne Hage and the Forest Service. But much to the consternation of Hage and his allies, the Nevada Attorney General sided with the federal government in the lawsuit *Hage vs. the U.S. Forest Service*, now in U.S. Claims Court in Washington, D.C. (HCN, 9/9/91).

That surely would have been enough to rouse the ire of ranchers here in the home of the Sagebrush Rebellion. But Nevada is also being represented in the case by Thomas Lustig, an attorney for the National Wildlife Federation. Lustig submitted motions to intervene in

the lawsuit on behalf of his organization and the state of Nevada, as well as the Sierra Club and the Natural Resources Defense Council.

This was known in late December when the motions were filed. But they erupted into controversy when "wise use" leaders meeting in Reno in June called for an investigation and the resignation of Nevada Attorney General Frankie Sue Del Papa.

Ron Arnold of the Center for the Defense of Free Enterprise, which is helping fund Hage's lawsuit, accused Del Papa of "conflicts of interest" and said she was "giving away state water rights." Then state Sen. Dean Rhoads,

credited with starting the Sagebrush Rebellion in the Nevada Legislature in the late 1970s, convened a hearing of the legislature's Public Lands Committee to question the attorney general's contracting with a "special interest group" to represent the state.

The attorney general stood firm. "Frankie Sue," as she is commonly known by supporters and opponents throughout the state, refused to take any guff from an angry group of ranchers and their few remaining representatives in the statehouse. And therein lies a brief tale about a sea change in the politics of ranching and the environment in the Sagebrush State.

The late afternoon legislative hearing was attended by about 50 people, heav-

ily weighted by ranchers. Wayne Hage greeted and thanked each of his supporters individually but had "no comment" for the press or the hearing. This was apparently a show of force on his side, a calling to account of the attorney general, rather than a discussion of the merits of his case.

Committee chairman Rhoads, however, began by admitting that this was "a hearing, not an investigation." And the legislative counsel, Ryan Campbell, soon established that the attorney general indeed had followed proper legal procedures. So the rest of the combative session was left to trading charges about the Hage case — exactly what the committee said it would try to avoid.

The attorney general said her office was asked to intervene in the case by the Nevada Department of Wildlife, which is charged in Hage's complaint with introducing "non-indigenous elk" that consumed forage on an allotment used by the rancher without compensating him. Del Papa said an adverse decision in the Hage case could affect not only the ability of state and federal agencies to regulate public rangelands, wildlife and habitat, but also citizens' rights to use public lands. At this point in the proceedings, she said, the state shares those interests with the Forest Service and the environmental groups.

Turning around the "special interest" charge, Del Papa said, "It's my responsibility to represent the entire state of Nevada, not just special interests. The Nevada Department of Wildlife shares the Forest Service's concern that a ruling in favor of a permittee who has abused lands would pressure federal agencies to acquiesce to special interests on multiple-use land."

"I feel more strongly than ever we did the right thing," she concluded. "If I

had it to do all over again, I would do it the same way."

Hage's lawyers, Thomas Hookano and Mark Pollot, attorneys from San Francisco who have built their careers on the property "takings" issue, said the Nevada attorney general was on the "wrong side." "The state of Nevada should be supporting private property rights," said Hookano. "The Hages ought to be applauded for the way they have managed. There is no resource damage there."

"This is the wrong case to vindicate property rights," replied deputy Attorney General Wayne Howle, who is in charge of the case. "Mr. Hage is not a good operator."

A host of ranchers then testified that Hage was "not a bad rancher" and accused Del Papa of a hidden agenda because she has served as an advisor to the Trust for Public Lands, a group that buys private property for resale to federal and state agencies. Jim Connelly of the Nevada Cattlemen's Association

questioned whether the attorney general suffered from "bad advice, questionable judgment, or ethical conflict." And rancher Barbara Curti of the Nevada Farm Bureau wondered, "Am I next?"

Rhoads wrapped up the hearing saying the committee would take "no action." He said the judge in the case would decide on the state's motion to intervene before the committee met again.

Although designed as an opportunity for ranchers to flex some muscle, the attack on the attorney general instead seemed to demonstrate their diminishing strength. What seemed most significant was Del Papa's decision to throw the state's lot in with the Forest Service and the environmental groups against Hage's bid to rid the public rangelands of regulation.

— Jon Christensen



Kit Miller

Nevada Attorney General Frankie Sue Del Papa

'I feel more strongly than ever we did the right thing.'

— Frankie Sue Del Papa, Nevada attorney general

'Wise use' movement launched attack on attorney general

The attack on Frankie Sue Del Papa was launched at a "Wise Use Leadership Conference" in Reno. It featured Wayne Hage and a host of other conservative pundits and activists, including Republican Rep. William Dannemeyer of California, William Perry Pendley of the Mountain States Legal Foundation, and Chuck Cushman, who speaks for people who own "inholdings" within national forests and other public lands.

The toast of the conference, however, was Dixie Lee Ray, former governor of Washington, and a Nixon-era Atomic Energy Commission director. Ray was just back from Rio de Janeiro, where she received prominent play in the Brazilian media as the "bad wolf" of the Earth Summit.

Ray's speech, titled "A Report from the Flat Earth Summit in Rio to the Down-to-Earth Summit in Reno," culminated an event in which around 200 wise-use leaders and eager members vied with each other at lambasting environmentalists and crowing about the movement's recent successes.

After calling the Earth Summit "an international bash for the radical environmentalists, socialists and weirdoes of the

world," Ray laid her perspective on the line. "I do not support the fundamental principle that excess damage is being done to the earth and that it is man's activities that are causing it," she said.

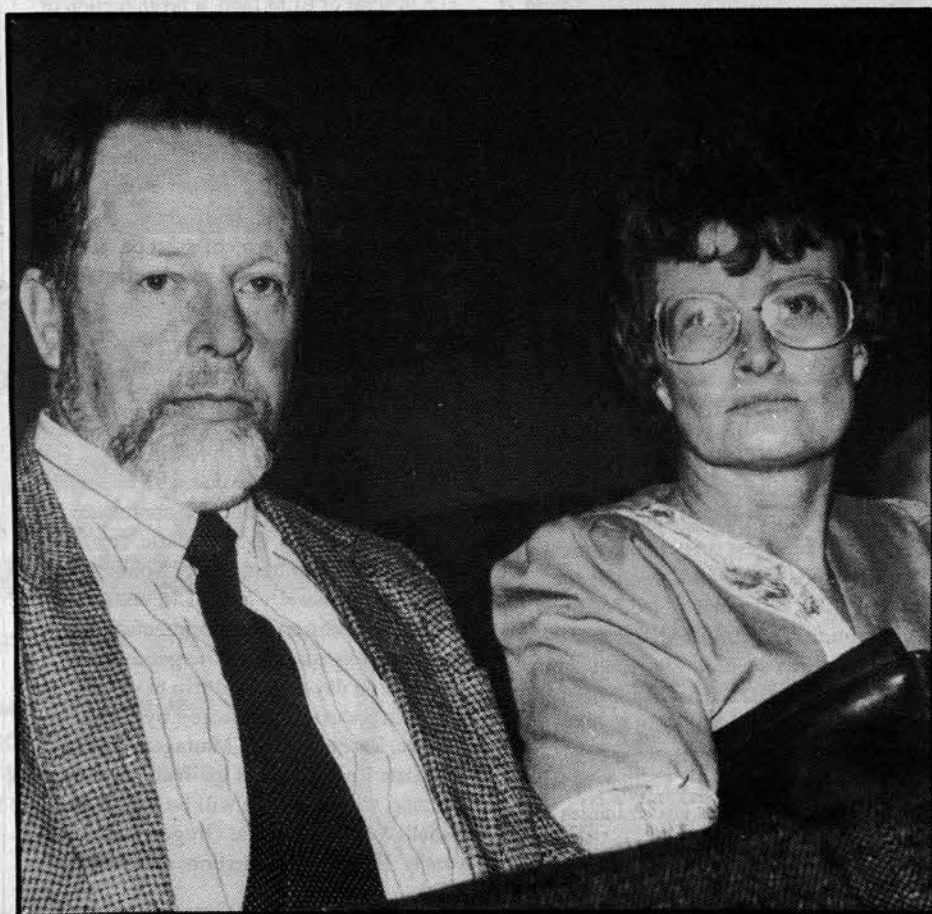
Alan Gottlieb, direct mail whiz, president of the Center for the Defense of Free Enterprise, and conference organizer, took full credit on behalf of the "wise use" movement for turning around George Bush before the Earth Summit, and more importantly, the fall election.

"He picked up our line," Gottlieb said, "which is that you have to balance environmental concerns with jobs and the economy. We had to play hard ball," Gottlieb boasted. "And they have responded to pressure. They need us now."

Over the past few years, with substantial industry support, a handful of organizations under the "wise use" umbrella have put together a formidable network. It lobbies politicians at the grass-roots and, through direct mail, connects groups all over the country.

As Ron Arnold, an ex-Sierra Club member turned "wise-use" leader, told a local TV interviewer, "There's such a well-spring of hatred against the environmental movement out there that it scares even me."

— J.C.



Kit Miller

Wayne and Jean Hage at the hearing

BULLETIN BOARD

TAXPAYERS HOOF THE BILL

An audit released by the U.S. Office of Inspector General in April reveals that the Bureau of Land Management spent a million dollars more than was necessary to care for wild horses. Of more than 80,000 wild mustangs taken off public lands since 1980, roughly 60,000 were adopted through BLM's Adopt-a-Horse program. But horses too old or feeble were sent to sanctuaries operated by South Dakota's Institute of Range and the American Mustang. The understanding was that within three years the institute would have raised enough private money to care for the animals. Fundraising efforts, however, failed, as the institute generated only \$300,000 of its \$30 million goal. Meanwhile, the BLM paid the institute \$2.1 million for horse care. The audit suggests that the agency could have arranged horse care with several other organizations that bid \$800,000 less than the institute. Auditors also found that the agency overpaid \$95,000 in expenses the institute should have covered, \$250,000 in an unauthorized increase in basic horse-care fees, and \$1,000 from an invoice error. For a copy of the audit, write the Office of the Inspector General, U.S. Department of the Interior, Washington, D.C. 20240, and ask for report number 92-I-543, March 1992.



HELP SOUGHT FOR OAK CREEK CANYON

For many years AAA maps ranked Highway 89A between Flagstaff and Sedona, Ariz., one of the country's top 10 scenic roads. The state's first official scenic highway, the route drops out of ponderosa forest through Oak Creek Canyon, then down into the stunning red-rock country featured in many Western movies, including *Broken Arrow*. Ecologically rich and fragile, Oak Creek Canyon is visited by millions of visitors each year. In an effort to protect the canyon and nearby red desert, people representing Coconino and Yavapai counties, the town of Sedona and the Coconino National Forest have held some 50 meetings to explore various federal designations. "The project is still in the incubation stages," says committee spokesman Wayne Iverson, "but we hope to get the area special designation as a national scenic area, or a national management emphasis area." Iverson says two earlier efforts to protect the area failed, but with increasing tourism through the canyon, he thinks this attempt may succeed. He says the Forest Service will begin a study Oct. 1, but Congress could decide on a protective designation before then. For more information, contact the Coconino National Forest, 2323 E. Greenlaw Lane, Flagstaff, AZ 86004 (602/556-7400).

ENERGY FAIR

Got the fossil-fuel blues? The third annual Crestone Energy Fair Aug. 1-2 at the town park in Crestone, Colo., will feature the latest in solar and renewable energy products. Festivities include a biodiversity parade, a solar-powered concert and a hydrogen-fueled barbecue, plus visits to local buildings powered by the sun. In keeping with this year's theme, "Reconnecting the Americas," talks will focus on alternative energy both in the United States and in Latin America. For more information, call 719/256-4115.

THE WOMEN'S WEST

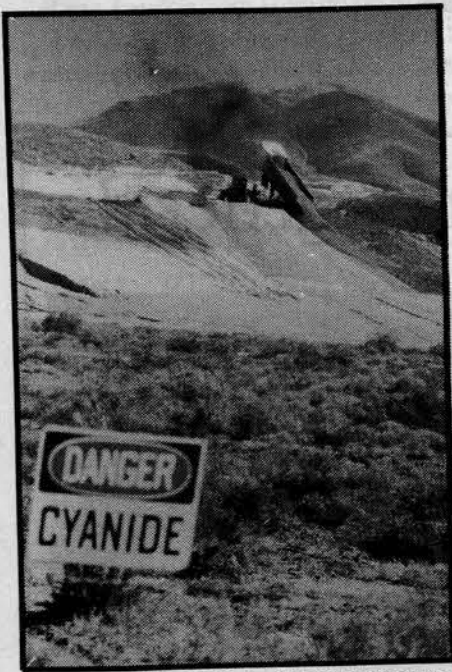
The West, seen through the collective vision of Western women past and present, native and transplanted, is the subject of "Suspect Terrain: Surveying the Women's West," a conference July 23-25 at the University of Nebraska in Lincoln. Talks and panel discussions will address the culture, history, politics and attitudes that have shaped the outlooks and experiences of Western women. The 112 speakers include Laurie Houseman-Whitehawk, an artist and Winnebago Indian; Ruthanne Lum McCunn, an Asian American writer; and Twila Martin-Kekahbah, a Chippewa Indian from North Dakota. The gathering is sponsored by the Nebraska Humanities Council, The Center for Great Plains Studies at the University of Nebraska, the University of Nebraska-Lincoln Summer Sessions and the Mary Riepma Ross Film Theater. For more information, call 402/472-3082.

LEWIS AND CLARK, REVISITED

Eighty-seven years after Lewis and Clark set off to explore the Northwest, a new team is traveling along the same rivers that were once free-flowing, clean and loaded with salmon. Tom Warren, a Tulsa, Okla., chiropractor, and John Hilton, a photographer and videographer from Missouri, began their journey June 1 in St. Louis. They plan to follow the winding courses of the Missouri, Snake and Columbia rivers, exploring the changes time and humans have made. Sponsored by American Rivers, a Washington, D.C.-based conservation organization, the 4,000-mile expedition will conclude this August at the mouth of the Columbia River in Fort Clatsop, Ore. The team will also search for original campsites, lost caches of equipment and other artifacts. With its 19 major dams, the Columbia basin tops American Rivers' list of the nation's 10 most endangered waterways.

TWO PERCENT HAVE CLOUT

Two percent of the grazing permittees on Bureau of Land Management land control nearly half the agency's rangeland in the West, according to a recent General Accounting Office study. Requested by Rep. Mike Synar, D-Okla., the report found that the 500 largest allotments covered 76 million acres, 47 percent of BLM rangeland in 16 Western states. According to data analyzed by the GAO, these permit holders include oil companies, utilities, banks and insurance companies. "Large corporations are feeding off the federal treasury," Synar told the *Albuquerque Journal*. "It's time we give them a very good dose of free enterprise." A House Interior subcommittee recently agreed, approving an increase from the fee of \$1.92 per animal-unit-month to \$2.63 per AUM in 1993, and up to \$5.36 in 1997. But Republican Rep. Joe Skeen of New Mexico warned: "You raise the fees, and (ranchers) go out of business. It doesn't hurt the bigger ones but it hurts the smaller ones." To obtain the GAO report, called *Rangeland Management: Profile of the Bureau of Land Management's Grazing Allotments and Permits*, call the agency at 202/275-6241.



Philip M. Hocker/Mineral Policy Center

POISONED PROFITS

The recent boom in cyanide heap-leach gold mining could irreparably damage public lands and wildlife unless stricter government rules are imposed, concludes a report by the National Wildlife Federation called *Poisoned Profits: Cyanide Heap Leach Mining and its Impacts on the Environment*. The report surveys the environmental and health impacts of gold mining in the West, including 10,000 cyanide-related wildlife deaths, water contamination in five states and 1.5 billion tons of mineral waste. The report also examines the patchwork of state and federal regulations governing the industry. A 36-page copy of the report is available for \$4 from the Public Lands and Energy Division, National Wildlife Federation, 1400 Sixteenth St., N.W., Washington, D.C. 20036-2266 (202/797-6800).

DRILLING NEAR DESOLATION CANYON

A company's plans to drill for gas near Desolation Canyon in northeastern Utah could threaten the area's wildlife and jeopardize future wilderness designation. That conclusion was recently reached by an environmental assessment of natural-gas exploration in Uintah and Duchesne counties. ANR Production Company plans to drill 52 wells on 27,678 acres of BLM land, a large portion of which Rep. Wayne Owens, D-Utah, included in his state wilderness proposal. The study also says that the company would need to build 155 miles of road for access to 779 acres of drill pads. These developments could disturb peregrine falcon and ferruginous hawk nests in the area, the study notes. Public comments about the project must be received by July 27. For a copy of Environmental Assessment No. 1992-21, contact the Bureau of Land Management's Vernal District Office, 170 South, 500 East, Vernal, UT 84078 (801/789-1362, Fax 801/789-3634).

FOCUSING ON YEW

The cancer drug taxol and its source, the Pacific yew, are the focus of a conference in Corvallis, Ore., Aug. 3-5, "Pacific Yew: A resource for cancer treatment." Speakers include Forest Service and BLM researchers, university professors, environmentalists and drug-company scientists. The get-together also offers a day-long field trip to yew habitat in the Cascades. Co-sponsored by the Forest Service, Bureau of Land Management, Oregon State University and the National Cancer Institute, the conference will be held at the LaSells Stewart Center at Oregon State University. For more information, call 503/737-2329.



Ingrid Dockersmith



Toni Evins

Unclassifieds

HIGH COUNTRY NEWS classified ads cost 30 cents per word up to 50 words. Rates increase after that. Display ads 4 column inches or less are \$10/col. inch if camera-ready; \$15/col. inch if we make up. Larger display ads are \$30 or \$35/col. inch. We reserve the right to screen all ads. Send your ad with payment to: **HCN**, Box 1090, Paonia, CO 81428, or call 303/527-4898 for more information.

CEDAREGE, COLORADO: 8 acres, rural, two country homes, attached greenhouse, hay, gardens, orchard, barn/loft, root cellar, outbuildings, creek with trout. \$128,000. 303/856-6362. (2x13p)

WANTED: DEPENDABLE RIDING MULE. C. Latier, HC 62, Box 393, Raton, NM 87740, 505/445-3395. (1x13p)



HYDRA

15 Little Dipper Rd. Tijeras, NM 87059

CREATE SOMETHING BEAUTIFUL LIKE A SWAMP
OUR PROFESSIONAL AQUATIC ECOLOGISTS CAN ASSIST YOU WITH THE RESTORATION AND ENHANCEMENT OF STREAM AND RIPARIAN ENVIRONMENTS. THE CREATION OF WETLANDS FOR WILDLIFE HABITAT, OR THE USE OF CONSTRUCTED WETLANDS FOR WASTEWATER TREATMENT.

(505)843-6311



BACK OF BEYOND BOOKS

The Western Nature and Environment Book Store

Native Americana Fiction of the New West

The complete works of Edward Abbey

We love mail orders!

If you read about it in HCN, we can ship it.

P.O. Box 387
Moab UT 84532
(801) 259-5154

FULL-TIME EXECUTIVE DIRECTOR needed for Jackson Hole Trout Unlimited. Office in Jackson. Issues-awareness, fundraising experience, and administrative background desirable. Please send resumé (references helpful) to: Trout Unlimited, POB 4069, Jackson, WY 83001. Deadline for resumé and inquiries is Aug. 1, 1992.

DEVELOPMENT DIRECTOR, full-time permanent position, fundraising, membership recruitment; requires excellent communication skills, commitment to Northern Plains environment. Call for salary, application details. Technical Information Project, Box 1371, Rapid City, SD 57709, 605/343-0439. (2x13p)

"OUTDOOR PEOPLE AD-Venture" lists 60-word descriptions of active, outdoor-oriented Singles and Trip Companions nationwide. \$3/issue, \$12/ad. OUTDOOR PEOPLE-HCN, P.O. Box 600, Gaston, SC 29053.

OFFICE MANAGER, WYOMING FIELD OFFICE. The Nature Conservancy, a private, nonprofit conservation organization, is seeking an experienced person to coordinate our Administrative Dept. Qualifications: B.A. and/or 2-3 years proven experience. Proficiency with computers, solid background in accounting and personnel. Ability to work with a wide variety of people. A high measure of personal and professional motivation. Send resumé and cover letter to: Paula Patton, The Nature Conservancy, 258 Main St. Suite 200, Lander, WY 82520. Application deadline: July 24, 1992. The Nature Conservancy is an EOE/AA employer. Minorities encouraged to apply. (1x13b)

CHALLENGE/DISCOVERY

a professional development program, an outdoor adventure-oriented, experientially based, empowerment team-building program for executives. We offer quality, not quantity. Our programs and services result in higher productivity, improved quality and increased profits for our clients. Every program is custom-designed for your group.

- We can plan the entire program to meet your objectives.
- We incorporate and facilitate selected modules into your agenda.

For your free brochure, write:
FOUR CORNERS CENTER FOR EXPERIENTIAL LEARNING, LTD.
1760 Broadway
Grand Junction, CO 81503
(303) 858-3607

ENTRIES WANTED: Artists, craftspeople and entrepreneurs of all types to participate in The People's Fair, a non-juried fair sponsored by the Paragon Gallery Sept. 7 in Crested Butte, Colo. Categories include art, crafts, flea market and edible art (cold food only). Booth fee is \$35. Call or write Lang Ingalls, POB 3, Crested Butte, CO 81224. 303/349-6484. Deadline is Aug. 29. (1x13p)

REMOTE CABIN FOR RENT, by day or week, complete facilities, easy 4WD access, Red Mountain Pass. Call 303/387-5823 for information and brochure. (3x12b)

YOUR OWN PART/FULL TIME BUSINESS, with integrity and conscience. 100 percent guaranteed nutritional products. Call 303/440-6722 in Boulder/Denver area, 1-800/336-6956 long distance. (5x12p)

A CANYON CRUISE? Raft down the Green or San Juan rivers in Utah. While river guides tend to practical concerns (like lunch), you will be free to learn while you explore the vivid canyons, ancient ruins, and the extraordinary rock art. Specialty courses in history, watercolor, writing. Contact: Canyon River Company, 512 Bristlecone Dr., Cedar City, Utah, 84720 (801/586-8727). (6x8p)

LLAMAS — Wilderness packers that minimize impacts and maximize the experience. Buy or rent at these locations: southern Utah (Bluff), southern Colorado (Durango), northern Colorado/southern Wyoming (Loveland). For details and brochure: Buckhorn Llama Co., Inc., P.O. Box 64, Masonville, CO 80541 (303/667-7411). Guided/outfitted trips are available in the same areas. (5x11b)



Solar Electric Power Systems
Water Conservation
Alternative Energy Equipment

Designs & Devices for High Quality, Low-impact Living
Natural Resource Co.
Box 91 Victor, ID 83455 (208) 787-2495

ANIMAL SIGNS

You Can Wear or Put in Your Pocket



T-Shirts
100% Cotton M, L, XL
\$13.50 each
(3 for \$35)*

Bandannas
\$6.50 each
(3 for \$15) p.p.d.

Sweatshirts
M, L, XL
\$23.50 each
(2 for \$39)*

BECOME A WALKING FIELD GUIDE™ to animal footprints or droppings. Choose track or scat apparel, featuring artful and scientifically accurate illustrations of signs from our most renowned N.A. land mammals.

Specify Size, Track or Scat Design, and a 2nd Color Choice:
Tees: Teal Blue, Coral, Heather Gray, Raspberry, Jade, Aqua, White
Bandannas: Red, Turquoise, Lt. Blue, Ecru, Raspberry, Forest Gr.
Sweatshirts: Choose from Heather Gray, Raspberry, or Turquoise

*Add Shipping & Handling of \$1 per shirt (\$1.50 per shirt outside 48 states)

— please allow 2-3 weeks for delivery —

Pangraphics

P.O. Box 181-H Kelly, Wyoming 83011
307/793-6421 (Sorry, no credit card orders)

REGIONAL COUNSEL, CONSERVATION REAL ESTATE PRACTICE. The Trust for Public Land is a national nonprofit land conservation organization with an immediate opening in its SW Regional Office serving AZ, CO, NM, UT, OK, TX and AR. **Primary Responsibilities:** Assist project staff in designing and negotiating real estate transactions; prepare and negotiate all legal documents for real estate transactions; provide legal advice and services related to the needs of TPL's regional operations. **Minimum Qualifications:** Five years of real estate and business law practice; J.D. or other advanced law degree; member of the bar in at least one SW state; experience with land conservation desirable; demonstrated skills in real estate negotiation, finance and government relations; excellent communication skills; ability to help accomplish TPL business goals with diplomacy and good humor. **Application Procedure:** Send cover letter and resumé describing your interest, qualifications and the contribution you feel you could make to TPL's work to Violetta Trujillo, Office Manager, The Trust for Public Land, POB 2383, Santa Fe, NM 87504 by Aug. 15, 1992. Competitive salary and excellent benefits package. (1x13p)

OUTDOOR SINGLES NETWORK, bi-monthly newsletter, ages 19-90, no forwarding fees, \$18/1-year, \$4/trial issue-information. OSN-HCN, P.O. Box 2031, McCall, ID 83638. (8x6p)

ALTERNATIVE ENERGY CATALOG for remote homes. Solar electric, wind, hydro-electric generators, wood-fired hot tubs, composting toilets and more. \$2.50, refundable with order. Yellow Jacket Solar, Box 60H, Lewis, CO 81327. (12x1p)

LAND LETTER ... the newsletter for natural resource professionals. Special introductory offer. Write 1800 North Kent St., Suite 1120, Arlington, VA 22209 or call 703/525-6300. (24x1p)

FOR UNIQUE PROPERTY WITH PIZZAZZ (such as 474 acres including an Anasazi tower, or a 160-acre, old-time lettuce farm surrounded by national forest of aspen and spruce, or an historic stone mansion on the Colorado River by a waterfall, or a gold-medal trout river ranch, or a 300-acre farm on the Dolores River under 1,200-foot red cliffs with a swinging bridge), call Jack Treece, Treece Land, 303/243-4170. (3x12b)

WE DON'T SEND JUNK MAIL!

We would like you to know about our environmentally sound products but you'll have to call or write us.

Recycling is one of the "3 R's." Another is Reduction. 95% to 97% of junk mail ends up in our trash. We don't like all that unsolicited junk mail we get (and maybe you don't either), so we are giving you a chance to support a business that reduces unnecessary waste.



TREECYCLE
RECYCLED PAPER
the other half of recycling

P.O. Box 5086 Bozeman, MT 59717
(406) 586-5287



T-shirts

Medium - Large - Extra Large

Blue on Off-White

\$12.00

A T-shirt purchase is an automatic membership in the Great Old Broads for Wilderness. Suggested annual dues of \$15.00 is appreciated, but not required.

P.O. Box 520307

Salt Lake City, UT 84152-0307
(801) 539-8208

Wake Up Colorado!

If you're concerned and want to stop the military from taking over our wilderness, send this to Major General John France.

Major General John France • 6848 S. Revere Parkway • Englewood, CO 80112

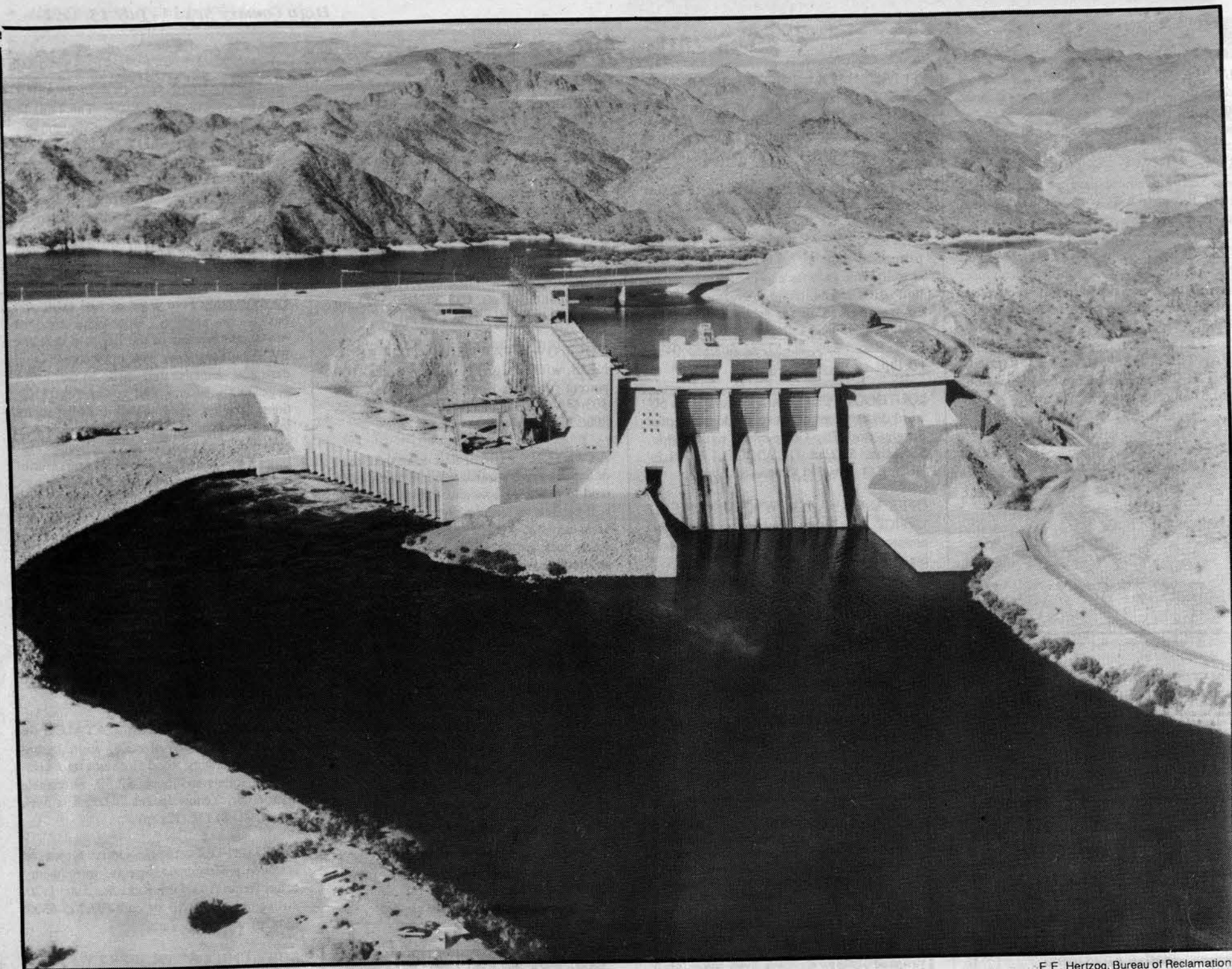
We Coloradians don't want your jet fighters using our wilderness for a combat training area. PERIOD. We don't want to hear any more of your lies. Leave our land alone.

Name _____

Address _____

City _____ State _____ Zip Code _____

This ad paid for by the Say No Way MOA Alliance.



E.E. Hertzog, Bureau of Reclamation

Davis Dam and Lake Mohave on the Colorado River

Dams and coal hit the age of limits

It turns out that there can never be enough water, or enough electricity, or enough coal to satiate the West. There is always the need for another million acre-feet of water, another thousand megawatts of electric power, and another 100 million tons per year of coal mining capacity. At least, that driving need always existed in the past. But suddenly — where “suddenly” means a decade or so — an equally strong need has developed to reduce the West’s appetite for water, electricity and coal by large amounts. This issue is about those clashing needs.

The Electric Revolution, part 2

Table of contents

Pressure builds to reform the West’s power establishment by Steve Hinchman	9
A water-based electric empire is hit by a flood of criticism by Jim Bishop	10
Public power says its critics are unfair by Ed Marston	11
Salmon were an afterthought to 136 Columbia River dams by Brian Collins	15
How hydropower took control by Brian Collins	17
The prodigal Northwest considers thrift and alternative energy by Jim Stiak	19
Logger becomes a BTU cutter by Mark Orenschall	22
PacifiCorp bets on coal, and against efficiency by Steve Forrester and Ed Marston	22
Swapping power north to south could cut need for power plants by Mark Tukman and Steve Hinchman	24
Clean Air Act unleashes a battle over Western coal by Michael Milstein	26
Power could come from a shared vision by Ed Marston	28

Contributors

Jim Bishop writes from his home in Sedona, Ariz.
Brian Collins is a free-lance writer in Seattle, Wash.
Steve Forrester is publisher of *The Daily Astorian* in Astoria, Ore.
Steve Hinchman is a staff writer for *High Country News*.
Ed Marston is publisher of *High Country News*.
Michael Milstein is based in Cody, Wyo., and writes for the *Billings Gazette*.
Mark Orenschall is a writer in Seattle, Wash.
Jim Stiak is a regular *HCN* free-lancer from Eugene, Ore.
Mark Tukman is an *HCN* intern.

Special issue staff

Steve Hinchman, editor
Ed Marston, Betsy Marston, assistant editors
Diane Sylvain, maps, graphics
Cindy Wehling, design, desktop publishing
Rita Clagett, graphics
Linda Bacigalupi, promotion
Ann Ulrich, typesetting

This special issue was made possible by the 777-Fund of the Tides Foundation

Pressure builds to reform the West's power establishment

by Steve Hinchman

Electricity has always been the West's strongest economic advantage.

Because of its steep-falling rivers, vast deposits of hot-burning, low-sulfur coal and a host of other fuels, the West has consistently enjoyed the cheapest and most plentiful power in the nation.

Moreover, because those resources are located mostly on public land, electricity has become an organizing force in Western politics. Over the years, public and private electric utilities have proven capable of raising huge sums of money, either from the federal treasury or from Wall Street. And, by and large, they have been able to ignore the environmental impacts of their activities.

Hundreds of dams and powerhouses dot virtually every major Western river, daily spinning out thousands of megawatts of almost-free electricity. Hundreds more coal plants are spread across the inland West and high plains. These industrial behemoths continually rank among the best-run and least expensive fossil-fueled power plants in the nation.

The network of dams and plants is linked to the West's cities, farms and factories, and to much of the rest of the nation, by one of the largest and most reliable transmission systems in the world.

Fueled by this giant, money-making grid, the West has become famous for its neon strips, its air-conditioned cities and its electric-intensive industries, such as aluminum and copper smelters.

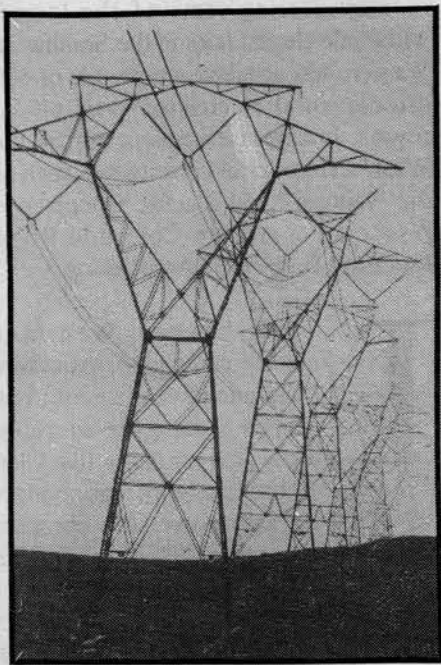
Ironically, as the region enters a possible new energy boom and a new century, there appears to be a short in the system. The West's electric industry is suffering repeated economic shocks and bankruptcies. Subsidies are harder to get, and environmental restrictions are causing more and more difficulties for power producers.

These new economic, political and environmental realities have hit the region hard, threatening the electric industry and thus the West's economic and political bases.

But while much of the rest of the nation and even a few of the West's investor-owned utilities are turning towards conservation and efficiency, and experimenting with renewable power, the region generally remains obsessed with traditional supply-side strategies and subsidies.

As the stories in this second and final special issue on electricity show, the Western electric industry's resistance to change has put it in a deepening conflict. Against it is a growing movement to limit the environmental damages to Western skies and rivers, and to force utilities to pay the full costs of their power.

The pressures come from the excesses of the past. The bills for 50 years of environmental degradation are now due. The Columbia River basin's dams are the largest and most productive hydroelectric system in the world, and they have decimated anadromous salmon populations. The recent listing of three Snake River salmon as endangered species, and the probable listing of more



Basin Electric

stocks, will likely prohibit any future dams and may mean blowing holes in or not using some existing dams.

On the Colorado River, fluctuating flows from Glen Canyon dam have swept away beaches and archaeological treasures, and they threaten the habitat of several endangered and threatened species in the Grand Canyon. Evening out daily flows will cut production and revenues from the dam, and force Western utilities to buy more expensive peaking power from other electric plants.

The problems are not limited to rivers. The consortium of private and public utilities that own the coal-fired Navajo Generating Station in Page, Ariz., was recently forced to install more than \$300 million in scrubbers to reduce regional haze and acid pollution over the Grand Canyon and Colorado Plateau.

In addition, the 1990 Clean Air Act will force a few more utilities to install expensive pollution-control equipment on their coal-fired power plants, which will raise the price of electricity and lower production.

There is also pressure on the West's federal power agencies — the Western Area Power Administration and the Bonneville Power Administration — to price federal hydropower closer to fair market rates. Cutting the subsidies, environmental groups say, would lessen the national deficit and give Western utilities an extra push toward conservation and alternative power technologies.

With billions of dollars invested and the cost of new power plants rising, the West's utilities will not willingly give up their cheap electric supplies or federal subsidies. While utilities on both coasts rush ahead with conservation and form collaborative teams with environmental groups, the West is locked in an old-style political battle.

Efforts to protect the salmon and other rare species have fanned the backlash against the Endangered Species Act, especially in the Northwest. Further inland, the 600 public utilities, rural electric associations, towns and reservations that buy power from Glen Canyon dam are outraged over interim flows to protect the Grand Canyon.

Thus far, the utilities have held back change. In the Columbia basin, the Bonneville Power Administration and its

member utilities have maintained control of dam operations and river flows throughout the last decade, despite laws that should protect the fish. Each year, conditions get worse for the salmon and the fish counts are more dismal.

Similarly, Western power interests have blocked the Grand Canyon Protection Act in the U.S. Congress. Western politicians and lobbyists have also killed proposals to cut federal power subsidies before those measures even reached committee.

The power of the West's energy interests could be seen with the 1990 Clean Air Act. In the closing hours of the 99th Congress, Western senators and representatives, backed by industry lobbyists, held the bill hostage until they won a number of exemptions for Western power plants and utilities. Thus, while the bill will improve national air quality in general by forcing some Western plants to control emissions, overall it will allow this region's utilities to continue and even increase their present emissions.

The Clean Air Act also triggered a boom for the West's low-sulfur coal. While environmental groups have protested new federal coal leases, Western states, utilities and mining companies have all rushed to defend the leases as critical for the region's economy and national air quality.

All roads in this broad, wide-ranging conflict lead to court. Most observers expect lawsuits over the Columbia basin salmon and Western coal leases, and possibly continued legal battles over the Grand Canyon environmental impact studies.

But the environmental groups that are leading the charge to reform the West's public power industry say there is a better way. If this is a new age of environmental and economic limits, they say, then it is also an era of opportunity.

Ralph Cavanagh, head of the Natural Resource Defense Council's San Francisco-based energy project, says he would rather work with utilities than take them to court. He points to regional power exchanges, efficiency, wind and solar energy as viable options that could solve both the environmental and economic crises.

Signs also exist that the energy revolution is penetrating the West's public power circles. The Bonneville Power Administration has dramatically increased its conservation and demand-side management programs, and initiated experimental power exchanges that may help the salmon.

Western is preparing new regulations that will require its customers at least to investigate demand-side alternatives. And Western administrator Bill Claggett, in a recent phone interview, said he endorsed a call from environmental groups to form a Grand Canyon environmental council to work out acceptable flows and other protection for the canyon.

But pressure to change usually doesn't hit until a utility runs out of surplus power and has to go shopping for new supplies. That has begun in the Pacific Northwest. For much of the inland West, a power squeeze won't occur before the turn of the century. That's the time to look for dramatic changes in the region's approach to its electric supply. □

The region's electric system was built on vast resources, federal subsidies and freedom from environmental regulations. Now, the industry may be forced to change its strategy — but not without a fight.



Diane Sylvain

A water-based electric empire is hit by a flood of criticism

by Jim Bishop

The West's cheapest and most plentiful electric power comes from subsidized federal dams. For years a coalition of utilities, consumers and federal agencies has protected that cheap power from all comers. Now, environmental groups, economists and Native American tribes want to end the subsidies and stop the environmental damage.



Rita Clagett

We build storage reservoirs or power dams to store water, and mortgage our irrigated valleys and our industries to pay for them, but every year they store a little less water and a little more mud. Reclamation, which should be for all time, thus becomes in part the source of a merely temporary prosperity.

—from *The Virgin Southwest*
by Aldo Leopold (1933)

"I'm 53 years old and I've got a lot of good years ahead of me, but I am more apprehensive than I was when I was 43," avows William Clagett, administrator of the Western Area Power Administration based in Golden, Colo.

Little wonder.

Clagett sits astride the U.S. Department of Energy agency charged with marketing and transmitting 34 billion kilowatt-hours of hydroelectric and coal-fired power annually. The power comes from 50 federal power facilities, as well as a portion of the coal-fired Navajo plant near Page, Ariz.

The dams and power plants and customers are spread across a 1.3-million-square-mile area. To further complicate matters, Clagett's agency doesn't operate as a market creature. Instead, it is mandated by Congress to sell its power to publicly owned utilities "at the lowest possible rates consistent with sound business principles."

Perhaps as a result of the wriggle room in that phrase, and perhaps because the West is the most socialistic part of the United States, over the years Clagett's agency has become less a federal body and more the financial arm of a great, politically brokered public-power dynasty.

It markets power out of the Pick-Sloan dams on the Missouri River and dams in the Rio Grande basin. But because of Glen Canyon Dam, Western, as the agency likes to be known, is most controversial in the Colorado River basin's southwest region.

By offering some of the lowest wholesale electric rates in the Southwest, Western has acquired a network of 600 clients: rural electric co-ops, cities, towns, Indian reservations across the West, and powerful constituents such as the National Rural Electric Cooperative Association and the Colorado River Electrical Distributors Association.

Lately, however, Western is being pummeled. Attackers include environmentalists angry at its river-wrecking practices on dams like Glen Canyon on the Colorado; economists who claim it sells power too cheaply; and its customers, who object to its attempts to boost wholesale rates.

"Like Frankenstein's monster," says Jim Ruch, executive vice president of the Grand Canyon Trust, "a good idea has gotten out of hand and is terrorizing the countryside. Publicly supported efforts to encourage the development of the West a half century ago have been converted by bureaucracy and private greed into a Soviet-style managed economy."

To recipients of cheap public power, Western used to symbolize progress and the American dream. It possessed nearly unlimited flexibility to market power from "cash register" dams like Glen Canyon and Flaming Gorge at rates far below market. That plentiful, cheap power helped build the American West.

But at Glen Canyon, Western's power sales also meant huge fluctuations in Colorado River flows, often swinging from 31,000 cubic feet per second to 1,000 c.f.s. in a day. Western's freedom to turn the river on or off harmed the ecology and was "taking our beaches," says Clay Bravo of the Hualapai Tribe, 175 miles below the dam.

Those flows produced electricity and made money, even though most of the power was sold very cheaply. Since 1963, despite below-market rates, Glen Canyon Dam has generated nearly \$1 billion in revenues, three times its construction cost.

Because of its huge size — the dam generates 10 percent of Western's total kilowatt-hours and more than 70 percent of all federal hydropower produced in

the upper Colorado River basin — and its ability to respond almost instantly to consumers' desires, Glen Canyon has become the most valued power facility in the West. It is valued because it is very large and yet very nimble.

By comparison, coal-fired power plants are sluggish creatures, taking hours or even days to significantly shift their power output. So they do best when run at the same rate around the clock.

But consumers use electricity in bursts. Although gas turbine power plants can quickly follow those shifts, dams do it faster and cheaper. Glen Canyon is especially adapted to meet rapid power-demand shifts in the West caused by air-conditioning in the summer and heating in the winter.

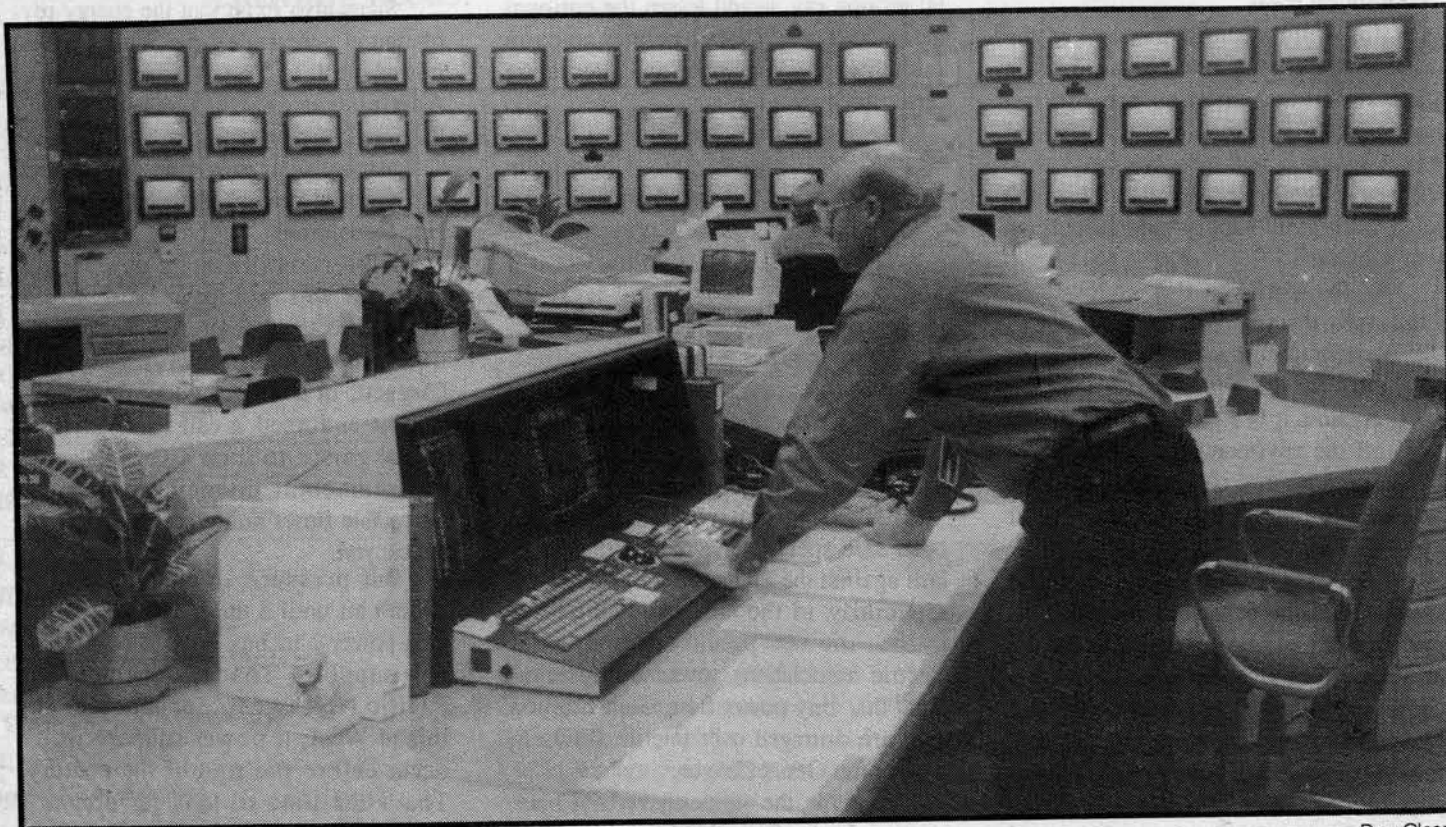
Most peak-hour electricity generated at Glen Canyon Dam goes to Western's preferred customers. But unneeded peak-hour power is sold on the so-called spot, or open, market at top prices. Western plows those earnings back into its regular operation to help keep prices about 60 percent below market for its 600 preferred customers.

In addition to its mandate to keep prices low, Congress has asked Western to help carry another load. Under the Colorado River Storage Project Act of 1956, Glen Canyon and lesser hydropower projects such as Flaming Gorge in Wyoming and Curecanti in Colorado must pay for much of the cost of 19 irrigation projects in the Upper Colorado River basin, including the Dolores Project in southern Colorado, San Juan-Chama Project in New Mexico, the Seedskeadee Project in Wyoming, and the already immensely expensive Central Utah Project.

The so-called cash register dams will soon incur more liability. As work continues on the Central Utah Project and construction begins on the Animas-LaPlata Project in southern Colorado, many of those costs will be added to the bill hydropower users will eventually have to pay.

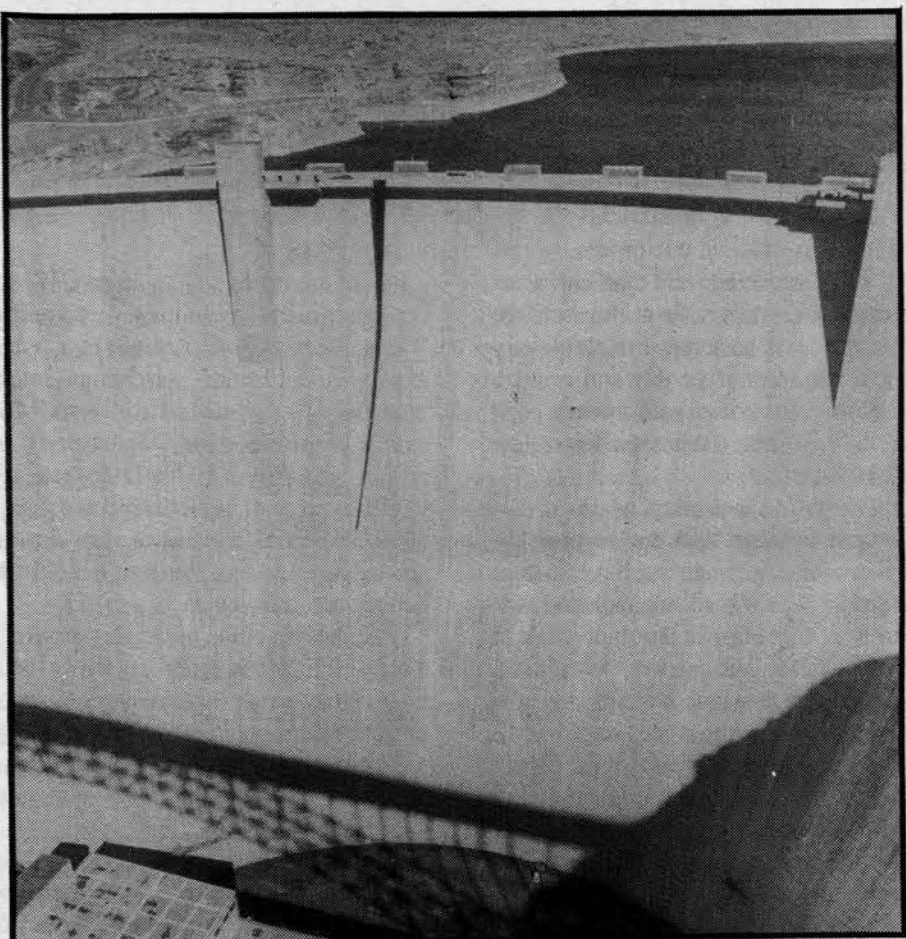
Altogether, Western's hydropower dams on the Colorado River must repay the U.S. Treasury \$586 million for the

Continued on page 12



Don Olsen

The "war room" in Montrose, Colorado, where Western personnel monitor dams in the West



Earth First! "cracked" the Glen Canyon Dam March 21, 1981

Public power says its critics are unfair

From an environmentalist's perspective, Glen Canyon Dam until recently was a machine gone insane, churning out power that only seemed cheap. In reality, the critics say, the electric power was expensive because the resulting flow fluctuations were destroying the Grand Canyon.

But to the users of Glen Canyon's electricity and to the Western Area Power Administration, the critics are selfish people who want it all. In their view, Glen Canyon Dam, by holding back the Colorado River's torrential spring runoff, has made the rafting industry and cold-water fishery downstream of the dam possible. And now, the power users say, the rafters and some sportsmen want to take the dam away from those who built it. These newcomers to the river want to put it to a single use: recreation.

Mike McDowell, executive director of the Southwest Power Resources Association, in Edmond, Okla., says, "Without the dams, we wouldn't have rafters and fishermen to argue with."

Peter Ungerman, a deputy general manager of Tri-State Electric Association, the largest user of Western's electricity, makes a different argument. Tri-State sells the power it buys from Western wholesale to publicly owned utilities in the high plains east of the Rockies and in western Colorado. Ungerman says:

"It's as if you had owned a house for 20 or 30 years. The house has appreciated and the interest rate on the mortgage seems low because you've owned it so long. Then along comes somebody who says that the low price is a subsidy. But we power users don't see it as a subsidy. We see it as a reward for the foresight we showed, and for the high rates we paid initially."

Ungerman argues that in the beginning, the power out of the federal dams was marginal for the utilities. "We could have built coal-fired power plants and saved some money. Instead, we agreed to buy the federal hydropower, and we have

stuck by that business deal. Now that it's beginning to pay off, they want to take it away from us."

Western Area Power Administration executives Ken Maxey and David Sabo, based in Salt Lake City, offer a third perspective. They say the power seems cheap only if you forget who uses it: relatively poor rural people.

Public utilities are a child of the Great Depression. They were established to bring electricity to rural areas that private, or investor-owned, utilities refused to serve because those areas did not have enough customers to make them profitable.

Government brought electricity to rural areas by providing low-interest loans to the nation's 1,000 rural electric co-operatives. After World War II, according to McDowell, that initial relationship led to publicly owned utilities agreeing to shoulder the economic burden of federal dams by buying power from them.

McDowell says, "The federal government told us: 'We know it's marginal for you to take that power now. But we'll make a long-term deal and it will average out.'"

McDowell says that in addition to the long-term contract for the power, the availability of power from federal dams helped free the public utilities from buying electricity from their enemies: the investor-owned utilities, which had done everything they could to stop public power.

The rural world has changed since the 1930s, and even since the 1950s and 1960s. Farms are much larger and use a great deal of electricity. Many formerly poor rural towns, like Aspen or Jackson Hole, have become enclaves of wealth. And some small towns that were once "out in the country" have become densely populated suburbs of Seattle, or Denver, or Phoenix.

Nevertheless, Western's Maxey says, the bulk of Western's customers continues to be small, rural entities that are still remote from cities and expen-

sive to serve. "If the rates continue to rise, our customers will ask: Can we get the power cheaper elsewhere? We're seeing signs of that now. We have lost a few small customers."

Ungerman agrees, saying that even Tri-State, Western's largest customer, can envision prices rising too high for the rural electric co-ops that Tri-State supplies. "But we would hate to walk away from the dams and replace them with a coal-fired plant."

There is another aspect to the issue. Public-power interests in the West and across the nation are extremely sensitive to the positive publicity their ideological rivals, the privately owned utilities, are getting from their involvement with efficiency and alternative sources of electricity. While public power has its Osage, Iowas, and its Sacramento Utility Districts, they are few and far between. The utility industry's best-known innovators are the Pacific Gas and Electrics and Southern California Edisons.

It is these and other private utilities that have formed coalitions with environmental groups and regulators to reduce dependence on traditional sources of electric power. By comparison, public power in the West is best known for bankruptcies of such overbuilt rural electric cooperatives as the Colorado-Ute Electric Association and Deseret Electric Association in Utah, and for fighting environmentalists over the operation of Glen Canyon Dam and the Bonneville Power Association's dams in the Pacific Northwest.

Public power believes its achievements in the area of efficiency are not getting due recognition. A report titled *Demand-Side Management in Public Power: The Quiet Revolution*, issued in January 1992 by the American Public Power Association, argues that public power's efforts "have focused not on superficial public relations, but on quality programs that directly benefit customers through cost savings and enhanced efficiency."

The study concludes that public power entities are practicing demand-side management when it makes economic sense, but that they refuse to introduce efficiency or use alternative sources of energy simply to score brownie points with the public or the mass media.

Lloyd Greiner, another official with Western, says, "Pacific Gas and Electric has done its public relations very well. I think we've been as innovative, but we've been quieter."

Maxey adds, "It is harder to cause change in rural areas. Pacific Gas and Electric generates 20,000 megawatts. That's a huge amount. But some of Western's customers serve the poorest, most lightly populated counties in the United States. Even so, most of the small customers of Western are trying to do load management and so on. But they're trying to do it to the extent it makes economic sense."

"But in California, you have a public utilities commission that forces utilities to do demand-side management whether it makes sense or not. They can absorb that economic irrationality. But in the areas we serve, you can't do that. A small co-op can't do irrational conservation and survive."

Demand-Side Management in Public Power: The Quiet Revolution is available from Barry Moline, manager of Demand-Side Programs, American Public Power Association, 2301 M Street, N.W., Washington, D.C. 20037 (202/467-2900).

—Ed Marston

A water-based empire ...

Continued from previous page

four mainstem regulator reservoirs (Glen Canyon, Navajo, Curecanti and Flaming Gorge) and another \$1.17 billion for completed irrigation projects or projects that are under construction or expected to be built. An additional \$1.24 billion in irrigation obligations have been indefinitely deferred because, at the moment, the projects are seen as impractical and unlikely to be built.

Whether or not they meant to, the senators and representatives who created this marriage of hydropower and irrigation projects gave Western unlimited use of the upper Colorado River basin. At Glen Canyon, for example, the Bureau of Reclamation sets the annual and monthly release schedule to ensure that at least 8.23 million acre-feet flows downstream to Arizona, California and Nevada to meet the Colorado River Compact demands.

Aside from that requirement, Western, once a part of BuRec, could, and did, make minute-by-minute flow decisions based on its 600 long-term contracts, power demands on the spot market and varying power prices.

To maximize peaking power, Western reduced Glen Canyon's flows to a trickle during times of low demand for electricity, and supplied its customers with cheap, coal-fired power bought from utilities in the region. This saved water for the valuable peak period times, but jerked the river up and down like a yoyo, sometimes by as much as 13 feet. It also allowed Western to further expand its empire by selling twice as much electricity as its dams generated.

More importantly, saving most of its hydroelectric capacity for peak use allowed Western to dramatically lower costs to its preferred customers. Western's rates are already less than half market rates. But while other utilities charge two rates — a base rate for electricity sold during most of the day and a much higher rate for power sold during peak hours — Western charges the same low rate day or night.

The system took much of this century to put together. And due to the skill with which craftsmen such as former Colorado Rep. Wayne Aspinall and Arizona Sen. Carl Hayden did their work, it won't be changed quickly. Maximum political and economic benefits are now squeezed out of the river, so Western and its customers resist even slight changes. But efforts to change the Colorado River basin's operation began over a decade ago, and there are signs that reform has begun.

Some say change began when, after spending eight years and \$15 million on environmental studies, Interior Secretary Manuel Lujan in August 1991 ordered interim controls on the water fluctuations through the turbines of Glen Canyon Dam. Lujan reduced fluctuations by 75 percent and the high water level by one-third. For the first time, Western and BuRec faced restrictions on how much river water could pour through the dam's turbines, and when.

Lujan's order damped the hydraulic shocks the Grand Canyon ecosystem has been experiencing, but it created shocks in the social, political and human systems that have grown up around Glen Canyon's huge output of electricity.

Western's constituents got their signal that change was occurring when the agency attempted to raise the price of

power by as much as 65 percent — since reduced to 50 percent. The price hikes, Western said, were directly tied to Lujan's order.

The increases angered many Western customers. Wyoming's Riverton Valley Electric Association sent a letter to customers blaming "recreational interests and environmental concerns" for causing the Interior Department to change the flows. "This lost capacity must be replaced at incredible expense," the letter read. The same or very similar letters are flooding Western's 1.3-million-square-mile territory.

At the top of the pyramid, Western's director Clagett is furious at the restrictions: "It is wrong to attribute the major damage downstream from Glen Canyon to power operations. The great floods of 1982 and 1983 did that, but we're getting blamed."

"Now," he says, "there is no telling how high rates will go. We should be looking at 13 mills per kilowatt-hour, not 20-25." (A mill is one-thousandth of a dollar, or a tenth of a penny.) Western officials say the rate hikes are needed to provide \$30-40 million to buy peak-hour electricity to replace that lost as a result of Lujan's flow restriction. But under pressure from customers, Western has lowered the increase from 20-25 mills to 17.3 mills.

According to Western, more than finances are at stake. Spokesmen say Lujan's order has reduced Glen Canyon's peak production by 400 megawatts. At the moment, they say, lots of other power is available in the Southwest. But should a large power plant go down, supplies tighten, or the summer prove very hot, the physical situation could get as serious as the financial situation, they say.

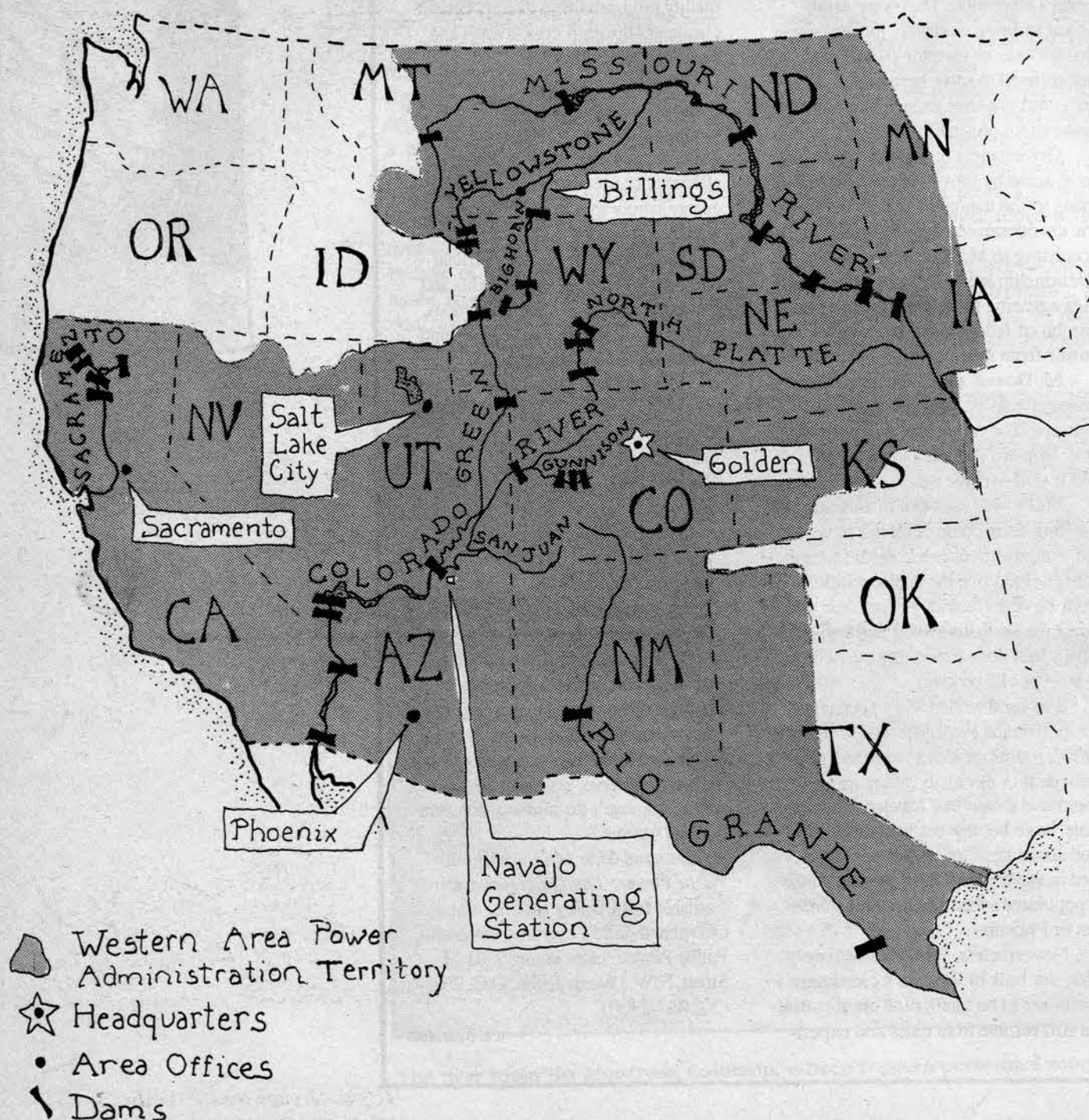
Despite their anger, Western's customers still get bargain power. Even the recently adopted 1.73 cents per kilowatt-hour is less than half of what Western's customers would pay on the open market. But because the power is cheap doesn't mean customers want to see prices go up.

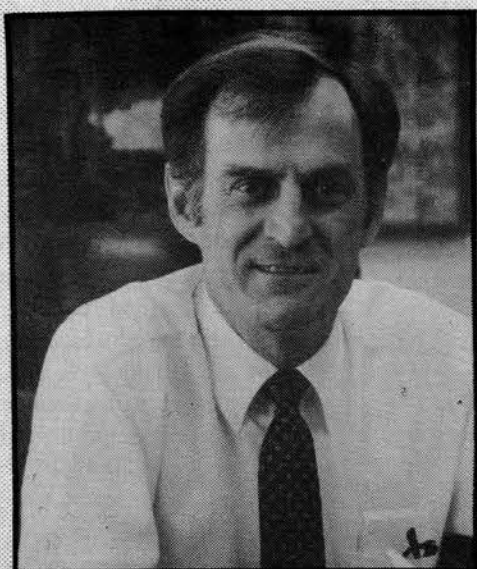
Environmental critics of Western and its campaign have been unable to match the backlash generated by Western's 600 customers. The environmentalists must travel a slower, longer, quieter path. And they have had to recognize the enormous political power that the intersection of cheap power, subsidized irrigation projects and long-time practices have created.

But some foes are responding. A short-term answer came from economist David Marcus, who testified before a U.S. Senate committee last fall on behalf of the National Wildlife Federation, the Sierra Club, the Grand Canyon Trust and others. He asserted that the cost to Western of the loss of the peaking power is no more than \$3 million per year.

A residential ratepayer, Marcus said, with a fairly typical bill of 500 kilowatt-hours per month, would pay only 4 cents more a month. Marcus also compared the \$3 million to the more than \$300 million that owners of the Navajo coal-fired plant in Page, Ariz., will spend to protect the Grand Canyon's air quality.

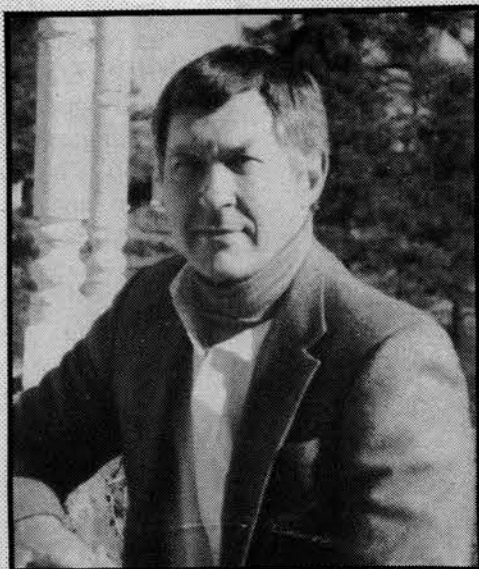
Environmentalists also charge that Western is creating an uproar over environmental costs to hide the fact that it presides over a financial shell game. According to the National Wildlife Federation's David Campbell, whose organization has followed Western for 20





'It is wrong to attribute the major damage downstream from Glen Canyon to power operations. The great floods of 1982 and 1983 did that ...'

— William Clagett
Western Area Power
Administration administrator



'Like Frankenstein's monster, a good idea has gotten out of hand and is terrorizing the countryside.'

— Jim Ruch
Grand Canyon Trust
executive vice president

years, only 30 percent of Western's recent rate increase can be traced to environmental costs. The rest, he says, was to cover accounting errors, increased expenses due to several drought years on the Colorado, unpaid debts and interest and the cost of new water projects.

However, Western's letter-writing campaign worked anyway. Western's utility customers and their customers flooded Capitol Hill with angry letters, helping to derail the Grand Canyon Protection Act last year. The letters also moved the Senate to pass an amendment sponsored by Colorado Sen. Tim Wirth, D, and Wyoming Sen. Malcolm Wallop, R, to shift all past and future environmental costs — mostly for the Glen Canyon environmental studies — from Western's ratepayers to U.S. taxpayers.

Should the bill pass, it would add another \$93 million subsidy, says Campbell, but it won't solve Western's long-term problems. Since 1987, the National Wildlife Federation economist says, Western's rates have been kept so low that it has been cash poor and unable to pay interest, let alone the principal payments, on its massive debts to the U.S. Treasury. According to Western's 1992 Power Repayment Study, the proposed rate hikes will not bring in enough money to resume payments to the treasury until 1999.

Moreover, says Campbell, in the low-water years from 1988 to 1991, Western incurred operating losses because it replaced lost power with more expensive coal-fired power. Instead of repaying those losses — together with unpaid interest and a \$55 million accounting error — Western has "capitalized," or added them to its total debts.

As a result of this creative accounting, Campbell says, Western's debts to the Treasury are increasing and will continue to rise until it resumes payments at the end of this decade.

Ken Maxey, who heads Western's Salt Lake City office, says Congress has given the agency complete flexibility in repaying its debts, which are mostly due to irrigation projects and not power anyway. Instead of paying year by year, Maxey says Congress only required Western to pay off its share of each irrigation project within 50 years of the project's completion date. So Western does

not intend to repay most of its debts until well into the 21st century, in one quick burst.

In the meantime, the U.S. Treasury must borrow money to cover for Western, and taxpayers must pay interest on those loans. The Bush administration estimates that this practice by Western and other federal power marketing agencies costs \$400 million a year.

To critics like Campbell, it makes no sense to allow interest to pile on interest while Western is charging its contract customers about half of what the open market power rate is.

Eventually, Campbell warns, the amount owed will get so large "you will need a huge raise — above market rates — to handle the debt. Then you have a crisis. That's why this is another savings and loan mess in the making."

According to Campbell, the way in which Western has manipulated its accounting system is no secret in Washington, D.C. The Bush administration has drafted "a bill that would help fix the problem. It's called The Power Marketing Administration Timely Repayment Act of 1992. But they can't get anyone in the House or Senate to carry it. This has been going on for 10 years. It's an old story. But nobody cares."

Actually, there are signs that a few people do care, or at least that steps are under way to both reveal the ecological and economic facts and come up with possible solutions.

Western's Clagett may feel under pressure because something of a pincer movement has developed. One arm of the movement started with studies performed in the 1970s and 1980s by the National Park Service, the U.S. Bureau of Reclamation and the U.S. Fish and Wildlife Service. The studies, which were confirmed by the National Academy of Sciences, found major environmental damage from Glen Canyon Dam's power operations — to fish, beaches and wildlife habitat.

These ecological studies had been triggered by then-Interior Secretary James Watt in the early Reagan years, when he pushed to upgrade dams, including Glen Canyon, by rewinding the power generators. The changes allowed each turbine to take in more water each second and thereby generate more peaking power.

Critics feared the upgrade would aggravate existing fluctuations, and the political uproar led Watt to start an environmental review.

But it didn't become a formal environmental impact statement until privately owned Utah Power and Light,

Continued on next page



Glen Canyon power plant

Bureau of Reclamation

A water-based empire ...

Continued from previous page

which sells power to about 150 towns and cities, attempted to force Western to allow it to buy cheap hydropower for its public customers. As a way of forcing its request on Western, UP&L went to court. It charged that, due to environmental damage caused by Western's daily dam operations, it must prepare an environmental impact statement on how it sells power.

UP&L settled its suit with Western, but then Hogan and Hartson, a Washington, D.C., firm, filed a nearly identical suit on behalf of the Grand Canyon Trust, American Rivers, Western River Guides Association and the National Wildlife Federation. A federal judge agreed that Western must do a full EIS on its proposed marketing criteria, and granted the law firm nearly \$300,000 in costs.

That court action, together with thousands of irate letters from visitors to the Grand Canyon who were angered by the flow fluctuations, got through to Interior Secretary Manuel Lujan. Additional pressure came from Arizona's congressional delegation, led by Republican Senator John McCain.

In July 1989, Lujan ordered Interior, with the Bureau of Reclamation as lead agency, to begin a second EIS evaluating alternative ways of operating the dam to minimize damage to the Grand Canyon. The two EISs are now linked: The marketing EIS depends partially on the Glen Canyon Dam EIS, since its ecological findings will help determine how much power Western can sell.

However, while the EISs were going forward, the river was still fluctuating wildly. It took two years of further stud-

ies and prodding before Lujan put interim protective flows in place last year (HCN, 8/26/91). He need not have waited so long. As spelled out clearly in the Colorado River Storage Project Act of 1956, which authorized Glen Canyon Dam, and further defined by the Colorado River Basin Act of 1968, the primary purpose of Glen Canyon was never to produce power. It was to regulate water deliveries from the Colorado River between the upper and lower basin states. Other priorities included flood control and recreation. Power generation was listed as "incidental" to the other objectives.

David Wegner, manager of the Glen Canyon Environmental Studies for the Bureau of Reclamation, asserts that power achieved primacy on western rivers like the Colorado by default.

"No one fought the rise of power primacy. There were no environmental laws for the public to use to counter the shift away from the original purposes of the Colorado River Storage Project Act. In the pre-NEPA 1950s and 1960s, there were no studies, no monitoring, no effort to analyze the effects of power marketing dams on western rivers. Now there is information, and information is power."

Wegner says the struggle over Glen Canyon Dam's management goes beyond how the river will flow, and could end up changing who manages the river. Until recently, the Bureau of Reclamation and the seven states have ruled the river. Now, he says, the table has been enlarged. Agencies such as the National Park Service and U.S. Fish and Wildlife Service have seats, as do the Native American tribes along the river and environmentalists.

One environmental group that has become involved is the Grand Canyon Trust, based in Flagstaff, Ariz. Its executive vice president, Jim Ruch, says, "Lujan's action was overdue, because what was happening was a total abrogation of responsibility for dam operations

by Interior, BuRec and by the governors of the seven basin states."

By late 1993 or in early 1994, BuRec is scheduled to complete the formal environmental analysis of the effects of Glen Canyon Dam power operations on the Colorado. Meantime, there may be more bad news in store for Western if Congress passes the Grand Canyon Protection Act pushed for the past three years by Arizona Sen. McCain.

The act would move reform a step further by requiring the secretary of Interior to modify flows to minimize downstream damage in the Grand Canyon. "It is not Draconian legislation," argues McCain. "Glen Canyon Dam will continue to supply abundant and economical electrical power."

Even as Western and its clients continue to fight change, observers detect a subtle shift in the federal agency's attitude. For example, it is studying ways to obtain energy through conservation and increased customer efficiency.

Under one scenario, its clients would be required to develop a plan before new power contracts were renewed. The plan would include load forecasts, assessments of supply options, environmental impacts of all actions, and supply- and demand-side resource comparisons.

Last fall, Clagett even took the power industry a bit to task in a speech in Colorado Springs: "Many utility executives continue to focus on supply-side issues and will not accept energy conservation as a resource. Utility managers don't realize that our customers have choices."

David Marcus, one-time economist for the California Energy Commission, has studied Western in detail and thinks much more frankness is called for. The solution, he said in an interview, is for Western to become "honest socialists. In the current market for electricity, which should last until 1998, Western could raise wholesale prices by 50 percent, and lose no more than 2 percent of its customers."

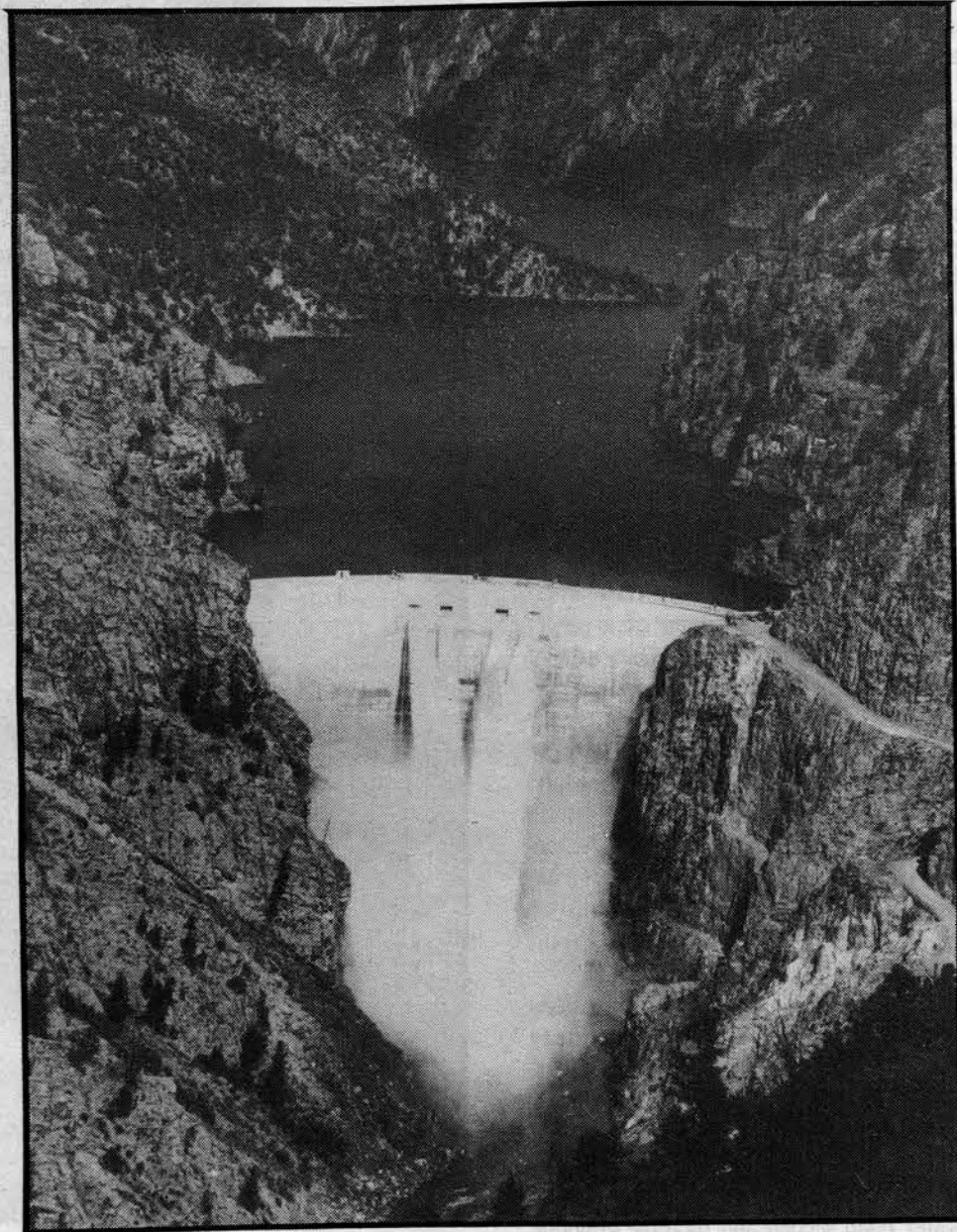
To illustrate his point, Marcus cites current Western wholesale prices of less than 2 cents a kilowatt-hour versus about 4 cents by private-sector sellers such as Arizona Public Service. "Of course, nobody wants to pay more," Marcus says, "but even if Western raises power prices, they'd be still be cheaper than the market price."

Western could also auction power to the highest bidder, Marcus and other economists point out. Higher, but still below-market, prices would let it serve its rural customers while fulfilling its obligations to the U.S. Treasury.

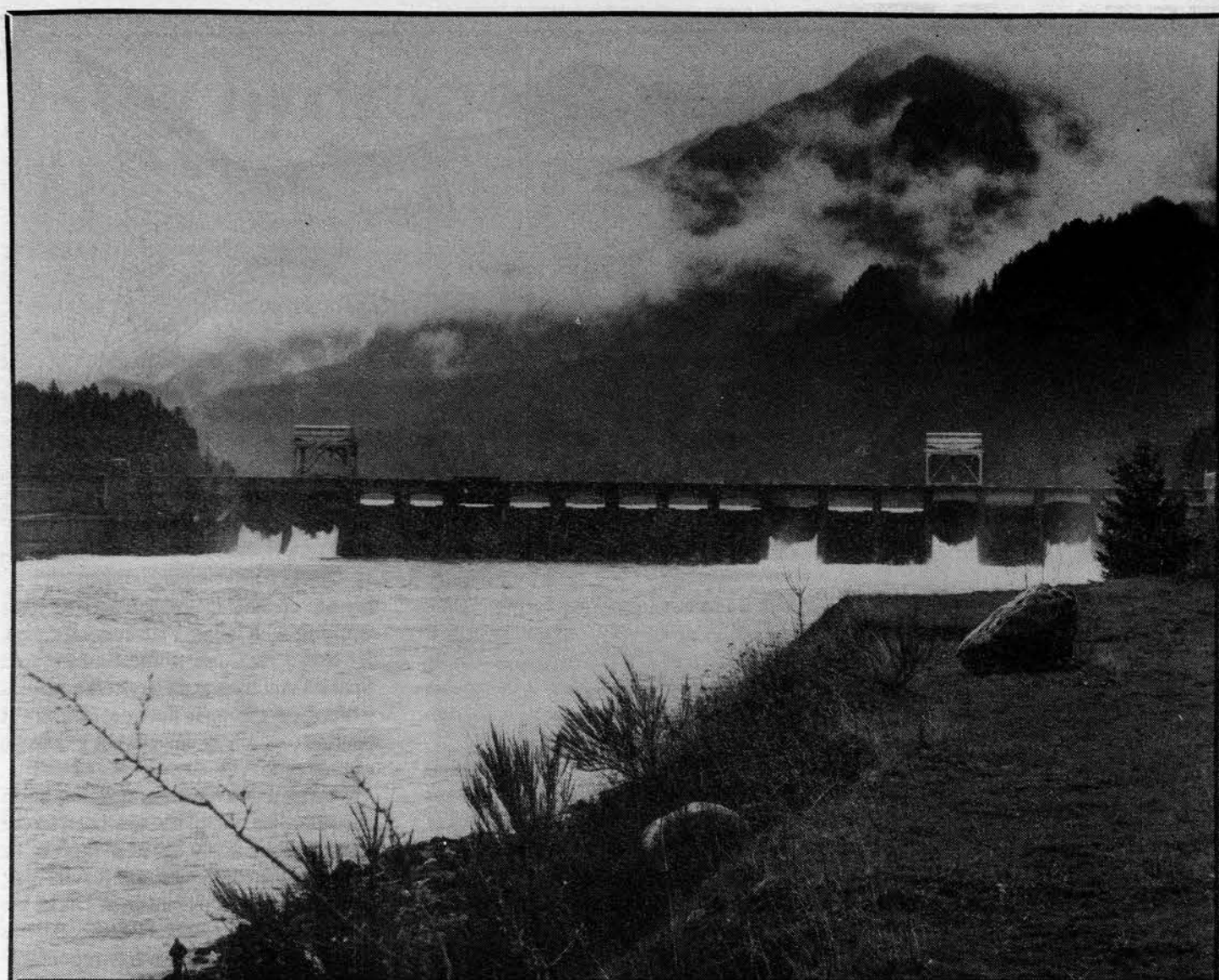
Whatever its rhetoric, Western has moved to keep the lights on. After complaining about lost flexibility due to Lujan's interim flows, Western is quietly recovering that lost flexibility by telling customers to order power a day ahead of time, instead of hour by hour. "It says to me," concludes Marcus, "that they never had a problem in the first place."

What it says to David Wegner, who is guiding the NEPA analysis, is this: "This is not a fight between electric power and the environment. It's about federal management of dams like Glen Canyon. It's about bureaucrats doing what they were supposed to be doing all along: obeying the laws that said power was 'incident' to the dams' operations."

It is no small irony that, had the federal government managed its dams more prudently in the past, taxpayers and ratepayers might never have discovered a pervasive, socialized empire in the West, held together for the most part by conservative politicians fond of making speeches about the free market and rugged individualism. [E]



U.S. Department of the Interior, Bureau of Reclamation
Morrow Point Dam, part of the Curecanti Unit in Colorado



The spillway section of Bonneville Dam

Idaho Fish and Game

Salmon were an afterthought to 136 Columbia River dams

by Brian Collins

The Columbia River basin's integrated network of 136 dams powers the world's largest hydroelectric system, keeps the Northwest's power rates low, its economy strong and its skies clear.

But the dams have brought the river's salmon to the brink of extinction. In 1850, the Columbia River Basin produced as many as 16 million wild salmon and steelhead a year. In one of nature's great migrations, every summer the adult fish swam as much as 1,200 miles upstream to spawn. The next spring the Columbia's powerful floods would wash the smolts out to sea.

Today, the adult salmon can still swim upstream past many of the dams with fish ladders. But the smolts can't make it downstream because the spring floods are gone. The federal agencies that manage the Columbia capture the spring flood behind the basin's many dams and release it in fall and winter to generate power when it is most needed, turning the river's seasonal flow cycle on its head.

Their journey slowed by the lack of water and the slackwater reservoirs behind dams, 95 percent of each year's smolts die. Today, the Columbia barely produces 100,000 wild salmon a year. According to the American Fisheries Society and Oregon Trout, over 200 Columbia River basin salmonid stocks are extinct, and 76 more are at risk of extinction.

Despite the losses, nothing was done to help the smolts in their downstream migration until the 1980s. And last decade's measures — barging smolts downstream past dams and a modest increase of springtime flows — strayed little from the established plan for managing

the river for power production, navigation and irrigation. Consequently, they did little for the fish. But when five salmon species were proposed for protection under the Endangered Species Act last year, the salmon got a last chance.

Fish biologists recommended that to speed salmon smolts to sea, the region should release more spring floodwater from headwaters dams, and draw down the level of some major mainstem reservoirs.

That suggestion drew immediate and bitter reactions from the electric industry. Al Wright, who heads the Pacific Northwest Utilities Conference Committee, representing Northwest electric utilities, told the U.S. Senate in May 1991 that the agency biologists' proposal would "rip the Northwest's economy apart," and predicted a "4,000 to 5,000 annual megawatt shortage of electricity."

Jack Robertson, deputy administrator of the Bonneville Power Administration, went further, telling the Portland *Oregonian* that in the worst case, the system's output would be reduced by "about 11,000 megawatts, the equivalent of 10 ... nuclear power plants." The region could be left with burning coal or oil for electricity, he said. An "economic and social tidal wave," predicted Oregon Sen. Mark Hatfield in a Senate hearing, "could impact 500,000 jobs."

Despite the heavy reaction, the decline of the salmon could no longer be ignored. Now, a year later, three species of Snake River salmon have been declared endangered, and the region awaits a protection and recovery plan from the National Marine Fisheries Service, expected later this year. More stocks could be proposed for listing in the future, requiring further measures.

The salmon debate has taken on the

same bitter, community-splitting tones as the fight to protect the spotted owl. But salmon advocates say the conflict is unnecessary. Some economists and environmentalists say changes in dam operations can be made to restore the fish without significantly compromising the region's power supply.

Their plan has two elements. The first, known as the "Idaho Plan" and championed by Idaho Gov. Cecil Andrus, is to draw down four Snake River reservoirs during the spring smolt migration to make the Snake more like a river than a series of lakes (*HCN*, 3/9/92). The energy costs of the drawdowns appear much smaller than first feared.

The second element is to restore the springtime flood instead of storing it for release in winter. Salmon advocates say that would not cut power production but simply shift the season when energy is generated. What is needed, they continue, is a reshaping of demand, so that electricity is used in the spring rather than, as at present, in the winter. Salmon advocates argue that the Northwest must change its thinking about hydroelectricity, and shape use to fit streamflows, rather than hold back flows all spring and summer to meet high winter use in the Northwest.

The reformers' plan stresses conservation and increased use of solar and wind power; switching the region's winter heating from electricity to natural gas; reducing electric subsidies to the Northwest's ailing aluminum industry; and making seasonal power exchanges with California.

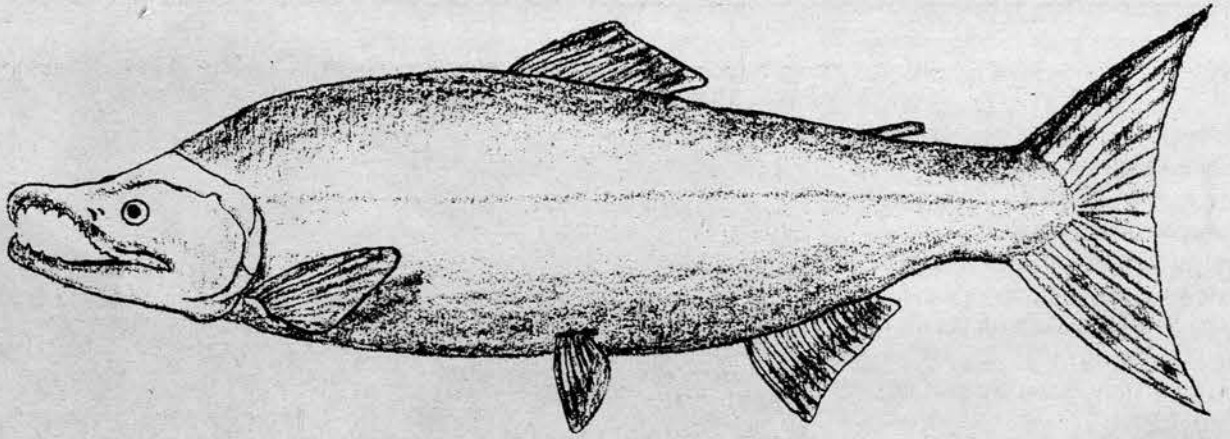
It would mean adjustments, a different management style and some financial sacrifice. But critics say the electric

Salmon advocates say energy efficiency, power exchanges and other reforms could produce enough water for fish and power to co-exist. So far, utilities aren't biting.



Rita Claggett

Continued on next page



Rita Clagett

Salmon were an afterthought ...

continued from previous page

industry could make the change with minimal pain.

The electric establishment does not buy the plan. Over the past century, the Bonneville Power Administration, other federal agencies and utilities have invested billions of dollars in the Columbia hydro system, fine-tuning it to produce as much power and revenue as possible (see accompanying story). While Bonneville shows some sign of openness to change, the region's utilities are ready to sue to maintain the present system.

The fight between salmon advocates and the electricity industry goes back more than a decade. In 1980, Congress asked the region to improve flows for migrating salmon

when it passed the Pacific Northwest Electric Power and Conservation Act. The act created the Northwest Power Planning Council and gave it the double mission of promoting energy conservation and restoring fisheries.

The act required river managers to give fish "equitable treatment" with other river water users, and to "provide flows of sufficient quality and quantity between (the mainstem dams) to improve production, migration, and survival of ... fish necessary to meet sound biological objectives."

For the most part, the Power Planning Council, with two appointees from each of the four northwestern states, avoided hard choices. It didn't try to force the dam managers to release large spring flows, and its "water budget," intended to flush the smolts downstream each spring, wasn't generous enough to help the salmon.

Instead, the council took the politically soft path of establishing hatcheries and attempting to improve habitat.

"The council's program can be held accountable for wiping out the Snake River sockeye this year," says Idaho fish advocate Ed Chaney. There's little chance of saving the river's chinook, he adds.

Chaney, who "spent five years of

my life creating the council and 10 years working with it," says the council failed. Its timid response to the Endangered Species Act listings, he says, like its programs of the past decade, shows it "defines its job as doing what everyone can agree to."

After a dozen years of dodging tough decisions, the council has now been forced to the wall by the listings of salmon under the Endangered Species Act. It will issue its final plan later this summer. Under the act, the National Marine Fisheries Service has the last word, but it has repeatedly indicated that it will follow the Power Planning Council's lead.

The other agency that Congress has asked to help save the fish is the Bonneville Power Administration.

Like the Western Area Power Administration to the south, BPA markets power from federal dams and power plants. With over half the region's power supply to sell, BPA presides over a wide ranging and powerful electric empire.

Its original mission was to sell federal hydropower to publicly owned utilities and to industry at low cost. But with passage of the Northwest Electric Power and Conservation Act, Congress increased its responsibilities.

First, the act gives BPA the responsibility not just to market what power is available from the federal dams, but also to acquire more power as needed to meet the region's growing energy demands. The act required BPA officials to get that power from conservation and efficiency first and to build additional power plants last (see accompanying story).

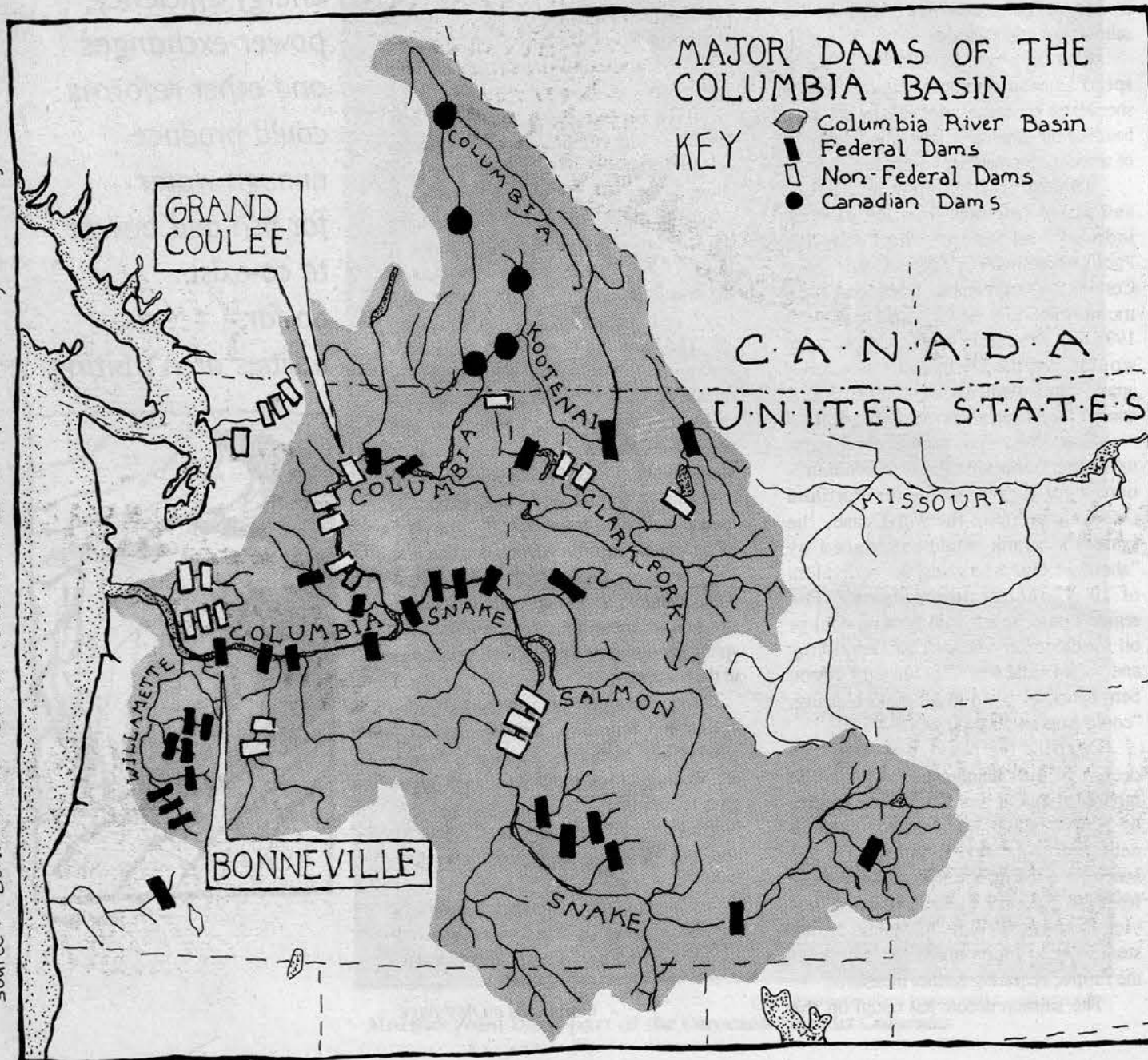
Second, the act directed BPA to obey the recommendations of the Power Planning Council to help save the salmon.

Thus, against its will perhaps, BPA has been forced into the heart of the salmon controversy along with the Power Planning Council. The major hope for the salmon is that a way can be found to keep the Northwest whole, in an energy sense, while reworking river flows to wash the smolts downstream. But nothing is possible without first convincing Bonneville and its member utilities that fish and power are compatible.

Some progress has been made toward this goal, at least on paper. Over the past year, projected energy costs of the Snake River drawdown have dropped with each new study. The most recent assessment, by Bonneville for the National Marine Fisheries Service recovery team, is that between 75 and 150 megawatts of firm power available during the driest years would be lost during a two-month spring drawdown. The federal system's total output of firm power is about 7,500 megawatts.

Drawing down the reservoirs will also eliminate the capacity to generate from 800 to 3,600 megawatt-months of extra, "non-firm" power, in wetter-than-average years, according to Bonneville's estimates. While the loss of this power

source: Bonneville Power Administration / drawn by Diane Sylvain



How hydropower took control

Hydropower is a relative newcomer to the Columbia basin. Federal development of the Columbia River began in 1933, when the Army Corps of Engineers started building Bonneville Dam on the lower river.

The dam provided recreation, navigation, and over 1,000 megawatts of electricity, and at the time, that seemed a huge supply. In 1937 President Roosevelt created the Bonneville Power Administration to market the dam's power.

A few years later, the Bureau of Reclamation built the much larger Grand Coulee Dam, hundreds of miles upstream, on the mid-Columbia. Its 7,000 megawatts of capacity was added to the BPA pool.

The dams are very different. Both create a hydraulic head, or height difference, to generate electricity. But Bonneville is a low "run-of-the-river" dam that creates a long shallow lake good for recreation and power production, but too small to change the seasonal flow of the river.

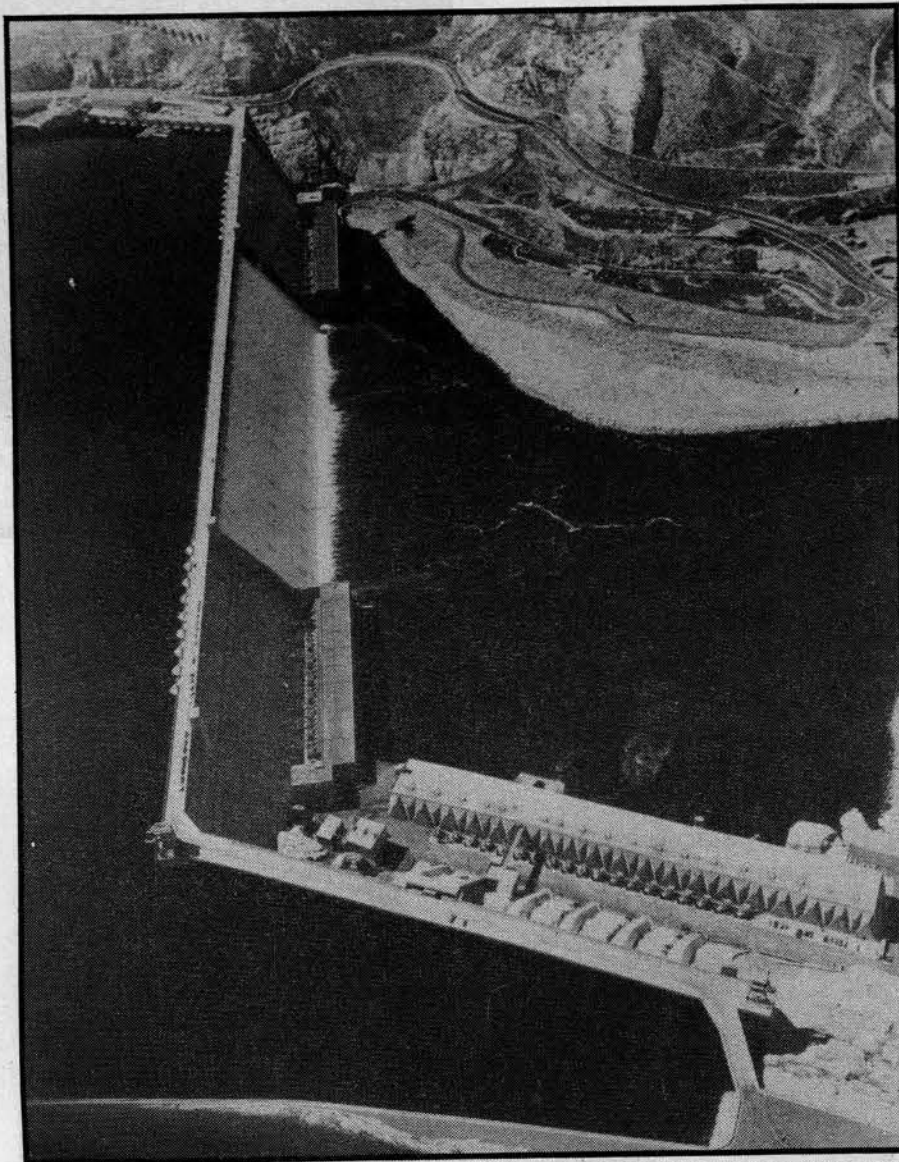
Grand Coulee is a much higher, "storage" dam which formed the 160-mile-long Lake Roosevelt. The lake captures spring floods from the yearly snowmelt and is kept high throughout the summer for recreation. It also feeds water pumps that irrigate the vast Columbia basin reclamation project.

In fall and winter, water is released for power production and to make room for the next spring's runoff. These winter releases from Grand Coulee and other storage dams increase power production at run-of-the-river dams downstream. And winter releases keep downstream reservoir levels constant to allow year-round barge traffic as far inland as Lewiston, Idaho.

Of the 136 dams and hydroelectric projects in the Columbia basin, most of storage dams are in the upper Snake and Columbia rivers and their tributaries. Most run-of-the-river dams block the lower rivers.

Not all are owned by the federal government and until 1964, federal and non-federal dam owners did not coordinate dam operations. But in 1964, two agreements changed the way the river was managed. The result was more power production and worsening conditions for salmon smolts.

The first agreement was a treaty that coordinated dam operations between the U.S. and Canada. Canada built three big storage dams in British Columbia, and the federal government built Montana's Libby Dam upstream of the Canadian dams. This doubled the system's total storage, and made it possible for water out of Canada that



U.S. Department of the Interior/Bureau of Reclamation

Grand Coulee Dam

would have been spilled in the spring flood over the downstream American dams to be held back in Canada for release in the fall and winter, when it can be turned into electricity at the American dams. This power was split by the two countries; the Americans bought the Canadian share, or "Canadian Entitlement," for 30 years.

This necessitated an agreement between the federal government and the owners of non-federal dams, especially five mid-Columbia dams where much of the power from water stored in Canada would be generated.

By signing the 1964 Pacific Northwest Coordinating Agreement, the Corps, Bureau of Reclamation and Bonneville Power agreed with non-federal dam owners to operate nearly all dams in the Columbia basin in conjunction. Their goal: to optimize hydropower generation.

In an average year, the system of 30 federal Columbia basin dams now generate about 10,000 megawatts. Non-federal dams generate another 5,500 megawatts, or three-quarters of the entire generation for the Northwest's four-state power pool. Twelve thousand of these

megawatts are reliable, or "firm" power, the amount that can be generated year-round if the four driest years on record were to recur. In spring and summer, the dams generate 3,500 additional megawatts of "non-firm" power, most of which is sold to California.

Revenues from the federal system cover annual operating costs and pay off BPA's \$15 billion debt. It owes almost \$8 billion to the federal treasury for building the dams and transmission system. The rest is due to the WPPSS nuclear plant debacle in the 1970s.

In spite of the debt burden and subsidies to other uses, Bonneville's rates have stayed low. Wholesale rates barely budged from 1938 to 1979, and decreased substantially if inflation is taken into account.

Then the WPPSS default caused Bonneville's rate to soar 650 percent between 1979 and 1983, to just less than today's rate of 2.3 cents per kilowatt-hour. Even so, the average Northwest residential electricity customer pays only about 60 percent of the national average.

— Brian Collins

will decrease revenues, reformers argue, it won't threaten the Northwest's power needs.

Lost electricity is not the only cost of drawdowns. Barge shipments would need to be rerouted by land, irrigation pumps made larger and longer, and some roads and marinas modified. Fish advocates like Chaney say the focus should shift toward how to help these various interests, and away from debate on whether to proceed.

Drawdowns are only half a solution. On the Columbia, where no run-of-the-river dams are being considered for major drawdowns, spring flow objectives must be met mostly with releases from storage

reservoirs. On the Snake River, even after the spring reservoir drawdowns, water will have to be released from upstream dams in summer to lower water temperatures in downstream reservoirs.

Those who would change the electric system argue that it can adapt to far greater springtime flows than the Power Planning Council has yet proposed. Part of their strategy is to let most of the water go in the spring, when the smolts need it, instead of holding it back for winter use.

To do that, patterns of use must change. Perhaps the greatest opportunity to reshape use lies with the aluminum industry, which uses almost one-third of federal hydropower.

When the first dams were built, electric-intensive aluminum smelters were welcomed to soak up the power glut, especially in the spring and summer, when demand was low. In the early 1940s, almost three-quarters of federally generated power went into aluminum. Over the years, industrial power sales, even at bargain rates, paid for much of the cost of building the dams and transmission system, and aluminum fueled the region's aerospace and defense industries.

Today, a power surplus no longer exists. The steady aluminum load, while

Continued on next page

Salmon were an afterthought ...

continued from previous page

still welcome to soak up power generated in springtime, is becoming a burden in the fall and winter, when use from residences and other businesses is high. And from the aluminum industry's perspective, rates are no longer so low.

The Washington Public Power Supply Service (WPPSS) fiasco, dubbed "WHOOOPS," was a disastrous effort in the early 1980s to build five nuclear reactors to serve the Pacific Northwest. It caused huge rate increases just as aluminum prices were turning down, and for a while it appeared that the high rates could shut down companies.

Not wanting to lose their revenue, Bonneville in 1986 negotiated new industrial contracts that linked power rates to aluminum prices. So far, this has kept the industry operating.

But critics say aluminum hurts the region. The contracts are up for renewal in 2001, and economist Jim Lazar estimates that if Bonneville renews under present terms, it would amount to a rate-payer subsidy of about \$1 to \$1.5 billion per year. The industry employs 10,000, so the subsidy amounts to \$100,000 to \$150,000 per year per aluminum plant employee.

Lazar says if the contracts are to be renewed, BPA should time power sales to the industry to benefit the salmon. That means increasing BPA's ability to interrupt supplies to aluminum smelters in winter in exchange for cheaper power in spring and summer. The Power Planning Council also favors the approach as a way to avoid building new power plants.

Industry is not enthusiastic. Says John Carr, director of DSI Inc., an aluminum company lobbying group, "We are not looking for contracts that provide for more interruptibility."

The Northwest's winter power load could also be reduced by switching users from electricity to natural gas for water and space heating. Because electricity has been so cheap, the Northwest uses more electricity relative to natural gas than other regions in the U.S. About 4,400 megawatts, or a fourth of the region's power load, go for residential and commercial heating, mostly in fall and winter.

Since being piped into the region in 1958, gas has steadily gained on electricity. Nearly all new houses are now built with gas heat. But economist Lazar estimates that about 1,500 megawatts of electric use could be replaced by natural gas, at very low cost.

Electric utilities, however, have little incentive to promote fuel switching. Their revenues increase with the amount of electricity they sell.

Bonneville's studies show fuel switching could save its ratepayers nearly \$800 million. Lazar says the savings would be \$1.4 billion. Instead of promoting fuel switching, Bonneville plans to build new generators that will burn natural gas to generate electricity in combustion turbines, even though doing so is half as efficient as using gas for water and space heating.

Utilities would be more willing to promote fuel switching if sales were decoupled from profits, as has been done elsewhere to encourage energy conservation, says Ralph Cavanagh, energy expert at the Natural Resources Defense Council.

Another way to promote fuel switching would be to boost the price of BPA's power to market rates, or to charge according to season. At present, Bonneville's



Idaho Fish and Game

Chinook salmon in a hatchery

wholesale rates are about 30 percent greater in winter than in summer. The seasonal price differential could also be increased to account for the environmental cost of hydropower, Lazar says.

The second strategy to reshape energy use depends on California. It is no small irony that Northwesterners, who fear California's growing population and search for water, could save the salmon by sending the river's electricity to California.

It could be a marriage made in heaven. Northwest power demand is at its lowest when hydropower capacity is high in spring and summer. California's load peaks in summer.

Energy experts like Cavanagh suggest that instead of storing energy as water in Northwest reservoirs, and thereby killing the salmon smolts, the electricity could be "stored" in California. Electricity generated by drawing down Northwest reservoirs and increasing river flows in the spring and summer could be shipped to California, to be repaid by California utilities in their slack winter months, when Northwest power use peaks.

Transmission capacity exists for such exchanges. Two transmission lines installed between California and the Northwest in 1969 and 1970 now can transmit 6,300 megawatts of power; a third line to be completed next year will boost capacity to 8,000 megawatts.

Bonneville recently signaled its intention to develop the potential for seasonal exchanges. In late May, Bonneville agreed with four California utilities to send 725 megawatts south for one year from May through August, to be returned north in fall and winter. Bonneville administrator Randy Hardy said he hoped the deal would lead to a 20-year agreement, and that BPA was laying the groundwork for up to 2,000 megawatts of seasonal exchanges with California.

Potential exists for more power exchanges, says Wally Gibson, Power Planning Council's manager of system analysis. But he warns that exchanges conflict with recreation.

Existing power generation in the Northwest keeps storage reservoirs full all summer, and the boating and fishing powers a lucrative recreation industry. Emptying those reservoirs for the salmon would dry up flatwater recreation. Without that conflict, Gibson says, it would be easy to restore natural river flows.

Neither drawdowns nor the seasonal rescheduling of flows and power generation are possible without changes in the institutions that run the dams.

Fish advocates say that federal dam agencies — the U.S. Army Corps of Engineers and the Bureau of Reclamation — have a history of indifference toward salmon flows.

Each year power generators plan how to optimize power generation under the 1964 Coordinating Agreement, which governs generation of hydropower. And each year fishery agencies ask dam agencies to take fish into account, and the agencies "tell them to get lost," says Dan Rohlf, an attorney and professor at Lewis and Clark College.

Salmon advocates finally have a chance to change the dam agencies' direction. That opportunity is the "System Operation Review," an environmental impact statement federal agencies are writing in preparation for renewal of the coordinating agreement, which expires in 2003.

Salmon advocates like Rohlf hope to win a seat at the table where water releases are planned each year. Otherwise, the door is shut for another 30 years, he says.

Influencing the agencies through a new coordinating agreement is a long-term effort. In the meantime, all parties are waiting for the National Marine Fisheries Service recovery plan. If the plan leaves the Snake River salmon short of water, salmon advocates are likely to go to court. If the salmon advocates like the plan, the electric industry probably will sue.

While the Northwest's struggle to save its forests and terrestrial wildlife parallels that over its rivers and fish, there's an important difference. Federal courts can and have suspended logging while the region tries to resolve its forest conflict. But no court can give immediate relief to salmon.

Re-engineering dams for drawdowns, negotiating inter-regional power swaps, and reshaping electricity use to provide spring flows all take time. Critic Ed Chaney says the Power Planning Council used up all the time the fish had over the last 10 years, and now there's none left.

Even if the courts find in favor of salmon advocates, Chaney says, it is likely they will tell the Fisheries Service to make another plan, just as the court has repeatedly told the Forest Service to redo its owl plans. More time will pass. More stocks could disappear.

Chaney says of the Snake River salmon: "I don't think we're going to save them."

It is a measure of his desperation that Chaney is seeking strong leadership everywhere: from the electric industry, from the courts, even from his long-time nemesis — the Army Corps of Engineers. Thus far, he hasn't found it. Z

The prodigal Northwest considers thrift and alternative energy

by Jim Stiak

When it sailed through Congress in the pre-Reagan year of 1980, the Pacific Northwest Electric Power Planning and Conservation Act was thought a bold piece of work.

The act — as it became known — called for a new approach to heating the homes, toasting the bread, and fueling the factories of a four-state region. The entity it created, the Northwest Power Planning Council was told to rely primarily on conservation and efficiency to chart the electrical future for Washington, Oregon, Idaho and Montana. No new large power plants could be built, the act dictated, until the Northwest made better use of the juice already being produced.

Then came the 1980s. For 10 years the bold language of the act languished while the Northwest buzzed.

Charged by plentiful and cheap power from scores of hydroelectric projects, two nuclear and a handful of coal-fired plants, the region's economy boomed. Boeing Corp. riveted record numbers of airplanes. Microsoft Computer Co. mushroomed to make Bill Gates America's richest man. The region's population jumped by 15 percent to 9.5 million.

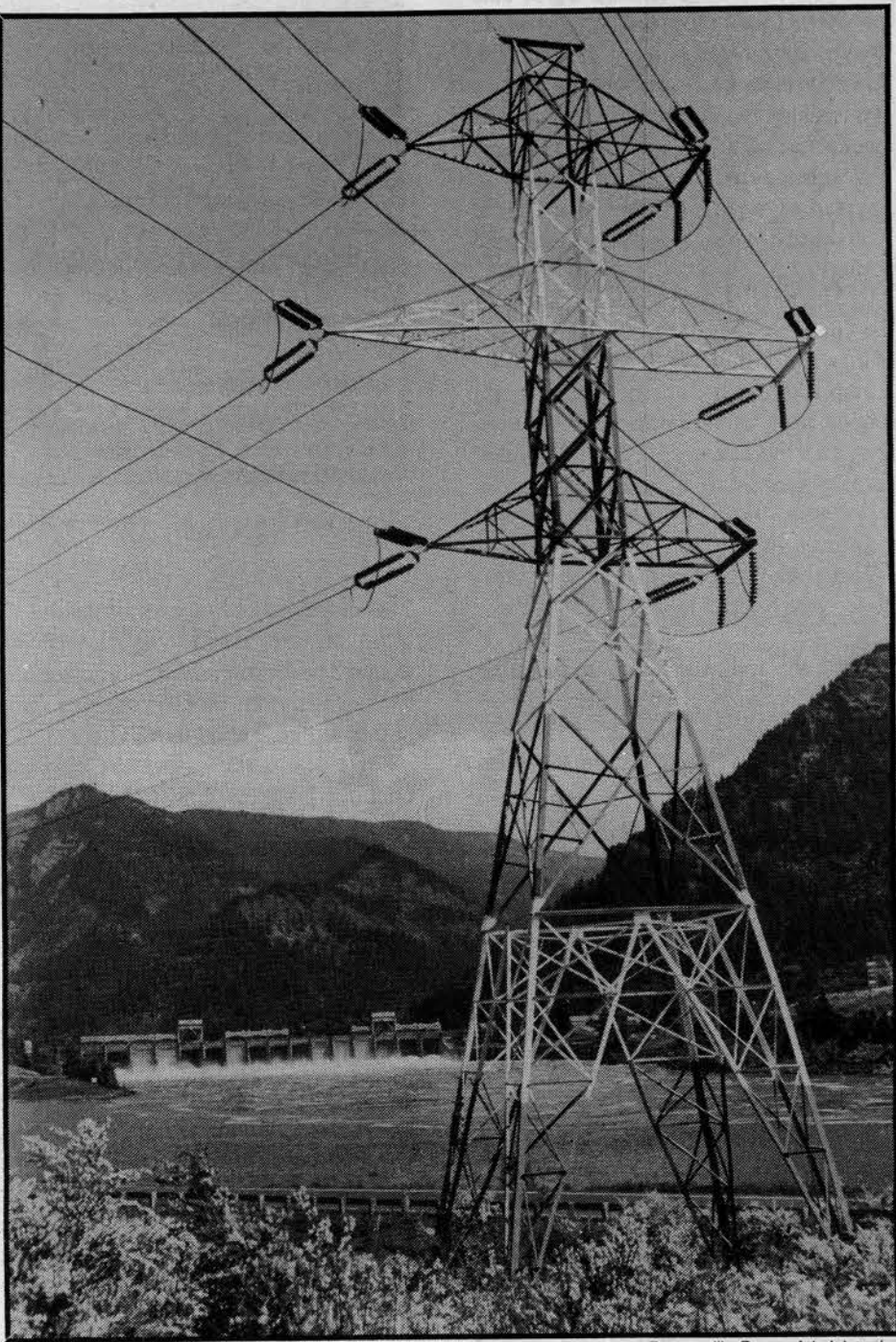
By the end of the decade, the abundance of electricity had been consumed by growth, and the council finally had to face the act. To meet the mandate of that Jimmy Carter-era law, the council would have to come up with the most ambitious conservation plan ever concocted. Eight council members — two gubernatorial appointees from each state — would have to fashion a hat from which could be pulled, in the coming decade, enough electricity for another million people.

Fortunately, they had some help. Shortly after the act passed in 1980, 125 people had gathered in Seattle. Solar energy enthusiasts, Sierra Club members, union leaders, League of Women Voters members, consumer advocates and an assortment of other interested parties agreed to work together to turn the act's vision into reality. In May of 1981, they formed the Northwest Conservation Act Coalition (NCAC), a citizen counterpart to the government-created council.

The coalition has helped guide the council, willingly or not, into the age of limits.

In 1982, NCAC published an 800-page report on energy efficiency that formed the basis for the council's first regional power plan in 1983. When the council proposed less stringent commercial-lighting efficiency standards than NCAC wanted, the coalition successfully went to court to have them raised. And in 1990, knowing that push was coming to electrical shove in the Northwest, NCAC came up with its version of the magician's hat.

Members called it the *Model Action Plan to the Regional Energy Future*. Its 112 pages list priorities and call for conservation using renewable resources and highly efficient gas cogeneration plants to power the Northwest in the 1990s. The model action plan showed how to eliminate the need for more conventional power plants, and instead suggested reg-



Bonneville Power Administration

An electrical tower carries power from Bonneville Dam

ulatory changes — "an array of market mechanisms and cooperative arrangements" — to promote conservation. Far-sighted and specific, the council used it as a blueprint for its 1991 *Northwest Conservation and Electrical Power Plan*.

Although it's the third plan released by the council, the power plan is the first one that matters. Others were practice runs, ignored because the region had surplus power. Now, the council said, the Northwest could run out of power by the late 1990s. To bridge the gap, the council's plan calls on Northwestern utilities to save 1,500 megawatts of existing electric capacity and add only 800 megawatts of power from cogeneration power plants and improvements to the hydroelectric system.

It marks the first time conservation heavily outweighed supply-side resources. It also set an unprecedented energy conservation goal — about 10 percent of the Northwest's total electric load and four times the amount saved in the last decade. It won't, council staffers realize, be easy.

"The biggest obstacle," says Tom Eckman, "is the lack of appreciation of how difficult it will be."

As conservation manager for the council, Eckman is steering a voyage into uncharted waters. He is "facilitating" a long series of meetings with the region's power players. Sitting at his table are: the Bonneville Power Admin-

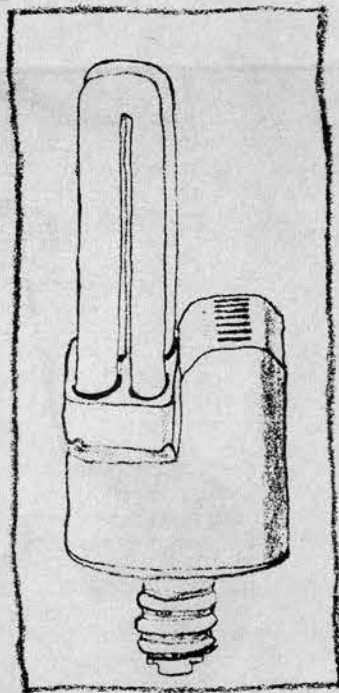
istration (BPA), the federal agency that markets almost half of the Northwest's power and pays the council's bills; 130 publicly owned utilities, most of which buy all their power from BPA; six large investor-owned utilities; and the region's major businesses. To get these players to come to agreement, Eckman is having to engineer what he calls a "paradigm shift."

"Previous conservation programs have involved individual utilities approaching individual customers," he says. "But that's highly labor-intensive. We need to move the market in a wholesale way."

The first wholesale change was a recent agreement with the 18 mobile home manufacturers in the Northwest. The manufacturers, who produce 30 percent of the new electrically heated homes in the region, agreed to bring their products up to council efficiency standards, with more insulation, tighter caulking and similar measures.

The cost of this additional work — \$2,500 per mobile home — will be paid partially by BPA and partially by a higher sticker price for the homes. Even with that higher price, says Eckman, the home buyer will come out \$200 ahead, thanks to reduced power bills after just one year. Total energy savings to the region,

By law, the Northwest must try to supply all its new power needs through conservation first, then renewable power and alternative sources. But change is slow when a region's utilities are most accustomed to building power plants.



Rita Clagett

Continued on next page

The prodigal Northwest ...

Continued from previous page

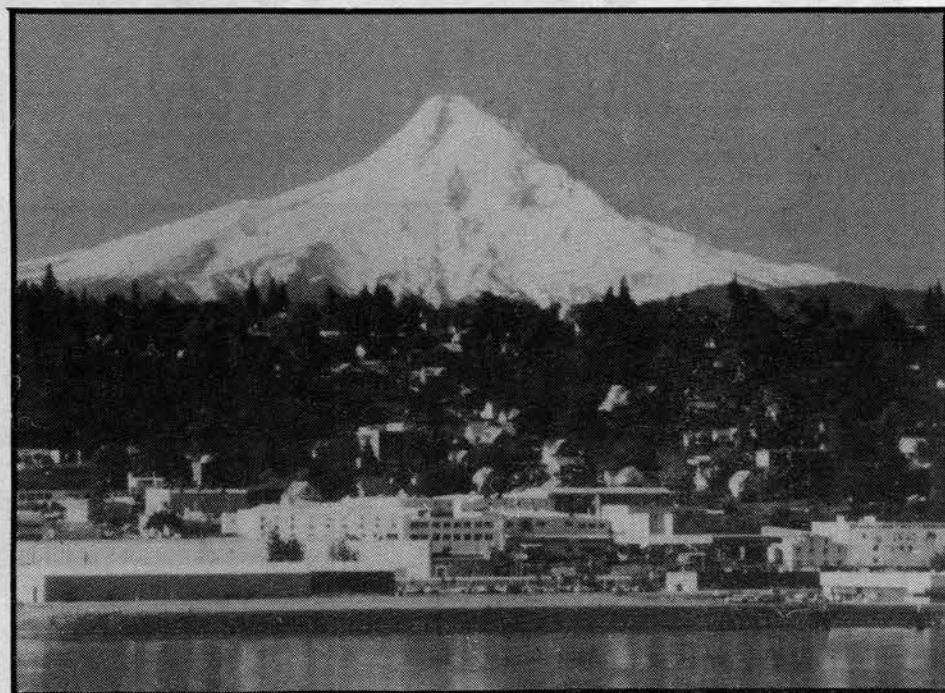
he predicts, will be between seven and nine megawatts, at one-third the cost of building a new power plant.

While costs are slightly higher than previous utility conservation programs to weatherize mobile homes, it is worth it, Eckman says, because now the utilities are reaching the entire market, instead of about one-fourth. "It took a year to reach the agreement," he says. "But now, instead of trying to convince 12,000 individuals, we're converting the entire industry."

The next target, Eckman says, will be chains and franchises, "the Burger Kings and Safeways." After that come companies with several plants in the region, such as Weyerhaeuser and Boeing; then the handful of distributors that supply almost all of the lights for the Northwest. "We'll knock 'em down one at a time like bowling pins," he says. "That's the paradigm shift — to intervene at the highest level."

In the long run, however, meeting the council's ambitious conservation goals will depend on a paradigm shift within the Bonneville Power Administration. Created by Congress in 1937 to sell power generated by the Columbia River basin dams, BPA now markets some 8,400 megawatts a year — fully half of the region's power supply.

Ordered to convert to conservation by the 1980 act, BPA stands alone among the nation's five federal power-marketing agencies. Only it actively purchases "megawatts" as a power source and also funds conservation projects for its member utilities. Recently BPA increased its conservation targets to save



PacifiCorp

Hood River, Oregon, was the site of an early BPA conservation project

780 megawatts of electric capacity by 2003: 660 megawatts from demand-side management programs and another 120 megawatts from making transmission and power generation more efficient.

However, staffers at the citizens' coalition point out that BPA's new goal is still only two-thirds of what the agency itself says it could save in that time, and so far its progress is agonizingly slow.

But Bonneville has come a long way since the 1970s, when it backed the Washington Public Power Supply System (WPPSS), a zealous buildup of power plants that resulted in two half-built nuclear reactors and the largest public-bond default in U.S. history. Twenty years later, BPA even wins awards. In 1990, BPA won an award for "outstanding work in conservation" from the Natural Resources Defense Council, which had bitterly opposed BPA on the WPPSS issue.

"BPA today," says NCAC co-founder Ralph Cavanagh, who is a staff member of NRDC, "seems to be strongly behind the conservation movement."

BPA cut its eye teeth on conservation in the early 1980s, when it attempted to weatherize virtually every home in the Oregon community of Hood River. Although the program weatherized 85 percent of the homes in the Columbia River town, it wasn't imitated elsewhere. The price of electricity began falling, and conservation went with it. Not until the region's power surplus started to evaporate in the late 1980s did BPA climb back on the bandwagon.

BPA sponsors a variety of programs to help local utilities down the road to efficiency. It pays residential customers part of the cost of weatherizing their homes. Its "Northwest Energy Code" program encourages localities to adopt "Model Conservation Standards" (developed by the council) in their building codes. The "Energy Edge" project pays building owners for the added costs of making their buildings at least 30 percent more efficient than the model standards, using measures such as heat pumps, devices to recover heat from restaurant grills, earth berms to insulate walls, clerestories to let in light and heat, and 2-by-6 construction to allow more insulation in walls.

BPA's "Super Good Cents" program helps builders design, construct and market high-efficiency homes. Its "Energy Smart Design" program uses computer models to help architects make efficiency-minded design changes. Under the "Blue Clue" program, the

most efficient 15 percent of household appliances get a blue ribbon — sort of a Good Housekeeping seal for conservation.

Other BPA-sponsored programs concentrate on the region's eight big aluminum smelters, which consume almost a quarter of BPA's power. BPA also helps sponsor a Lighting Design Lab, which opened in Seattle in 1989, that simulates various lighting environments and offers the latest in products and research to architects, engineers and other designers.

Those programs have brought many of BPA's customers — mostly rural electric co-ops and municipal utility districts — into the conservation revolution, making the Northwest one of the most progressive regions in the country. In Oregon, the Eugene Water and Electric Board, which serves the state's second largest city, used BPA funds to help weatherize 26,000 of its 41,000 electrically heated homes. Recently the Eugene Electric Board moved into the commercial sector with a lighting-efficiency rebate program that replaces old fluorescent tubes with new, electronic-ballast fixtures. Similarly, a retrofit of an electronic precipitator at a Weyerhaeuser lumber mill saved some 2 million kilowatt-hours a year — the equivalent of weatherizing 700 new homes.

Eugene even moved beyond BPA financing, instituting a 2 percent rate increase that pays for further conservation programs. The Eugene utility now offers customers no-interest loans, payable over several years as a surcharge on their monthly bills. It is part of an effort to weatherize another 10,000 homes by 1995.

Despite those successes, there are significant failures; most of BPA's customer utilities have no sizeable conservation programs, for at 2.7 cents per kilowatt-hour, BPA's federally subsidized hydropower is still cheaper than making electricity more efficient.

In the 1980 act, Congress ordered BPA to fix the problem by creating a "billing credits" program. The program pays utilities the difference between the 2.7 cent rate and conservation costs. Credits to consumers can go up to 2.3 cents per kilowatt-hour, which is the additional cost BPA would have to pay for electricity from a new power plant.

But the billing credits program has never quite worked. "We're doing a shakedown cruise," says Paul Norman,



PacifiCorp

BPA pays residential customers part of the cost of weatherizing their homes

chief of the planning branch for BPA. "And we've discovered that it doesn't sail as smoothly as we'd like."

The process is time-consuming, says Norman, requiring a series of notices in the *Federal Register* and subsequent waiting periods. Small utilities especially have balked at the paperwork involved in verifying energy savings. Of 50 contracts sent out in the first round, only two have been signed. Norman and his colleagues are trying to iron out wrinkles before the next round of contracts is let next year.

Another problem is BPA's reluctance to move to full-scale conservation. In early 1991, the agency proposed to buy 300 additional megawatts of power and invited bids from any energy supplier that could sell all or part of that. The priority, however, was to buy conservation first.

"We plan to move aggressively to acquire new sources of conservation," said BPA Administrator Randy Hardy in a press release.

But BPA's short list of bids included only 17 demand-side projects totaling 57.8 megawatts, compared with 10 generation projects totaling 1,081 megawatts. Bonneville received 116.2 megawatts in conservation proposals and 5,209 megawatts in generation proposals.

Although conservation projects received a 10 percent credit as required by the 1980 act, and another 10 percent for transmission savings, Northwest Coalition staffers say the BPA's bidding process was designed to discourage demand-side projects, especially these from small providers.

"BPA seems unwilling to reward utilities for conservation projects that are outside BPA's centrally developed, pre-packaged programs," says NCAC policy associate Dave DeBusk.

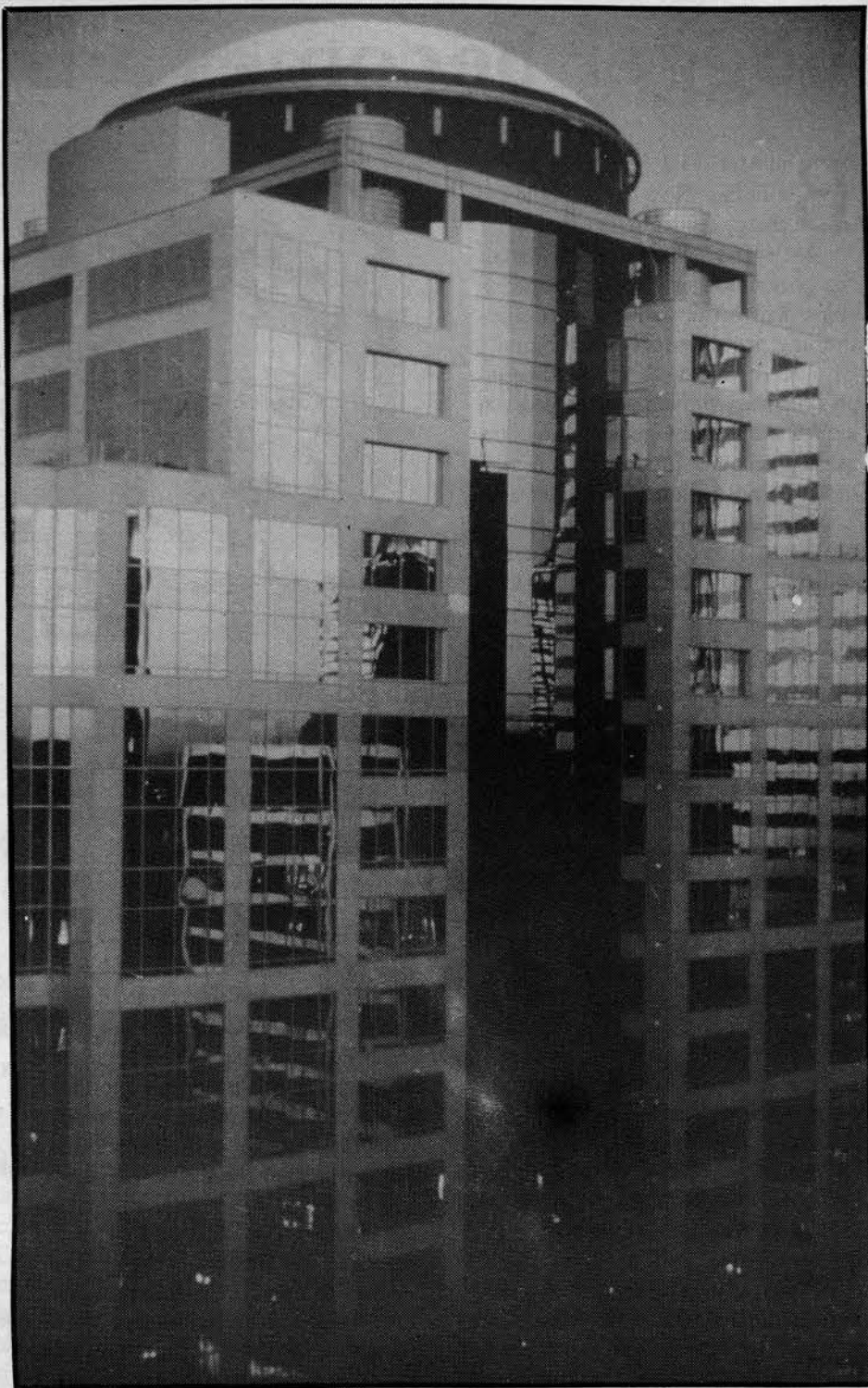
By comparison, he notes, one of the region's investor-owned utilities is having far more success at reforming its operations to make conservation work.

Like BPA's member utilities — which are mostly publicly owned — investor-owned companies have a financial disincentive for conservation. In a trial run aimed at surmounting that obstacle, the Washington Utilities and Transportation Commission last year reached a landmark agreement with Puget Sound Power & Light.

Serving the Seattle suburbs, Puget is one of the largest investor-owned utilities in the state. It has 800,000 customers and grows by the size of a small city each year. Previously, like other investor-owned utilities, its state-regulated profits had been based on the amount of electricity it sold. Its revenues now are determined by the number of customers it serves, and profits come from special conservation incentives.

In the year since the new rules took effect, Puget has acquired more than 17 megawatts of savings — twice its savings of the previous year, and more than BPA acquired over its entire territory in 1991. Buoyed by such success, Puget has set a higher goal for 1992 — 24 megawatts of savings.

Despite Puget's accomplishment, other utilities have not rushed to follow suit. "Puget was one of the first utilities to hit conservation hard because it was one of the first to experience high growth," says Angus Duncan, one of the two Oregon members of the council. "Other utilities, such as Portland General Electric (one of Oregon's two largest utilities), have expressed willingness to experiment with different kinds of rate



PacificCorp

The new Broadway Building in Portland, Oregon, incorporates state-of-the-art windows, heating and cooling systems, lighting, insulation and computerized building controls. The features will cut electric use by 30 percent.

structures, but the pressure of growth for them is two or three years behind Puget."

In other words, until they run out of surplus power, few utilities will make large investments in conservation. Only when faced with making even larger investments for new power plants — which invariably come with regulatory and environmental hassles — will utility executives risk conservation.

The impetus for change, most observers say, must come from the utilities. As Mike Katz of the Oregon Public Utilities Commission puts it, "Ordinarily utilities come forward with programs and we judge them. We're not usually in a command mode."

While the Northwest Power Plan may be bold, there are those who believe it could be bolder. Coalition director K.C. Golden, for one, thinks it falls short of what's possible.

"We identified 6-7,000 megawatt potential savings over the next 20 years," he says, "while the council found only 4,600. And their target of 1,500 over the next 10 years is less than 10 percent of the electricity used in the Northwest."

The Electrical Power Research Institute goes even further. It estimates that up to one-half of the electricity now used in the Northwest could be saved with existing cost-effective technology.

Amory Lovins puts that figure closer to three-quarters. "Sure, there are obstacles, but you don't meet them by lowering your sights," he says.

"The Northwest probably knows as

much about conservation as any region," agrees NCAC's Cavanagh. "But we still haven't really cracked the industrial sector. We should be going building to building to enlist everyone, like we did in Hood River. The goal is to get all of the energy savings that cost less than producing new power."

"Technologically and economically, we could acquire more than 1,500 megawatts," counters Angus Duncan of the council. "And I hope we do. But we'll have to get a lot of people to change their decisions. I personally have sat down twice with catalogs to figure out which compact fluorescent bulbs to buy for my house, and twice I've gotten frustrated and given up. And this is my business — it's got to be even harder for the average person."

Similar stories abound. On a recent evening at the Washington state capital, hundreds of lights blazed for no apparent reason at two Department of Natural Resources buildings, still under construction. Tom Eckman tells of a new state office building in Oregon where the architects wouldn't follow the council's conservation building-code recommendations. The architects insisted the design wouldn't work, even though the contractor insisted that it would.

"It's real hard to get an entrenched bureaucracy to change," says Eckman. "It takes will from the top to make it stick, and if you're a governor with a budget crisis and crime in the streets coming across your desk every day, conservation can slip through."

"Conservation is a great resource, but it's much easier in theory than in practice." □

Logger becomes a BTU cutter

Bill McHaffie once cut trees for a living. Now he wants to cut energy consumption.

McHaffie's anticipated career change from logger to energy conservationist derives from an imaginative job-training program on Washington's Olympic Peninsula, in which 20 unemployed timber workers were grounded in insulation materials, geometry, window glazing and other fundamentals of residential energy auditing and inspecting.

Now the 34-year-old McHaffie is poised to move from a distressed extraction industry to a conservation field brimming with potential.

"It's really going to open the door to a lot of stuff," he said. "I can see really good opportunity for a lot of avenues to go, or even teaching it to other people."

Indeed, energy conservation appears to be a Northwest growth industry into the 21st century. The Northwest Power Planning Council and Bonneville Power Administration have targeted conservation as the region's preferred new electric energy source, and BPA plans to spend \$2.8 billion in the coming decade, acquiring more than 600 megawatts of savings.

But to reach these ambitious goals, the Northwest needs trained professionals — thousands of new workers in the labor-intensive residential, commercial and industrial kilowatt-saving sectors, according to energy planners.

Recognizing the demand and surveying the 10.3 percent unemployment rate in its timber-intensive service territory, Clallam County Public Utility



Diane Sylvain

Bill McHaffie

District created the auditor/inspector job training course. BPA chipped in \$45,000, while Olympic Job Training Center solicited out-of-work timber industry employees. Washington Public Utility Districts Association contributed administrative help.

McHaffie, laid off in November as a "set choker" for a local timber outfit, had been scrambling to find occasional logging jobs. But timber job opportunities around the peninsula were meager. When he heard about the conservation training program, he signed up, saying, "I'll try anything."

Although he struggled with the algebra and geometry segments, McHaffie completed the intensive three-week training course this March. He and his 19 classmates graduated in what was widely described as a stirring

ceremony.

"It was absolutely electrifying," recalled Clallam conservation manager Larry Williams, who is the program's guiding force. "The people were participating in life-changing-type decisions, completely reorienting their career focus. To hear some of the stories about why they were there ... There were times when there wasn't a dry eye in the house."

Now that the tears have dried, McHaffie realizes the training program educated him to a new way of thinking about resource use.

"I go around here all the time flipping off lights. My wife's about to kill me," he joked, then added, "Conservation-wise, it really opened my eyes. We really waste things."

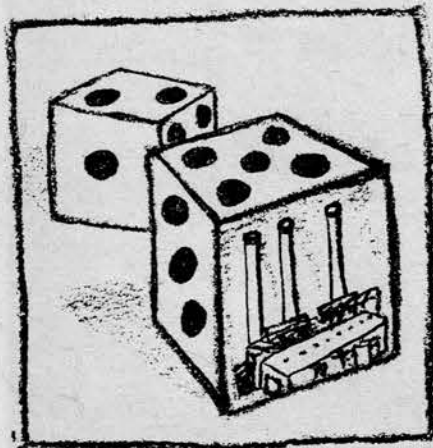
McHaffie does not consider himself an environmentalist, and he opposes timber-harvest shutdowns to preserve habitat for the northern spotted owl. "I still feel we're worth more than any living creature, an animal or a bird."

Still, he exudes enthusiasm about the future of energy conservation and his role in it. McHaffie is even willing to move from the Olympic Peninsula, with his wife and two young boys, to start his new career as a BTU-buster.

So far only two of McHaffie's 19 classmates have jobs as energy auditors. But Olympic Job Center counselor Frank Dunaway says several utilities recently announced new job openings, and as BPA starts new conservation programs, he expects more.

— Mark Orenschall

One of the West's largest utilities may be betting that the future lies with coal-fired power plants rather than efficiency and alternative fuels. PacifiCorp is putting its money where its mouth is by buying as many conventional plants as it can.



Rita Clagett

PacifiCorp bets on coal, and against efficiency

by Steve Forrester
and Ed Marston

For a utility executive in the West to ignore PacifiCorp is like General Motors ignoring Toyota.

PacifiCorp hasn't always required such close attention. Until a few years ago, the firm — then named Pacific Power and Light — seemed mainly interested in serving its homebase in Oregon and Wyoming.

In Oregon, PP&L enjoyed virtually universal acclaim as an innovative, pioneering and at times visionary company run by a succession of larger-than-life chief executive officers: Paul McKee, Glenn Jackson and Don Frisbee.

Today it is a different, larger and more aggressive firm. A map of the utility tells the story. In the mid-1980s, it absorbed Utah Power and Light, itself a large utility. The merged firm, renamed PacifiCorp, took over UP&L's customers and power plants as well as its transmission lines. That gave it new access to Colorado, Arizona and Idaho.

The protracted bankruptcy of Colorado-Ute Electric Association over the past three years and financial problems at Arizona Public Service during the same period led PacifiCorp to attempt to enter those two states. It tried to buy all

of Colorado-Ute, which served western Colorado and some Front Range areas, and to buy all of Arizona Public Service.

It didn't get either, but it did buy power plants from both Colorado-Ute and Arizona Public Service, plus more miles of all-important transmission capacity. That gave it potential access beyond the seven states it presently serves.

At the least, it is poised to buy more of the Colorado-Ute Electric Association system should Tri-State Electric Association or Public Service Company prove unable to absorb the territory and power plants they have taken over.

Normally, environmental organizations do not concern themselves with utilities' competition for customers and resources. But this competition is different. Environmentalists are doing all they can to push the West's utilities toward using power more efficiently and finding alternative sources of electricity, such as wind and solar.

PacifiCorp, whose march east has made it the most powerful investor-owned utility in the intermountain West, is built almost entirely on fossil fuels.

"PacifiCorp is now the largest emitter of carbon dioxide west of the Mississippi," says Ralph Cavanagh, an expert on utilities with the Natural Resources Defense Council's office in San Francis-

co. "Can we shift it from being the top emitter to the second? Energy efficiency is the way to do that."

But PacifiCorp seems to be betting that conservation and alternative sources of energy will fail to meet growing energy needs, and that the future lies with whichever utility accumulates the most power plants and coal mines.

If that is PacifiCorp's strategy for the future, then the utilities bordering its territory may feel impelled to seek power plants of their own. Without additional power plants, they may reason, they could find themselves at the mercy of PacifiCorp, should their demand-side management efforts falter.

At one time, PacifiCorp was the West's leading innovator. The company broke ground nationally in the 1970s by offering to loan residential customers money to insulate their homes. Then-CEO Don Frisbee said that made sense, because it avoided the cost of building new power plants.

Today, PacifiCorp is surrounded by innovative utilities, but Cavanagh says PacifiCorp is "nowhere near the top" as an innovator. Because he believes the firm is at a key decision point, it is his ambition to help PacifiCorp "get back on top."



Bureau of Reclamation

Steam rises from the Jim Bridger Power Plant in Wyoming

PacifiCorp does have an efficiency plan. Isaac Reggenstreif, its manager of public policy, says, "We are going to accelerate our demand-side management." And in a December strategic planning session, the firm adopted a goal to acquire 170,000 kilowatts in demand-side resources and spend \$500 million doing so.

That works out to \$3,000 per kilowatt of capacity. By comparison, PacifiCorp bought the 350,000 kilowatt coal-fired Cholla plant in Arizona for \$630 per kilowatt, according to its 1991 annual report. That is also a bargain compared with the \$2,000 per kilowatt cost of a new coal-fired power plant, according to the report.

PacifiCorp got another bargain from bankrupt Colorado-Ute when it bought 243,000 kilowatts of coal-fired power plants from the bankruptcy court. PacifiCorp's annual report said it made the purchase of "proven, low-cost generating resources and secure transmission access for considerably less than the cost of building new resources."

The 1991 purchase of almost 600,000 kilowatts dwarfs the plan to acquire 170,000 kilowatts through managing demand. In addition, PacifiCorp's preferred mode for obtaining conservation has caused debate. Its central feature is an energy service charge, in which the customer pays for conservation. PacifiCorp makes money by charging the customer interest.

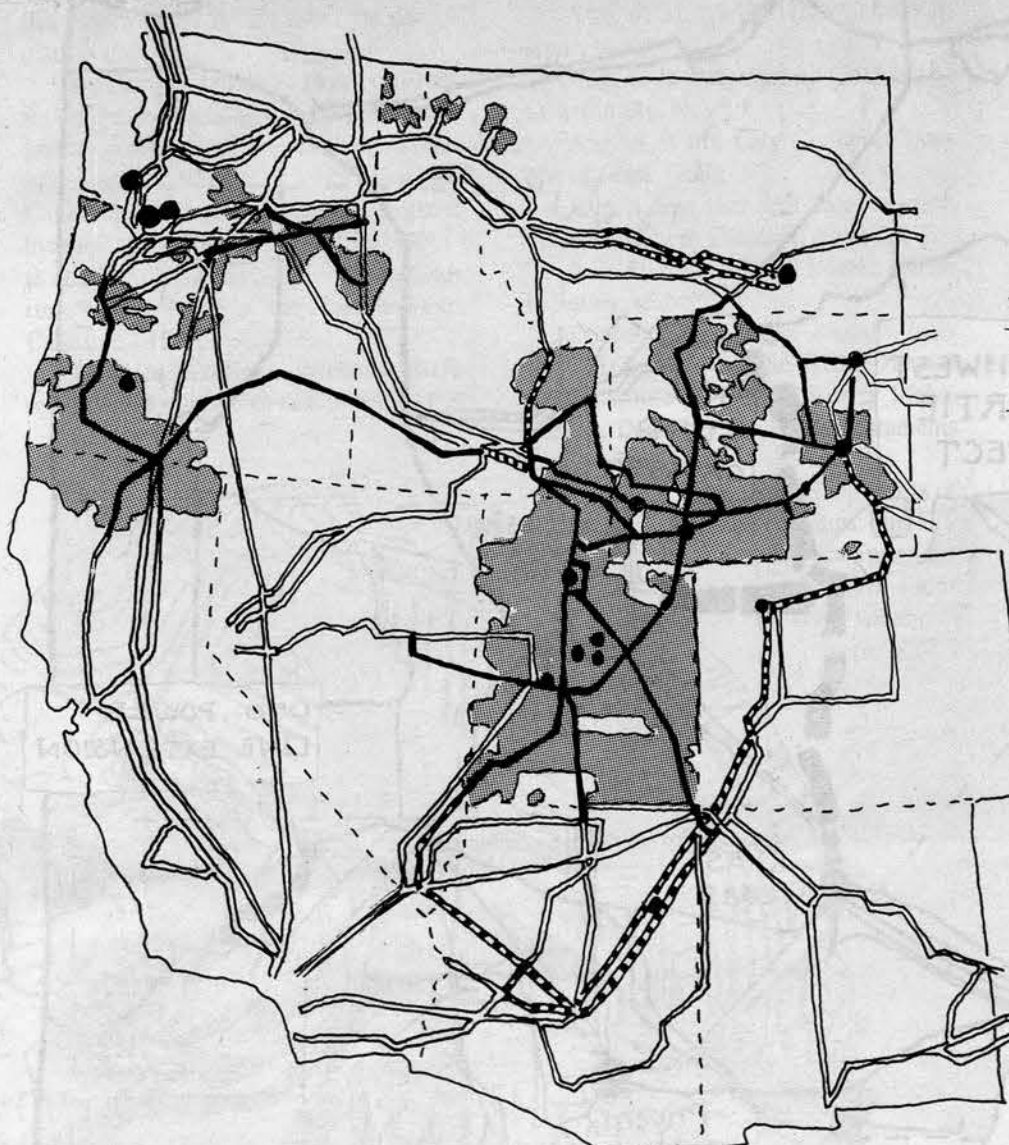
Such an approach is unlikely to be as attractive to customers as one used by many other utilities. They spread the cost of obtaining power through conservation among all rate payers, just as the cost of building a power plant is spread through all customers.

PacifiCorp's strategy may be due to the fact that its rates have not been decoupled; its profits are still directly tied to its sales volume. Dan Meek, a Portland-based attorney who has done battle with Oregon's utilities, says, "PacifiCorp is still in the mode that doing conservation will cause it to lose money," making the firm resistant to helping customers cut use.

In other states, environmentalists participate by intervening in rate cases, and then using the regulatory process to help convince utilities to conserve. But PacifiCorp, by not raising rates, has been able to stay away from public utility commissions in the seven states it serves. It will probably remain relatively immune to regulatory pressure to conserve so long as it does not need rate increases.

If PacifiCorp is embarked on a supply-side strategy of hoarding power plants against a future shortage of electricity in the West, then the future will be dramatic. Depending on how well demand-side management and alternative energy strategies work, PacifiCorp could be the region's electrical kingpin. Or it could also be in financial trouble.

□



Source: PacifiCorp, drawn by Diane Sylvain

PACIFICORP'S EXPANDING EMPIRE

- PACIFICORP SERVICE AREA
- POWER PLANTS
- COMPANY-OWNED TRANSMISSION LINES
- COMPANY ACCESS
- OTHER TRANSMISSION LINES

Swapping power north to south could cut need for power plants

Some argue that large, ugly transmission lines may be the best way to eliminate large, ugly power plants.

by Mark Tukman
and Steve Hinchman

For the first time in decades, no large power plants are being planned or built in the West. Instead, utilities are proposing to construct hundreds of miles of new high-voltage power lines across the region's mountains and deserts.

The biggest proposal is the Southwest Intertie Project (SWIP), a 520-mile transmission line that would link the Snake River hydroelectric dams in Idaho with Las Vegas and other burgeoning cities of the Southwest. The SWIP line — rated at 500,000 volts — would also include a 165-mile, 230,000-volt crosstie to the coal-fired Intermountain Power Project in Delta, Utah.

Other new lines include the third 500,000-volt line between California and the Pacific Northwest (which is already under construction), and the proposed 345,000-volt Ojo Line Extension in New Mexico (HCN, 6/15/92).

All of these new lines — high-voltage cables held up by massive 120-foot steel towers — will cause environmental

impacts, including visual pollution, road-building, possibly harmful electromagnetic fields and disturbances to wildlife.

Yet, at the same time, significantly increasing the capacity of the Western grid may reduce the need for new power plants and their pollution.

"Really, it's building transmission in lieu of generation," says Randall Hardy, the new head of the Bonneville Power Administration in Portland, Ore., and an advocate of both the California and Southwest interties.

Hardy and other energy experts say the new lines will allow utilities to use existing plants more efficiently and trade power back and forth, helping to eliminate the need for new power plants.

Another problem new power lines would solve is access. Major lines on the Western grid are now owned by large utilities such as PacifiCorp or federal agencies such as the Bonneville Power Administration. They keep the powerlines fully loaded, making it prohibitively expensive for smaller utilities and independent power producers to ship electricity long distances — even if they can gain access to them. Long-term contracts are out of the question.

The Southwest Intertie Project, proposed by the Idaho Power Company, the L.A. Department of Power and Water, and a number of other utilities, would give smaller companies their share of the grid. According to a draft environmental impact statement released June 12, substations along the SWIP line would be designated as "open marketplaces" to allow utilities to buy, sell or barter power without burdensome access or trade barriers.

With a new, open line in place, large scale power exchanges would be possible between the Northwest and the Southwest, according to the draft EIS written by the U.S. Department of Interior and the Bureau of Land Management.

Each region would "borrow" energy during times of peak use and "pay back" the electricity when demand is low. Since the Southwest consumes most of its energy for air conditioners in the summer, and the Northwest uses most of its power for heat in the winter, the two regions are well matched for peak-demand power exchanges.

Based on studies by the Western Systems Coordinating Council, which oversees the Western Power Pool, the draft EIS estimates that if the two regions shared peak power they could eliminate 3,000 megawatts worth of existing and/or future power plants.

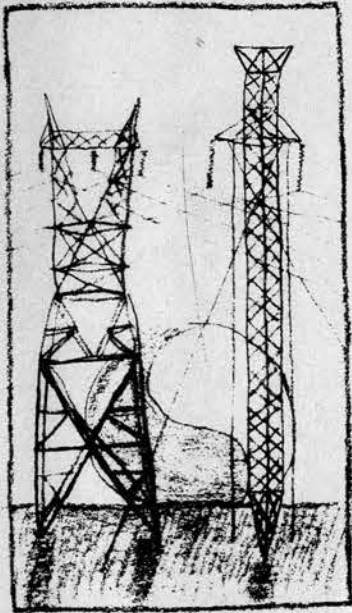
Idaho Power says the cost of the new power line is less than what utilities would pay to build new plants, and in some cases will actually make utilities money. For example, in wet years Columbia River basin utilities could sell excess electricity to the Southwest, rather than letting the water flow by unused. In turn, Southwestern utilities would benefit by turning off their coal and nuclear plants and buying the cheaper northern hydropower.

Expanding the grid would create new options for cleaning up the environment, says Ralph Cavanagh, head of the Natural Resource Defense Council's energy project in San Francisco. To help protect the endangered Snake River salmon, Cavanagh says, Bonneville Power Administration and area utilities will have to allow increased spring and summer flows in the Columbia and Snake rivers — two seasons when the Northwest does not need more electricity. Of the excess electricity, some will go to California (see previous story), but additional power could also go to help meet summer peak-demand in Arizona, Nevada and New Mexico.

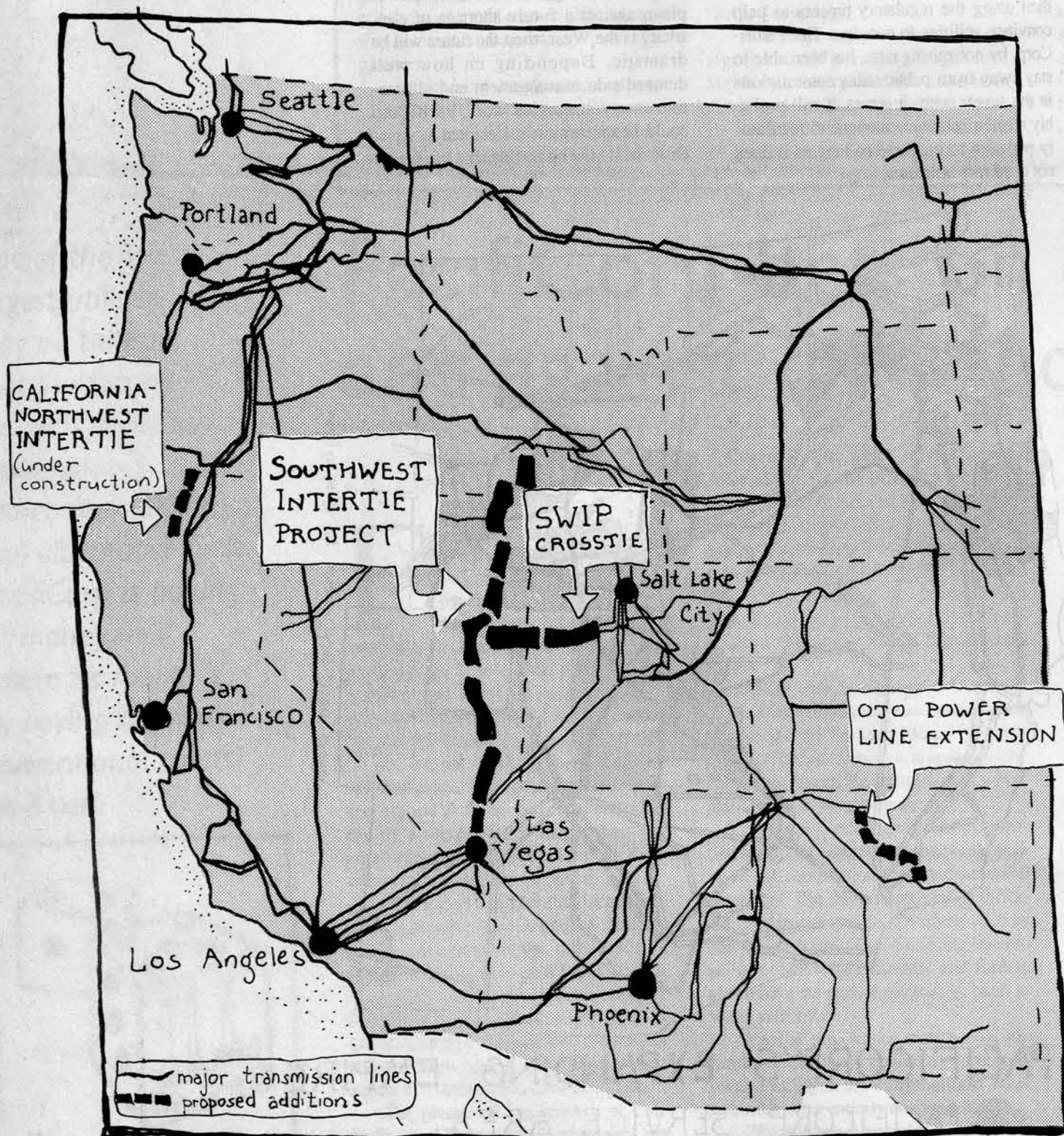
The surplus power would enable Southwestern utilities to cut back their use of Glen Canyon dam for peaking power, or to turn off their least efficient, and often dirtiest, coal- and oil-fired power plants, Cavanagh says. In turn, the Southwest could replace the power with its winter surplus, allowing the Northwest to cut back its use of coal and nuclear plants.

These benefits come at a price. Near its southern terminus, the Southwest Intertie would bisect 40 miles of a proposed conservation area for the threatened desert tortoise.

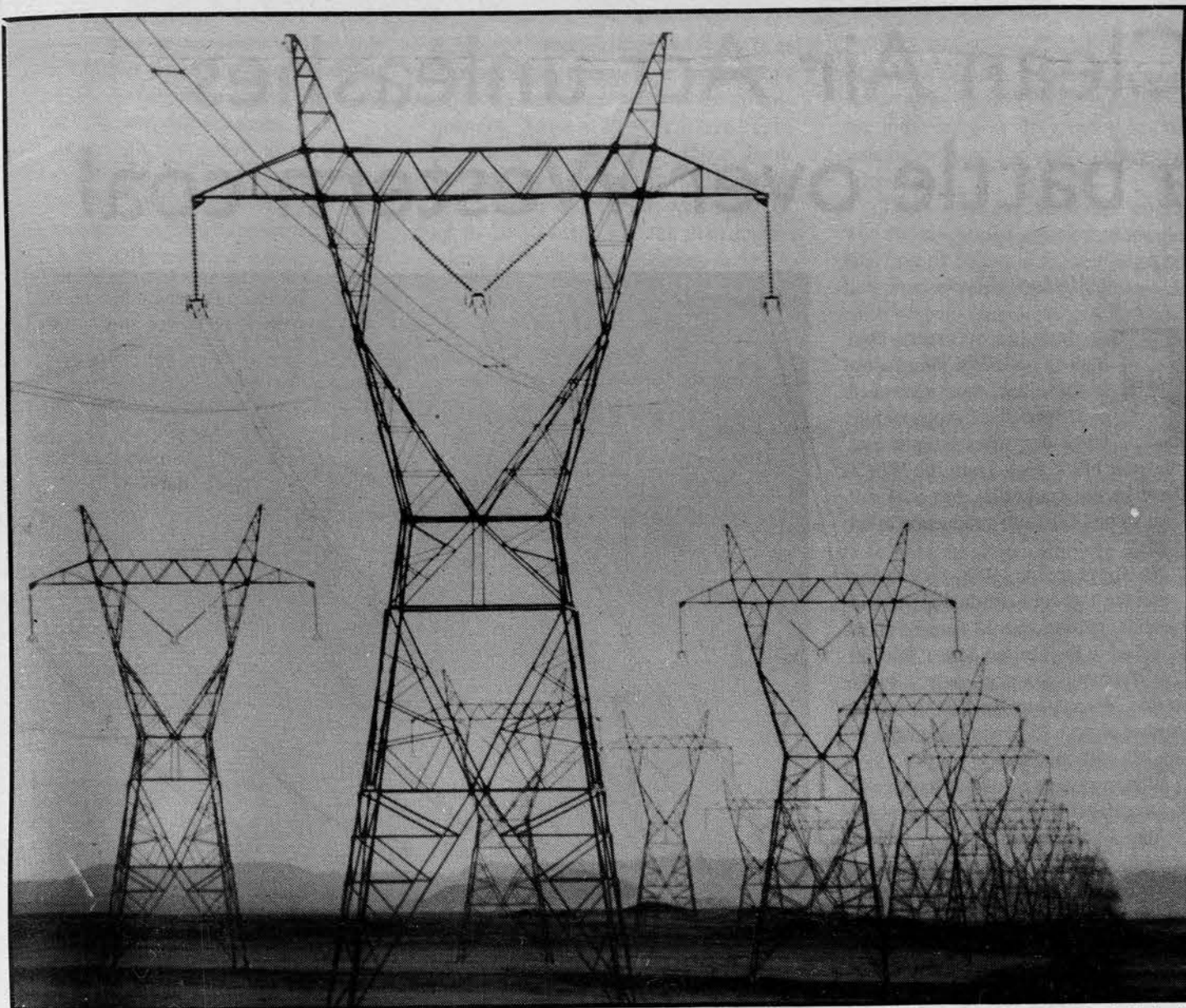
Mark Maley, a biologist for the Nevada Fish and Wildlife Service, says, "There is a high density of tortoises in the Coyote Valley north of Las Vegas. SWIP and other large lines planned



Rita Claggett



PROPOSED ADDITIONS TO THE WESTERN GRID



John McComb

High-voltage power lines in Arizona

through the same corridor would reduce tortoise habitat and population. If the area is designated a conservation area, we recommend that the lines don't go through the valley."

The line would also traverse large stretches of declining antelope and sage grouse habitat. Moreover, its tall towers would serve as hunting perches for eagles and other raptors feeding on grouse. The intertie skirts a number of wilderness study areas, and many biologists fear that the line would hamper antelope and other animals moving into and out of these areas.

SWIP has aesthetic costs as well. The high-voltage line would require giant steel towers every 1,500 feet, marching across eastern Nevada's vast and hauntingly beautiful terrain. The "preferred route" of the cutoff to Delta, which parallels U.S. Highway 50, would be visible from many viewpoints within Great Basin National Park. Park Superintendent Al Hendricks strongly objected to the BLM's route, but the BLM said that other alternatives would cross "largely undisturbed" roadless areas.

The line also threatens bald eagles and endangered plants, and many biologists and land managers worry that once SWIP is built, more lines and roads will follow.

New lines could cause other problems. David Marcus, a California energy consultant, says "a utility will try to find the cheapest available power."

"A clean-burning natural gas plant in L.A. will be turned off if the L.A. utility can buy cheaper power from an Idaho coal-burning generator," he predicts. "In this case, money is saved, but the dirtier plant is utilized."

Similarly, Charles Watson, co-director of the Nevada-based environmental group Citizen Alert, says more transmission lines increase the chances that the Canadian government will build giant hydroelectric projects planned for Alberta and British Columbia. SWIP, he worries, would open up the Southwest to Canadian hydropower.

Despite problems, there is little opposition to the Southwest Intertie, says

project manager Karl Simonson, who works for the BLM in Idaho. His office will hold six public hearings on the SWIP draft EIS in August. The meetings are scheduled from 7 p.m. to 9 p.m. on the following days and locations:

Aug. 3, at Weston Plaza in Twin Falls, Idaho;

Aug. 4, at Wells High School in Wells, Nev.;

Aug. 5, at Bristlecone Convention Center in Ely, Nev.;

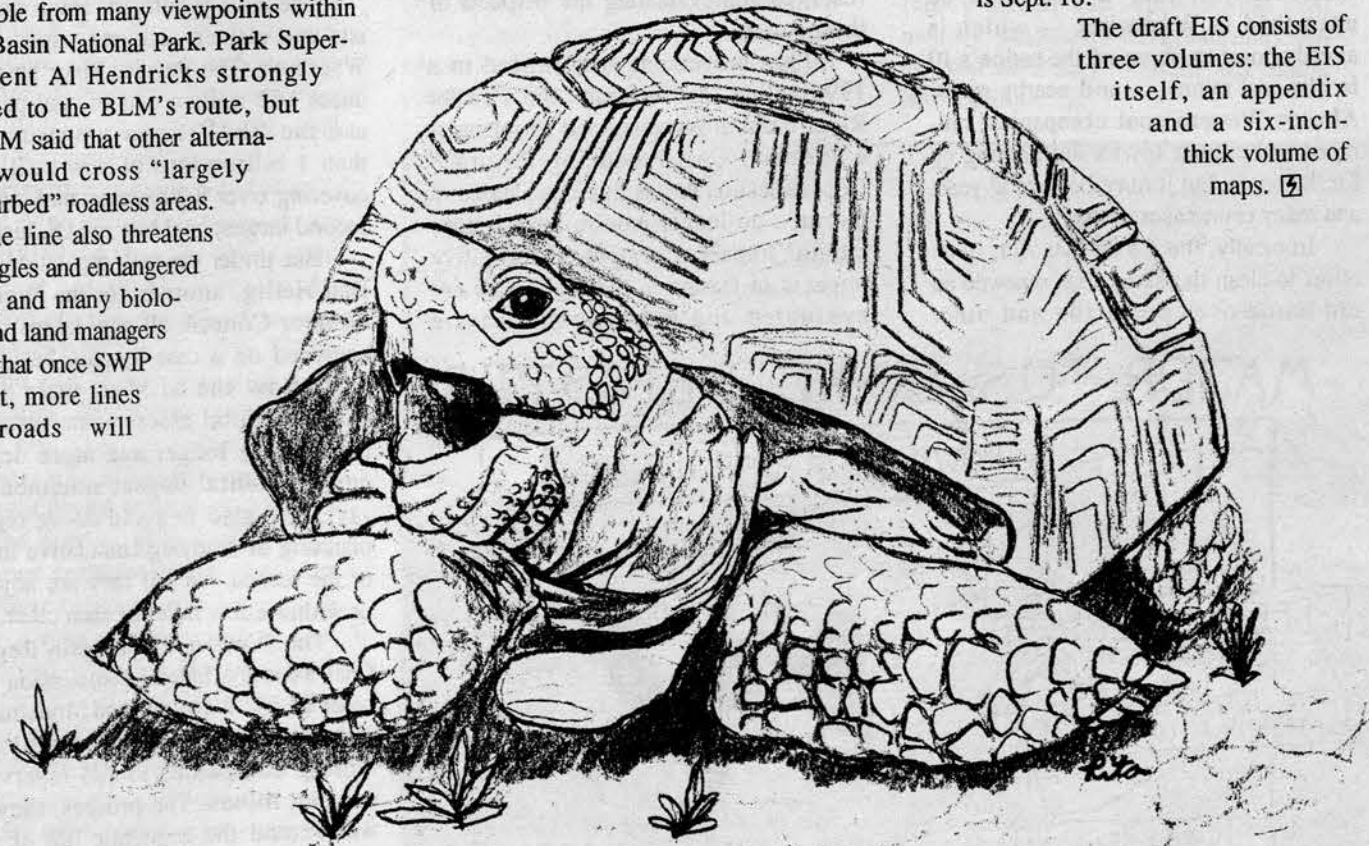
Aug. 6, at the City Council Chambers in Delta, Utah;

Aug. 19, at the Soil Conservation Service Office in Caliente, Nev.; and

Aug. 20, at the BLM District Office in Burley, Idaho.

Copies of the EIS are available from Karl Simonson, at the BLM District Office, Route 3, Box 1, Burley, Idaho, 83318. Deadline for written comments is Sept. 18.

The draft EIS consists of three volumes: the EIS itself, an appendix and a six-inch-thick volume of maps. ☐



Rita Clagett

Desert tortoise

Clean Air Act unleashes a battle over Western coal

by Michael Milstein

For decades, Western coal mining toiled in the shadow of the older, more renowned coal mines of Appalachia. Huge draglines scraped tons of the soft black rock from the West's ground by the bucketful, but coal still played second fiddle to production of oil and gas.

No longer. In 1988, Wyoming became the top coal-producing state in the nation, putting out 18 percent of all coal mined in the United States. Back in 1972, Wyoming produced only 7.8 million tons of coal, but by 1990 the state unearthed almost 25 times that much, or about 185 million tons.

With new federal air quality regulations mandated by the 1990 Clean Air Act, that's bound to increase. Almost half of the nation's 470 billion tons of coal reserves are in Wyoming, Montana, Colorado and other Rocky Mountain states. Most of those reserves are lower in sulfur than Eastern coal, and pollute less when burned. Western coal is also closer to the surface and easier to mine. And it generally burns more efficiently, putting out more heat at a lower cost than Eastern coal.

Those features make Western coal attractive to utilities nationwide seeking compliance with the Clean Air Act. To be phased in over two rounds in 1995 and 2000, the law limits acid rain-causing sulfur emission, forcing coal-burning power plants to either install expensive scrubbers or switch to low-sulfur coal.

Even by conservative estimates, the act will greatly accelerate demand for low-sulfur Western coal. There are 500 coal-fired power plants in the U.S., which burn about 800 million tons of coal a year and generate almost 60 percent of the nation's electricity. A recent study by the U.S. Environmental Protection Agency predicted that over 10 percent of those plants will switch from high- to low-sulfur coal by the end of the century.

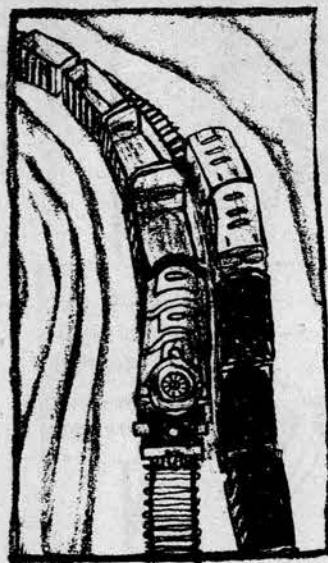
That means as much as 100 million more tons of coal a year will be unearthed in Wyoming — which is already home to seven of the nation's 10 largest coal mines — and nearby states. Already Western coal companies, railroads and mining towns are gearing up for the boom, but it may be several years and many court cases away.

Ironically, the Clean Air Act, in an effort to clean the skies, has renewed an old battle over pollution and other



Mike McClure

Burning low-sulfur Western coal could help clean the nation's air and reduce acid rain. But the unfolding coal boom has tremendous environmental and economic implications for the West.



Rita Clagett

impacts on the ground. While Congress was debating provisions of the toughest Clean Air bill ever, the Bush administration and the Bureau of Land Management were busily dismantling a decade-old system for leasing federal coal reserves and evaluating the impacts of those leases.

That movement culminated in a 1990 ruling "decertifying" the Powder River basin in Wyoming and Montana as a "Federal Coal Producing Region." Decertification means that coal leases in the area no longer require an environmental impact statement. Cumulative impacts of leasing in the region are not evaluated and coal companies are

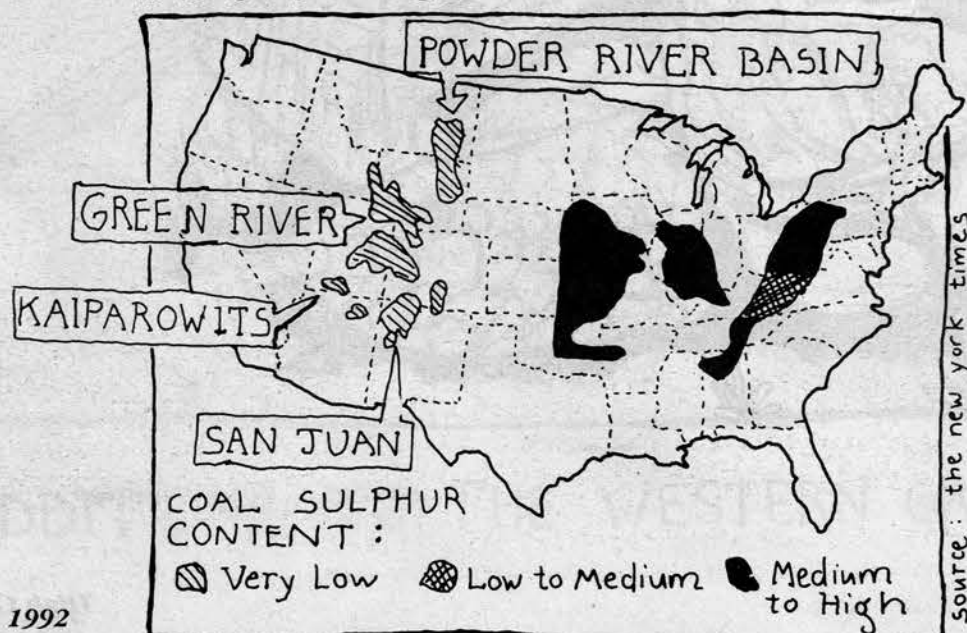
allowed to design their own mining tracts for lease, instead of having to bid against each other on leases offered by the BLM. All former federal coal producing regions have now been decertified.

The rulings outraged environmentalists and citizen activists, especially in Wyoming. The Powder River basin produces 162 million tons of coal per year, and the BLM is now preparing more than 1 billion tons of new coal leases covering over 8,700 acres, making it the second largest coal sale in U.S. history.

But under the new regulations, says Dan Heilig, attorney for the Wyoming Outdoor Council, all new leases will be analyzed on a case-by-case basis. That will allow the BLM to write simple environmental assessments instead of conducting longer and more detailed environmental impact statements, he says, and also to avoid doing regional planning or studying cumulative impacts of the leases, even if they are adjoining or within a few miles of each other.

The Powder River Basin Regional Coal Team, a federal commission made up of BLM, Wyoming and Montana officials, says the new method will allow mining companies to add reserves to existing mines. The process, they say, will extend the economic life of those mines, shorten the lead time to process new leases and cut leasing costs by two-thirds. Moreover, Wyoming BLM Director Ray Brubaker says, with assured

MAJOR U.S. COAL DEPOSITS



reserves, mining companies will be able to win higher-priced long-term contracts, bringing in more money in royalty taxes to the U.S. and state treasuries.

But with coal prices at a 10-year low, 6 billion tons of reserves already under lease in the basin, and every mining company in the area operating below capacity, environmental groups charge that it is a federal giveaway.

"Powder River basin is the motherlode of low-sulfur coal," says Jill Morrison, a staffer with the Powder River Basin Resource Council. Because of the new rules in the Clean Air Act, a lot of companies are speculating that the market for low-sulfur coal will rise, she says, and they are trying to tie up reserves now. Morrison compares the new leasing rules to 1982, when then-Interior Secretary James Watt leased millions of tons of Powder River coal at bargain-basement prices and with cursory environmental analysis. "I've heard people say (BLM director) Cy Jamison is just another James Watt, but with more finesse," she says.

A coalition of state and national environmental groups successfully overturned the 1982 coal leases in court, and they promise to challenge the new leases as well. Already, the Powder River Basin Resource Council, the Wyoming Outdoor Council and the Wyoming Chapter of the Sierra Club have appealed the BLM's first lease, a sale of 132 million tons of coal to the Kerr-McGee Corp., to the Interior Board of Land Appeals in Washington, D.C.

To bar future administrative appeals, Wyoming BLM Director Brubaker has asked Interior Secretary Manuel Lujan to sign the impending West Black Thunder mine lease near Gillette, Wyo., as well as all future Powder River basin lease decisions. If Lujan signs, it means challenges to the leases must go directly to federal court.

In an opinion piece in the *Casper Star-Tribune*, Brubaker said that the move isn't designed to subvert public participation, as the environmental groups charge. Since the loser of the administrative appeal would go to federal court anyway, Brubaker says this will save time and money. Brubaker also admitted that he was asked by the coal companies to elevate the decisions to stop further appeals.

Mark Squillace, attorney for the three environmental appellants, says Brubaker is trying to make it harder and more expensive to challenge the new coal leases. But by forcing into the courts an issue that might have been settled on administrative levels, Squillace told the *Star-Tribune* that Brubaker may have unintentionally delayed new coal leasing in Wyoming for years.

The controversy has sparked intense debate in economically depressed and job-hungry Wyoming. The BLM contends that it has already assessed the broad environmental impacts of mining in documents issued in the early 1980s. More time and money spent on such examinations would only be wasted, managers say. They are backed by coal proponents, who argue that continued development is vital to Western states.

"If the appeals of new coal lease applications continue in the coal-rich Powder River basin, the coal industry as we know it may not be around tomorrow," warned Wyoming Heritage Society director Dill Schilling in editorials in Wyoming newspapers. "Without access to new reserves the years left to operate a mine are shortened. Future sales are lost. For the mine worker, a job until you retire, a college education for your children, and a good income are all jeopardized."

But the Powder River Basin

Resource Council maintains that increased development is not prudent without a new assessment of the consequences. Several Powder River basin mines together use about 150 million gallons of water each year, the group says, causing drops in the water table of up to 200 feet. That can also cause release of underground gasses. In 1987, residents of one Wyoming town had to evacuate their homes because of high concentrations of methane and hydrogen sulfide gases.

In addition, the conservation group says, when the ground is disturbed by strip mining for coal, toxic elements like selenium can more easily enter groundwater, threatening fish, waterfowl and livestock. The new leasing rules have also been questioned by the Wyoming Game and Fish Department because of their long-term cumulative impacts.

But with their appeal, the environmental groups are contesting a promising source of energy and income that has fueled much of Wyoming's timid growth in recent years. Even the state government, citing the potential royalties from boosted coal production, has formally opposed the groups' appeal.

Miners living in the Powder River area have reportedly demanded that the Catholic and Presbyterian churches halt grants to the Powder River Basin Resource Council. The group's leaders accuse coal giants Arco and Kerr-McGee of orchestrating that move, but mine managers say it's a grass-roots effort.

Wyoming is not the only battleground. In southern Utah, environmentalists are gearing up to oppose a proposed coal mine on the scenic Kaiparowits Plateau. The mine is intended mainly to supply Pacific Rim nations. Another fight, over a proposed mine in Montana's Bull Mountains, has been going on for two years.

Coal may be the fossil fuel of the future. While U.S. oil reserves have now dwindled to about 26.5 billion barrels, about 475 billion tons of coal reserves are left, half of it low-sulfur. That's the energy equivalent of more than 9,900 billion barrels of oil — enough to supply the nation with electricity for centuries.

But much of the nation's infrastructure is built on oil — you can't put coal into a car's gas tank — and that won't be easy to change. In addition, coal can take more effort than oil to get out of the ground, which drives up both its financial and environmental costs.

Still, Western coal is about the least expensive to mine. Reserves are mostly close to the surface, so companies can use giant strip-mining machines that lessen their need for costly underground manpower.

The machines that scrape up coal with amazing speed almost defy imagination. Costing \$40 million, weighing 8 million pounds and standing 200 feet tall, earth movers can pick up 4,000 cubic yards of mineral. It is then hauled around by gigantic 10-wheel, 100-ton dump trucks with tires that rise as high as a basketball hoop and cost \$4,300 each.

A complete tire change runs \$43,000, without labor.

With such large investments in their operations, coal companies cannot afford to be held up at the whim of environmental groups, says Jim Herickhoff, president of the Thunder Basin Coal Co., which operates Wyoming's Black Thunder Mine, the nation's largest. Responsible for 1,200 jobs, he says, the mine produces a ton of black gold each second.

But it has to have eight people at work full-time simply to handle regulatory requirements, Herickhoff says, which include 120 separate permits — 80 of which pertain to water.

"The playing field is simply not level," the executive told a group of BLM employees earlier this year. "There are various environmental groups that every damn time one objective is satisfied they file another appeal."

There are still some impediments to marketing Western low-sulfur coal on an increased scale. Even though raw Western coal is a quarter the cost of Eastern coal, high transportation costs make some Eastern utilities balk at a switch. And to protect their own coal industries, states like Illinois, Indiana and Ohio have enacted laws encouraging power firms to install scrubbers rather than switch to low-sulfur coal.

But that may not be enough. The federally run Tennessee Valley Authority, which powers much of the middle South, may switch to Wyoming coal unless Eastern states help subsidize multimillion-dollar scrubbers.

The problem traces back to events that occurred eons ago. Western coal is the metamorphosed remnant of organisms from a vast freshwater inland sea, not the saltwater sea that formed higher sulfur Eastern coal.

It still remains to be seen whether there will be a difference between the legacy left by the Appalachian coal industry, saddled by environmental damage, and the legacy Western coal mining leaves behind. ☐



Thunder Basin Coal Co. mine in Wyoming

Power could come from a shared vision

by Ed Marston

In the 1950s, Soviet scientists used much more iron and steel and concrete than necessary in machinery, roads, buildings and bridges. They overbuilt because Stalin executed the engineers if a structure collapsed.

These two special issues of *High Country News* say that, even without such executions, we have overbuilt our electric power system by up to five times. These issues say we could shut down up to four out of five power plants, coal mines, and hydroelectric dams while providing the same services and a higher quality of life.

The shutdowns would not be accompanied by the unemployment of automation. Or by the low-skill, deadening employment of many industrial jobs. Instead, the changes would lead to more, and to more challenging, jobs.

To shut down those plants, mines and dams will require the substitution of intelligence, efficiency and society-wide co-operation for today's brute-force ways of meeting physical needs and wants.

There is precedent for believing such change is possible. The Japanese have begun to show that it is possible to build much higher quality autos by replacing natural resources with intelligence and planning. Without the changes forced on the world by the

Japanese, our automobile-based society would be even more wasteful, destructive and inefficient than it is.

While the Japanese have shown that enormous industrial transformations are possible, they have also shown how difficult change is. Gimmicks and one-step efforts won't work. The new approach requires a thorough change in the culture of those who work at and manage the making of cars.

Changing how we produce and use electricity will be similarly difficult. Nevertheless, as these two special issues show, some utilities are moving toward this transformation.

Unhappily, utilities in the West are mostly stuck in place.

This region is still dominated by a strong-arm approach to natural resources: the large-scale stripmining of coal, the "harnessing" of rivers, and the profligate generation and use of electricity at prices subsidized by dirty air, depleted salmon fisheries and damaged landscapes.

Thus far, the public entities that dominate electric energy in the West have been able to resist the trend toward efficiency, while maintaining their destructive hold on the West's land and rivers.

Whether the Bonneville and Western Area Power Administrations and the Bureau of Reclamation can continue to thwart cleaner, more intelligent ways of generating and using electricity will be revealed over

the next decade. What is clear is that the destructive approaches are unnecessary. We can have both a high-quality environment and meet economic needs.

Electricity is an enormous presence in the West. But it is not the only clumsy, destructive user of the land, air and water. Mining, logging, cattle grazing, and recreation are also usually done in brutish, damaging, profligate, unimaginative ways.

Now we know that we need not remain with present approaches in electricity. And by extension, the progress that is possible in electricity is probably also possible in logging, grazing and mining.

The leverage inherent in the potential reforms is vast. If we can organize ourselves to shut down 80 percent of our power plants, coal mines and hydroelectric dams, we will have bought valuable time to plan, to direct growth, and to look anew at the West. If the same savings are sought in other natural resource fields, such as grazing and logging, then a new era is indeed possible.

Such a change requires that producers let go of old ways. And it requires that environmentalists see ourselves as Paul Revere, capable of delivering an alarming message. But ultimately the solutions must come from the progressive elements in each industry. Although solutions can be urged by environmentalists, change must come from within the various industries themselves. ☐



Scott T. Smith

Devoted though we must be to the conservation cause, I do not believe that any of us should give it all of our time or effort or heart. ... Let us save at least half of our lives for the enjoyment of this wonderful world which still exists. Leave your dens, abandon your cars, and walk out into the mountains, the deserts, the forests, the seashores. Those treasures still belong to all of us. Enjoy them to the full, stretch your legs, enliven your hearts — and we will outlive the greedy swine who want to destroy it all in the name of what they call growth.

—Edward Abbey, *High Country News*, 1976

Have a great summer, and bring along *High Country News*

☐ One year - \$24

☐ Two years - \$42

*☐ One year, institution - \$34

*☐ Two years, institution - \$60

*Institutional rate applies to subscriptions paid for with a business, government, or other organization check. Public and school libraries may subscribe at the \$24 rate.

☐ My check is enclosed, or,

☐ charge my credit card ☐ Visa ☐ MasterCard

Acct. no. _____ Exp. date _____

Signature _____

☐ Please bill me

Send me additional copies of *The Electric Revolution* (\$3 each)

____ copies of Part 1, *Conservation comes of age*

____ copies of Part 2, *Dams and coal hit the age of limits*

Name _____

Address _____

City, State, ZIP _____

Please mail to: HCN, Box 1090, Paonia, CO 81428

92506