High Country News

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A Paper for People who Care about be West

One dollar

The game is changing in the wild West

by Tom Arrandale

The West has always been an l outdoorsman's domain, a last frontier for hunters and fishermen. Fiftyone percent of Wyoming's residents buy hunting or fishing licenses. In Idaho, a state with barely more than a million people, the Game and Fish Department sells more than 500,000 hunting and fishing licenses a year, 300,000 of them to in-state residents.

Since territorial days, Western state game and fish departments have been managing the region's wildlife primarily as quarry for those "hook and bullet" sportsmen. But now Rocky Mountain state wildlife agencies are taking steps toward protecting the region's wild birds and animals in all their natural splendor. From Pacific Coast forests to Wyoming plains to Southwestern desert mountains, economic changes and environmental concerns are beginning to force state game and fish departments to accept the more ambitious mission of preserving biological diversity.

"For a state wildlife agency, we're talking about a revolutionary change in the whole way we've always done business," says Bob Hernbrode, a veteran Colorado Division of Wildlife official.

Game departments have been content for years to manipulate big-game herds and to stock streams and lakes with trout and bass. Much like their counterparts in other parts of the country, Western game departments have financed 90 percent of their budgets by selling hunting and fishing licenses.

"The reason we have the wildlife we have today is because of the financial support of the hunting and fishing public," says John Turner, the U.S. Fish and Wildlife Service director. But that constituency is now changing. Although the popularity of fishing continues to grow, hunting license sales are falling off.

Game officials blame the West's increasing urbanization. "Most hunters tend to be rural folks, and there's just fewer of 'em," says Wain Evans, an assistant New Mexico Game and Fish Department director. "Game and fish departments are starting to see the handwriting on the wall as far as being able to depend on one constituency." So state wildlife managers are now courting political and financial support from birdwatchers, backpackers and other "nonconsumptive" wildlife enthusiasts.

Up for re-election this year, Colorado Gov. Roy Romer, a Democrat, has proposed a \$30 million outdoor recreation plan that would beef up the state's non-game wildlife program. Wyoming's game department has been promoting the state's non-game wildlife on everything from television to interstate billboards for several years. Indeed, Wyoming's shift may well be a harbinger for the entire West.

Wyoming is the nation's least populous state and the most rural in the Rocky Mountains. It lost population during the 1980s amid an energy bust and farm economy troubles. By middecade, the department was growing convinced that it could not much longer count on hunting and fishing license sales to finance wildlife management. Game nerds, meanwhile, were nearing the maximum levels that habitat could support. As the state searched for economic stability, officials saw an opportunity to broaden its base of support by promoting Wyoming's

Male sage grouse in mating display

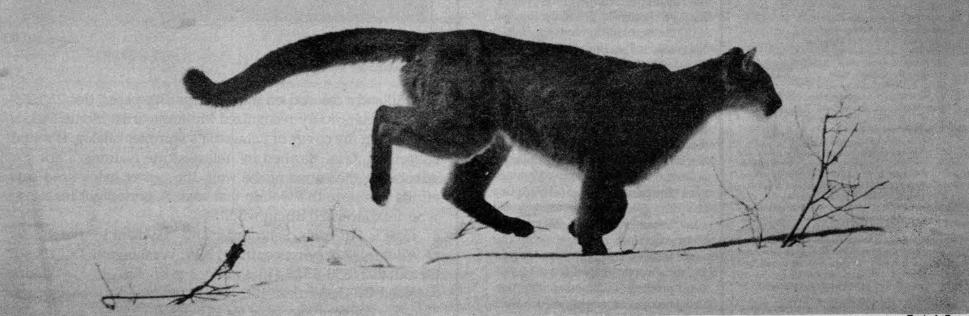
readily visible wildlife as a tourist

Five years ago department officials commissioned research by the University of Wyoming that reached a startling conclusion. As expected, studies showed that hunters, fishermen and trappers spent \$220 million a year in the state. But researchers also found that 190,000 Wyoming residents and as many as 5 million visitors a year spent time in the state photographing, sketching, studying or simply watching the state's wildlife. Each wildlifeviewing tourist spent an average of \$33 a day, \$654 million a year in all - three times the amount that sportsmen contributed to Wyoming's economy.

Armed with those data, the game department in 1987 made promoting non-consumptive use an integral part of its operations. The game department has erected billboards along highways leading into the state depicting blackfooted ferrets, pronghorns, bighorns and other species as "Wyoming's Wildlife -Worth the Watching." It has mapped out wildlife viewing tours, placed interpretive signs at highway rest stops and started building a bighorn sheep viewing station near Dubois in cooperation with federal land managers.

"It's a chapter out of corporate America," says Larry L. Krukenberg, a former North Dakota Game and Fish Department director who now runs Wyoming's non-consumptive wildlife program. "I've had advertising executives tell me: 'You guys have the product. What you're selling is wildlife.

(Continued on page 10)



Mountain lion

Erwin A. Bauer



HIGH COUNTRY NEWS

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Dear friends,

So long, for now

We were sorry to lose Lisa Rathke, one of our fall interns, who had to return home to Orchard Park, New York, because of a family illness. Lisa had made a promising start here, and we are hopeful that she can resume her internship next year.

Our far-flung readers

A picture postcard arrived from Thailand showing a little girl with a baby on her back. "The hilltribe people here struggle to maintain identity while trying to balance the need for tourism dollars," April Campbell wrote. Sound familiar? It could have come from Steamboat Springs. April, a Paonia High School graduate who helped with HCN circulation chores during college vacations, added: "Peace Corps Thailand is an amazing experience but I find myself just slightly homesick for the changing colors of fall in the mountains of Colorado."

From Cliff and Joan Montagne of Bozeman, Montana: "Our subscription expired while we were in Japan for a year. Wow, do they need a *HCN* there! The environmental consciousness is just barely emerging." And a new subscription came in from Rome, Italy, where Adeline Montel wrote: "I have been entrusted with the writing of a book on the Rocky Mountain states and believe *High Country News* would be a good source of information."

Visitors

Ruth and Chuck Powell came by to tell us how much they like living in Fort Collins, Colo., where they moved 18 months ago from Pasadena, Calif. They praised "the wonderful cultural life there," adding that one reason they left Southern California was because "things were getting too thick." The Powells were visiting Opal and Bill Harber of Paonia, who also dropped in to say hello. We also had a visit from Mitch Rollings of Albuquerque, who was in our area to buy an HCN T-shirt and to inspect the coal basin above Redstone, Colo. Mitch works

for the Interior Department's Office of Surface Mining.

Thank you

The centerspread for this issue is a thank you to many of the readers who have already responded to the paper's 1990-1991 Research Fund appeal. The Research Fund provides the income necessary both to keep advertising at a minimum and to keep subscription rates manageable for most readers. As a result, subscription income and advertising cover only about half of our total operating expenses. The Research Fund together with a small portion of grant income make up the rest of the paper's budget.

Several businesses also have already contributed by donating or offering at a very low cost gifts that *HCN* in turn can give to contributors as tokens of appreciation. The first gift is from the paper itself: All contributors of \$50 or more may designate the recipient of a new gift subscription. This offer does not apply to renewals because this gift has a "hook" — it is an important source of potential new subscribers to *High Country News*.

In addition, Pomegranate Publications has provided notecards from their new "Living Earth" series featuring color photos of wildlife and scenes from across the West. A set of these cards will go to donors of \$100 to \$249. Donors of \$250 to \$499 will receive a canvas shopping bag with a silk-screened version of HCN's mountain goat logo that is frequently seen on the masthead.

Those who give \$500 to \$999 will receive a copy of "Beyond the Mythic West," a collection of essays and photos by Western writers and photographers, many of whom will be familiar to HCN readers. These books were made available by Gibbs Smith, Publisher. Donors of \$1,000 or more will receive a bound volume of 1990 HCN's and one of the canvas shopping bags.

If you have not received the letter and response card we mailed a few weeks ago, please feel free to use the card reproduced on the centerspread page. And again, thank

you to all of you we've already heard from.

Corrections

North Dakota's surface mining initiative on the Nov. 6 ballot would restrict surface mining impacts to 3,100 acres at any one time. The restriction is for all mines, not just one, as reported in the Oct. 22, 1990 issue on the elections.

An environmental education summit sponsored by the Colorado Alliance for Environmental Education and the state (HCN, 10/22/90) heard speeches by Colorado Gov. Roy Romer and photographer John Fielder, among others. Robert Redford, EPA Administrator William Reilly and Sen. Timothy E. Wirth, D-Colo., did not speak, as our Bulletin Board reported. The sponsors said the event was nevertheless successful.

Coriander cools cookoff

In Paonia, most people confuse the High Country News with the High Country Shopper, a weekly ad paper down the street. But in recent years HCN has distinguished itself at the annual Chili Cookoff with its mouthwatering vegetarian entry, which has won first place three times in a row. In past years, HCN winning cooks drew even more attention by sharing prize money - 25 onedollar bills - with the crowd. But alas, this year chief cook Lisa Jones unwittingly tempted fate by topping her pièce de résistance with chopped cilantro and lemon. This proved popular with the fans but provoked the judges, who disqualified HCN for adding garnishes.... And yes, as Kevin Lee Lopez observed in a recent essay, competitors in this cookoff do dress up in ludicrous costumes. There were Mafiosi this year, and four Ninja Turtles, way beyond teen-age, in paper-bag plastrons. As for our own "endangered species" - Diane Grauer in a shark nose, Beth Jacobi in a rhino nose and Lisa in a dolphin nose, with a fishing net draped over her head and a can of tuna in her hand - they weren't ludicrous at all.

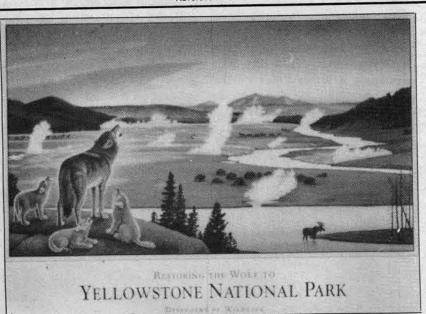
> —Larry Mosher and Mary Jarrett for the staff

HOTLINE

Animas-La Plata may yet live

At least part of the Animas-La Plata water project proposed for southwestern Colorado and northwestern New Mexico may be built. Plans to erect the muchdebated \$582-million complex of dams, pumping stations and pipelines were halted last May when the U.S. Fish and Wildlife Service announced that construction would severely threaten two native fish species. After months of argument, however, the Bureau of Reclamation and the Fish and Wildlife Service agreed to find a "reasonable and prudent" way to proceed if the endangered Colorado squawfish and the rare razorback sucker could be protected. Both live downstream from the proposed project. "There's not more than an even chance of coming up with a reasonable and prudent alternative," says Galen Buterbaugh, Fish and Wildlife's regional director in Denver. But these are better odds than he gave last spring (HCN, 5/21/90.) One alternative now under discussion would allow construction of a \$175-million portion of the project near Durango, Colo. This would include the Ridges Basin Dam, the Durango Pumping Station and a 2.1-milelong pipeline connecting the two. Comments can be mailed to Rick Gold, Assistant Regional Director, Bureau of Land Management, P.O. Box 11568, Salt Lake City, UT 84147 until early December.

Advertisement



Brilliantly colored on museum-quality paper, this 23"x32" poster by nationally recognized Montana artist Monte Dolac, featured on the cover of Patagonia's summer catalog, is a real collector's item. Banned in Yellowstone National Park for advocating the cause of the wolf, the poster helps fund our efforts to restore the wolf in that area. A perfect gift for those who are concerned about wildlife!

Cost is \$25 each. Send order and payment to: Defenders of Wildlife, 1224 Nineteenth St., NW, Washington, DC 20036. Or call 202/659-9510 (10 a.m. to 4 p.m. EST, M-F). Orders received by December 10th are guaranteed for christmas. Two-day delivery available for \$5 extra.

WESTERN ROUNDUP

Biological corridors gain a foothold in Klamath forest

The science of conservation biology has entered the courtroom, and U.S. Forest Service timber plans may never be the same. For the first time, a federal court has recognized the significance of biological corridors, ordering the Klamath National Forest in northern California to re-evaluate its plans to log the Grider Creek watershed, a 16-mile-long strip that sits between the Marble Mountain and Red Buttes wildemess areas.

"It moves us beyond an endangeredspecies approach to focus on entire ecosystems," said Nathaniel Lawrence, an attorney who argued the case for the Natural Resources Defense Council. But an attorney for the timber companies that planned to log the area warned: "Biological corridors may become the new spotted owls."

The Forest Service had proposed logging 3,325 acres of the Grider Creek drainage soon after the area was partially burned by fires in 1987. The Marble Mountain Aubudon Society unsuccessfully filed suit in U.S. District Court to

stop the logging. Council lawyers then appealed the case to the 9th U.S. Circuit Court of Appeals in San Francisco, and on Sept. 13, the three-person court unanimously overturned the lower court decision. The court ruled that the Forest Service had violated the National Environmental Policy Act by failing to consider how the logging would affect animals that use the Grider Creek corridor to travel between the wilderness areas.

"Unless the wilderness areas are connected to each other, they become isolated ancient-forest 'islands' in a sea of clearcuts and tree farms," Lawrence explained. "Populations of species that inhabit such forests, like the fisher and spotted owl, become prone to local extinction. The way to combat this fragmentation is to maintain biological corridors."

He added, "They allow for genetic interchange for both animals and plants. I even know of entomologists who want to maintain corridors of wild vegetation just a few feet wide for insects to travel through."

Although the decision commands the Forest Service to consider the impact of its logging plans on biological diversity, it does not actually require the agency to change those plans. The theory, says Lawrence, is that once the agency sees a problem, it will act accordingly. "For 15 years, federal agencies have been under a mandate to maintain the biodiversity of the forest ecosystem," he says. "But they've managed to avoid that mandate. This decision commands the agency to open its eyes. The next step would be something, maybe under the National Forest Management Act, that tells them they have to do what they see. Beyond that, we need legislation for an Endangered Ecosystems Act."

Attorneys for both sides agreed that the ruling could provide a formidable new weapon for environmentalists. It is likely to become the basis for more court challenges to the logging of old-growth forests and forest management plans affecting other ecosystems.

"There may be another half dozen areas in our forest where it applies," says Ed Matthews, a timber officer with the Klamath National Forest. "We're taking the lead on the issue, but other forests are probably watching what's happening here. Biological corridors is an emerging issue."

The 9th Circuit has been one of the environmentalists' best friends in the legal arena, having repeatedly stopped both Forest Service and Bureau of Land Management logging plans because of impacts on the northern spotted owl. In response to those decisions, Oregon Sen. Mark Hatfield has proposed creating a new 10th Circuit Court for the Northwest, leaving the 9th to handle California, Hawaii and the Pacific islands.

The government could appeal the Grider Creek case, either back to the 9th Circuit or on to the U.S. Supreme Court, but environmentalists believe that neither request is likely to be granted. In the meantime, there will be no logging or road building in the Grider Creek drainage.

- Jim Stiak

Tax breaks and ecology clash in Wyoming's Red Desert

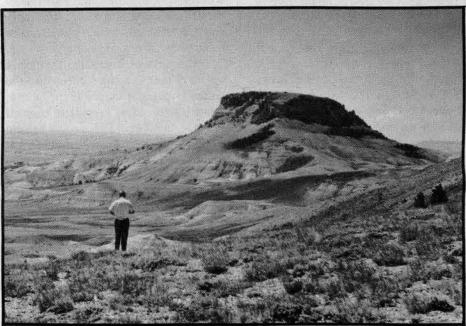
ROCK SPRINGS, Wyo. — Efforts by an oil company to initiate a coal-bed methane project in Wyoming's ecologically fragile Red Desert have run into a wall of opposition from federal and state agencies as well as citizens. Reacting to public comments, the Bureau of Land Management has reversed itself to schedule a public meeting on the controversial proposal sometime next month. The company had sought to use a tax break that was to expire Dec. 31.

The environmental issues concern the area's water, a unique desert elk herd and migratory waterfowl. The comments were in response to an Environmental Assessment released in late September by the Bureau of Land Management on the Triton Oil and Gas Corp.'s plan to drill 93 wells and construct 23 evaporation ponds and a gas processing plant with a capacity of 71 million cubic feet per day of methane.

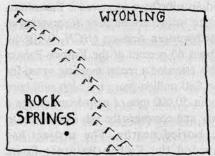
Faced with complex questions — in particular from the Environmental Protection Agency — about how the proposed evaporating system could handle the massive amounts of water to be discarded in the drilling process, BLM officials set a public meeting on the project for Nov. 14 to allow greater public involvement in the project. But now officials have scrapped that date to give the oil company more time to prepare its response. No exact date for the December meeting has been set yet.

One local BLM official, Green River Resource Area Manager Bill Le Barron, has called for a full-scale Environmental Impact Statement on the project, a step that would put the project on hold well into next year. The decision whether or not to order an EIS will come from state BLM Director Ray Brubaker.

Robert Despain, EPA's chief environmental assessment officer in Denver, concluded that "the EA does not provide the level of detail needed to assess nor adequately mitigate the proposed impacts." Despain said there is a "major deficiency in the engineering design criteria" for the proposed evaporation ponds to effectively handle the produced water. He said natural evaporation can only evaporate a "small portion" of the 2,000 to 3,000 barrels a day that each pond is intended to evaporate.



Wyoming's Red Desert



Despain added that a proposed sprayer system to speed up evaporation may discharge the brine — with extremely high levels of dissolved solids — downwind, causing unforeseen impacts on wildlife and vegetation.

Triton's spokesman Imad Anbouba said in response that the company is investigating reinjection of produced water into underground aquifers. But he said Triton prefers to stick with its current evaporation plan.

Meanwhile, it appeared that an extension of the federal tax break Triton wanted in order to pursue the Red Desert project would be a part of whatever final budget-deficit compromise is reached by the U.S. Congress.

The current tax credit offsets taxable income at the rate of 84 cents to 86 cents per thousand cubic feet of produced methane. Most oil and gas experts agree that it is the credit — not the methane market — that is driving the production of coal bed methane. But Anbouba insists that his company's engineering

studies show "our project would be economical" even without the tax credits, should they expire at the end of this year.

Speculation about construction of a pipeline from southwestern Wyoming to southern California to supply oil-recovery operations near Bakersfield has prompted a spurt of gas exploration and production around Rock Springs (HCN, 10/8/90). The local economy is enjoying steady growth as exploration increases and oil and gas service companies expand or return to the area.

The proposed 33-square-mile Triton project is eight miles southeast of a proposed BLM wilderness area encompassing the Killpecker Sand Dunes. The project site, 35 miles northeast of Rock Springs, abuts a BLM Area of Critical Environmental Concern.

Full field development would likely cause displacement of 100 of the 500-strong Steamboat Mountain elk herd, according to the EA. In calculating the loss of big-game habitat, the assessment says nearly 1,000 acres would disappear — 300 from production wells, 233 from roads, 364 from pipeline construction and 46 from evaporation ponds.

More than 20,000 acres would be effectively unavailable for elk because of disruptions caused by the proposed road and pipeline system, the report adds, because elk are particularly sensitive to human activity. "This is based on

information that elk avoid habitat from 100 yards to a quarter of a mile from access roads," the EA says.

Dick Randall, a Rock Springs resident who has over the years pushed for national recognition of the Red Desert, objects to any plan on the massive scale of the Triton project while the Rock Springs BLM District is in the process of writing a new resource management plan for the Red Desert.

"The project will mean a huge disturbance from Steamboat Mountain to Point of Rocks," Randall said. "The emissions, dust and roads will move the animals out. If the plan were in place, BLM would look at something like this and ask, 'Should this be allowed to happen?' I would think starting up this project without finishing the RMP would open the BLM to litigation.'

But Al Stein, the BLM official who coordinated the EA, said Randall's concerns are "speculation ... [on] a future plan that might or might not happen." He said what is important is that the Triton proposal is "in conformance with the existing plan" for the Red Desert.

Stein added that other companies have shown an interest in developing coal bed methane in the area and that there is a "potential for similar kinds of projects if the Triton project succeeds."

Coal-bed methane development requires pumping massive amounts of water to surround the coal seams before tapping into methane deposits. Randall and others are worried that removal of such large quantities of groundwater could adversely affect the seeps and springs that support the unique desert's flora and fauna.

"There are no conclusive studies that good water aquifers won't be contaminated," said Lauriel Peters, an artist and Rock Springs native now living in Cheyenne. "If they drop the water level and the springs dry up, everything will die. It's because of those springs that elk, deer, eagles and owls—even pine martens and mountain lions—are able to live in the Red Desert."

- Katherine Collins

Katherine Collins, a former HCN intern, is a reporter for the Casper Star-Tribune.

Navajos' unrepentant Peter MacDonald goes to jail

WINDOW ROCK, Ariz. — Suspended Navajo Chairman Peter MacDonald, once named one of 200 rising American leaders by *Time* magazine, today sits in the Window Rock jail, convicted on 41 of 42 tribal corruption charges and sentenced to nearly six years' imprisonment, five years of community service and \$11,000 in fines.

His son Rocky MacDonald is with him. He was found guilty as his father's accomplice on 23 similar counts of bribery, extortion, unethical conduct and conspiracy. He was sentenced to 18 months in jail and one year of community service and fined \$2,500.

As he pronounced sentence Oct. 22, Navajo Judge Robert Yazzie told the elder MacDonald that he had done much to help the Navajo Tribe and would never be forgotten for that. But the victims of his crimes were the Navajo people, he added, and a maximum sentence was appropriate since neither MacDonald nor his son, a lawyer, had shown any remorse or offered an apology to tribal members.

Indeed, throughout the two-week-long trial MacDonald continually called the proceedings a "dog and pony show" and "a kangaroo court." He said it was "political persecution" timed to have him thrown off the November election ballot for the new position of tribal president, which has since occurred.

At lunch breaks and at the end of each day, MacDonald told reporters that the prosecution had neither proof nor a case against him, and that the jury had been tainted anyway. He said the Navajo Tribe should sue the three-man special prosecutor team it hired last year for malpractice, get its money back and "throw them off the reservation." He even accused the judge of harboring a personal vendetta against him that dated back before his suspension as chairman,

when he fired Yazzie. The Tribal Council later returned the judge to the bench.

Expecting some outburst on judgment day, Yazzie warned MacDonald's 20 supporters in the small tribal courtroom to remain silent. MacDonald and his son remained expressionless as the fallen chairman's sentence was pronounced. The jury of two Navajo men, one Pueblo Indian man, two white women and one white man found the MacDonalds guilty of soliciting and accepting bribes and kickbacks from businessmen seeking favoritism and tribal contracts worth millions of dollars, of violating tribal ethics laws, and of conspiracy.

This was the first of three corruption trials confronting the 62-year-old MacDonald and the most damaging to his political life. Prosecutors told how the MacDonald family had pocketed \$400,000 in cash and another \$100,000 in free cars, vacations and plane rides from the biggest builders on Navajo land. One witness called it "the cost of doing business on the reservation." The prosecutors called it a "toll gate."

The MacDonalds not only took money from contractors, but also tapped a Washington lawyer, a lobbyist and a reservation convenience-store chain. The pair tried to work a deal with the Peabody Coal Co. on the eve of renegotiating a coal lease, but the company refused. In one scheme, Rocky MacDonald was recommended as a consultant to help contractors and others deal with the confusing maze of tribal regulations, or to obtain other tribal contracts. Several testified that they gave the younger MacDonald between \$5,000 and \$10,000 a month, but usually got nothing in return.

Money Rocky received was deposited in bank accounts controlled by MacDonald and former Navajo First Lady Wanda MacDonald. Prosecutors produced copies of checks totalling \$260,000 cashed by Rocky MacDonald or Wanda MacDonald.

On several occasions both MacDonalds asked for and received "loans" ranging from \$1,500 to \$36,000, none of which was ever paid back, prosecutors say. They showed that \$33,086 from one loan to Rocky MacDonald went to the exclusive Cushing Academy in Massachusetts for the tuition fees of the elder MacDonald's two daughters.

In all, 23 witnesses testified for the prosecution, while none, not even MacDonald, testified for the defense. On cross-examination, however, witnesses who said they gave contracts or loans to the MacDonalds said they hadn't been promised anything or threatened if they did not pay. Defense attorney Val Jolley insisted that the money the MacDonalds received came from legitimate fees or loans that were not illegal under tribal law.

But tribal law does prohibit anyone convicted of an ethics charge within the preceding five years from seeking an elective office for the next four years. Two days after MacDonald's conviction, the Navajo Tribal Council overwhelmingly approved amendments to the tribe's election law that disqualify any candidate convicted by the tribe or indicted by the federal government.

This change elevates the third-place primary election candidate onto the ballot in place of the disqualified one. Thus interim tribal President Leonard Haskie, who ran 593 votes behind MacDonald in the Aug. 7 primary, will now face former Chairman Peterson Zah, who is considered the frontrunner.

The council also authorized the tribe's election board to postpone the election for 60 days from Nov. 6, to allow time to reprint ballots. But a question remains whether the council's

action violated new government reforms that require such recommendations to come from the tribal election board before being heard by the council.

Among the amendment's proponents, of course, is Haskie, who said MacDonald was not fit to run for office. "The tribal law specifically and clearly precludes anyone from being a candidate if he's been convicted, so he's out, disqualified," Haskie said of MacDonald.

Zah, on the other hand, says he doesn't care who he runs against, but opposes any effort to delay the election. He hints that a deal was made between Haskie and MacDonald's tribal council supporters. "I wouldn't be surprised if they came to some kind of an agreement that they would support this resolution just so Leonard would be put on the ballot and then Mr. MacDonald would bring his forces along to make sure that they win the election," Zah said.

MacDonald spent his last free weekend at the final big Navajo fair of the season in Tuba City, a bustling Navajo community that has long been considered a stronghold for the suspended leader. Like other candidates, he came here to mingle with huge crowds before the November election.

While most political candidates ride horseback in the fair parade, MacDonald rode high above the crowd on a semitrailer, surrounded by his supporters and the sound of a public-address system blaring a message to vote for him. Most of the 20,000 Navajos lining the parade route watched silently as he passed by, although many shouted "Guilty, guilty," or "My leader, hang in there" in Navajo.

"He pushed a lot of us Navajos, make us strong," said one middle-aged woman who declined to give her name. "Peter MacDonald is a great man for the Navajos and he is really way high."

— George Hardeen

HOTLINE

Chevron Oil may drill in Desolation

Chevron Oil is hoping to drill in the remote lands of Utah's Desolation and Gray canyons along the Green River. With an Environmental Assessment and public comments in hand, the Bureau of Land Management will decide by Nov. 15 whether drilling can begin, or if an Environmental Impact Statement should be prepared. Exploratory drilling for natural gas would occur atop the Bighorn Benches, less than four miles from the Green River. The area lies in the center of a Desolation Canyon wilderness area proposed by the Utah Wilderness Association. Rocky Mountain bighorn sheep, peregrine falcons, mountain lions and wintering bald eagles make their home in this area. George Nickas, assistant coordinator of the Utah Wilderness Association, says that if Chevron Oil drills and is successful, this could lead to development of a gas field that would jeopardize prime wildlife habitat and one of the wildest stretches of rivers in the continental United States. "It's some of the most isolated and remote country in Utah," says Nickas, "and in that sense, is spectacular and precious." The 86-mile whitewater trip through Desolation and Gray canyons, the longest undeveloped stretch of the Green River, is floated by thousands of river runners each year. If the EA determines "no significant

impact," Chevron Oil will start drilling in 1991, according to Daryl Trotter of the Moab District BLM. For more information, contact Mark Bailey, Area Manager, BLM, 900 N. 700 E., Price, UT 84501 (801/637-4584).

Oregon conservationists challenge BLM

The Portland Audubon Society and other conservation groups filed suit against the BLM last month for authorizing extensive exploration for gold on public lands without preparing an Environmental Impact Statement. The conservationists believe an EIS is necessary because of the cumulative impacts of the surge of gold mining in eastern Oregon. They also argue that the BLM is violating the Federal Land Policy and Management Act, which directs the agency to prevent "unnecessary or undue degradation" of public lands. The BLM has acknowledged that there are less destructive methods of conducting mineral exploration, but it says an EIS is not necessary at the exploration stage. If Portland Audubon wins, the BLM would be required to prepare an EIS that would examine the potential impact of the exploration and the cyanide heap-leach gold mine that would follow. This method of mining can cause cyanide contamination of groundwater and surface water, groundwater depletion, cyanide poisoning of wildlife in the ponds associated with the mines, and destruction of wildlife habitat.

Tribes OK incinerator

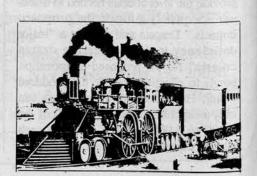
Members of the Kaibab-Paiute

Indian tribe have approved a hazardouswaste incinerator on their reservation in northwestern Arizona (HCN, 9/10/90). About 65 percent of the Kaibab-Paiutes who attended a recent meeting voted for the \$80 million project, which will burn about 50,000 tons of petroleum sludge a year and compress the ash into bricks to be buried nearby. The project has divided the Kaibab-Paiutes: Some consider it the only viable option for economic development on the reservation, while others consider it tantamount to raping the earth, reports The Denver Post. Outside the reservation, concerns have been voiced about the incinerator's causing air pollution and depletion of groundwater. But the project, to be built by Waste Tech Services, Inc., of Golden, Colo., is expected to pay the tribe \$1 million a year in taxes and lease fees. The incinerator still must be approved by the Bureau of Indian Affairs after completion of an Environmental Impact Statement, according to John Kennedy, a Salt Lake City lawyer who represents the Kaibab-Paiutes. Then it must obtain a permit from the Environmental Protection Agency.

Amtrak raises a stink

The Senate recently passed legislation to require the development of sewage-retaining Amtrak passenger cars, terminating the current practice of

dumping raw sewage along railroad tracks nationwide. This legislation, the National Service Act of 1990, was offered by Sen. Tim Wirth, D-Colo. Before 1971, all railroads disposed of untreated human waste directly on the tracks. That year, the Department of Health, Education and Welfare issued regulations requiring freight and passenger companies to equip their trains with means of waste retention. However, in 1976 Congress exempted Amtrak from this requirement, noting the high cost of installing disposal equipment in passenger cars and claiming that the risk of disease was minimal, given the low volume of passenger traffic. Amtrak now plans to retire 348 of its older cars and to retrofit 534 of the total fleet of 1,409 cars with tanks similar to those on airplanes. "Airplanes don't dump sewage into the air," Wirth said. "They hold it until arrival at the airport, where the sewage is properly disposed of. Trains should be doing exactly the same thing." Wirth notes that the Amtrak dumping problem is not confined to Colorado, and that the state of Florida has also sued Amtrak for violating health laws.



Forest Service 'ignores' Blackfeet culture in Montana oil bid

Already a heated issue for five years, the question of drilling for oil in Montana's Badger-Two Medicine area has come to a boil with charges that the Forest Service has ignored federal law in clearing the way for oil companies. Those charges spurred 500 environmentalists to march in a protest in Missoula Oct. 12.

"The regular channels the government provides aren't adequate, so we took to the streets," said Bob Yetter, head of the the Badger chapter of the Glacier-Two Medicine Alliance, a local group fighting oil drilling along the Rocky Mountain front. "We've been telling these people for five years what we want and they haven't listened."

The Badger is a 123,000-acre roadless area bordered by the Blackfeet Indian Reservation, Glacier National Park and the Bob Marshall Wildemess Area. It is prime habitat for grizzly bears and the returning gray wolf. It also is a sacred area to the Blackfeet people, a value that environmentalists, some Blackfeet and now the state of Montana say the Forest Service ignored in recommending that drilling be allowed.

Although the Forest Service's own Environmental Impact Statement gives drillers less than a 1-percent chance of success, Chevron USA and Fina Oil & Chemical Co. still want to drill. A year ago, the Forest Service recommended in a draft EIS that they be allowed to do so. The state Office of Historic Preservation insisted, however, that the Forest Service consider the Badger's cultural values — specifically its religious significance — in the final EIS.

In September this year, the Forest Service sent the final EIS to the printer ignoring the state's advice. The Forest Service claims it did not know it had to consider cultural values, but Dave Schwab, state archaeologist, contends that it should know. His office sent the agency two letters before December 1989 advising the Forest Service that it must consider cultural values when preparing impact statements.

After the state publicly objected to the omission, the Forest Service refused to



Tracy Stone-Manning

Environmentalists at an October protest in Missoula

rewrite the final EIS but agreed to print a "supplement" to the document acknowledging the religious significance of the area.

After the rally focused attention on the issue, the Forest Service nominated the Badger to the National Register of Historic Places, which would make drilling more

difficult but not preclude it. Putting enough weight on cultural values to stop drilling is a cross-cultural problem, said Floyd Heavy Runner, a Blackfeet.

"One year ago, the Blackfeet had to make a statement for the EIS, but it's hard. We can't tell America what we do there. We can't translate Blackfeet to English. Some values don't exist in English," Heavy Runner said at the Missoula rally.

Forest Supervisor Dale Gorman simply does not understand the intricacies of their culture, says Mark Mueller, attorney for the Bravedog Society, one of the oldest Blackfeet religious groups. At a meeting between Gorman and the Bravedog Society, Heavy Runner tried to explain the cultural values of the Badger to Gorman, Mueller said. Gorman, he said, failed to grasp the spiritual significance of the water, trees and land in the Badger, and instead wanted the Blackfeet to name specific spots that were significant.

This lack of understanding by the Forest Service led Mueller to ask the United Nations to designate the Badger a World Heritage Site, which might protect it from drilling. He is waiting for a response.

The draft EIS claims the Badger holds 1 million to 10 million barrels of oil. Since Americans use about 17 million barrels a day, the Badger would provide "the country with enough oil to burn for somewhere between one and 14 hours," Bob Yetter said at the rally. "Why develop and impact this pristine wildlands, with such slim odds for success and such a negligible return?"

Nonetheless, the pressure to drill is mounting. An in-house "option paper" prepared by the minerals and geology staff in the Forest Service's Washington office offers strategies for "Mitigating the Persian Gulf Situation." It suggests that "drilling should be given the same urgency and management attention as [forest] fire." It also mentions that "two very promising wells have been held up in the Badger-Two Medicine Area."

"We need to act on these wells," the paper reads. "Direct offices to immediately process to completion all pending requests to drill. If appealed, stays should not be granted."

- Tracy Stone-Manning

Tracy Stone-Manning is a graduate student in environmental studies at the University of Montana in Missoula.

House bid to raise grazing fees dies in conference swap

Congress has rejected legislation that would have more than quadrupled federal grazing fees and halt what its author called "a below-cost feeding frenzy." The measure was struck by a conference committee, after the House had passed it 251 to 155.

Charging that grazing on public lands was causing "an ecological and fiscal disaster," Rep. Mike Synar, D-Okla., pushed the measure through as an amendment to the House Interior appropriations bill on Oct. 15. The move outraged many Western legislators, who considered it a potentially crippling blow to the region's economy. One Montana politician vowed it would pass "over my dead body."

The Senate appropriations bill didn't include a grazing measure, and the committee that met to reconcile the House and Senate appropriations bills traded the grazing fee hike to secure a House proposal to broaden limits on offshore drilling.

"It was pretty high barter," said Steve Richardson, a staff member of the House Government Operations Subcommittee on Environment, Energy and Natural Resources, which Synar chairs. "These guys have been trying for offshore for 10 to 12 years. I think it's indicative of how valuable they consider this [grazing] proposal."

Synar said only 2 percent of the nation's 1.6 million cattle producers

graze their cattle on the 250 million acres of Bureau of Land Management and Forest Service lands. He said a BLM study showed that 60 percent of the public range will remain in fair to poor condition into the next century, and added that the federal government realizes only 20 cents on every dollar it spends on federal grazing projects.

Over the next five fiscal years, Synar added, the measure would save taxpayers \$325 million, which could be used to fund range improvements or to reduce the federal deficit. He pointed out that states charge as much as five times more for grazing than the federal government's current fee of \$1.81 per animal unit month — the amount of forage needed to feed a cow and a calf for a month. The bill would raise the fee to \$4.35 for the next fiscal year, \$5.80 for 1992, \$7.25 for 1993 and \$8.70 for 1994 and thereafter.

Synar is a cattle rancher in a state with little public land: Of Oklahoma's 58,236 livestock producers, only 39 hold federal grazing permits. Notably absent from the "aye" votes were most of the delegates from the West, which contains the vast majority of the federal land in the country.

In the West about 17 percent of cattle spend some time on federal land, according to National Cattlemen's Association staff economist Chuck Lambert. He added that Synar's bill, if enacted, would threaten the very

existence of towns that rely primarily on trade from ranchers who graze livestock on federal lands.

The specter of economic decline has led Western politicians from across the political spectrum to oppose the measure. "The grazing fee amendment threatens [the ranching] part of our economy, the communities that depend on ranching and the principle of multiple use management," Sen. Tim Wirth, D-Colo., said.

Those objections were amplified throughout the West. An editorial titled "Hang onto your Cowboy Hats" in *The Pinedale* (Wyo.) *Roundup* noted that "anyone with a healthy paranoia might think there is a conspiracy afoot to put the state of Wyoming out of work."

Westerners pointed out that federal grazing lessees must pay many other costs in addition to their fees to the government.

"Most federal rangeland is not lush meadows but sparse desert or mountainous terrain," said Rep. Jim Kolbe, R-Ariz. "Federal permittees bear additional costs of transportation, herding and predator and death losses... When these costs are totalled, the differences between federal and private lease rates disappear."

One legislator put it more strongly. "If you want to join the radical terrorists at the Earth First! group in their sport and eliminate livestock on public lands, then support the

Synar amendment," said Rep. Ron Marlenee, R-Mont. Synar countered that he wasn't a member of Earth First! but rather a member of the Oklahoma 4-H foundation. Marlenee said he didn't mean to imply that Synar was a member of Earth First! "But I know that his staff director was the head of The Wilderness Society," he said.

Marlenee, Synar and Rep. George Darden, D-Ga., all have introduced grazing-fee bills. None of them made it out of the deeply divided House Interior and Insular Affairs Committee, however, and observers say it is unlikely any of these bills will be introduced on the House floor.

The issue has long been mired in political debate. The 1978 Public Rangelands Improvement Act gave Congress seven years to come up with a fee structure; it never did. President Reagan issued an Executive Order in 1986 calling for a continuation of the interim formula provided by the 1978 act, adding a "floor" fee of \$1.35.

While Synar called the conference committee's action "an embarrassment," he vowed he would "be back again and again until we stop cattle rancher welfare once and for all.... The days of unjustified resource subsidies are past."

Richardson said the measure's chances in the next Congress were excellent. "We're going to put it on everything that moves," he said.

—Lisa Jones

Is Peabody Coal's slurry sucking the Hopis dry?

BLACK MESA, Ariz. — Hopi farmer Sam Shingoitewa remembers when the water in the wash running past the tiny village of Moenkopi flowed deep enough to dive and swim in on hot summer days.

"Moenkopi was actually a paradise," he says. "This was a beautiful place. Of course, back in those days, it was our old people who were the ones that were cultivating this place. Our fathers, our grandfathers, our uncles."

But now, after generations of farming and using the wash to irrigate their desert cornfields, dozens of Moenkopi farmers like the 83-year-old Shingoitewa, as well as hundreds of Hopis across the reservation, say their water is disappearing. They point upstream and utter a one-word explanation that sounds like a curse: "Peabody."

Joined by their neighbors, the Navajos, these longtime residents of northern Arizona's high plateau and mesa country insist the cause of their current water shortage is not drought but the huge Peabody Coal Co. mines on Black Mesa. They say the company's mining, its 167 sediment containment dams, and especially its pumping of 1.4 billion gallons of water every year to transport coal through the 273-mile-long Black Mesa Pipeline are dropping the region's water table, drying up ancient springs and parching the washes that have always carried water to their fields.

"We know that our water table is lowering," says Shingoitewa. "Of course, some of it is existing because of present conditions, no rain and all that. But if they weren't doing it, there would be some water running down the wash right now."

Peabody officials flatly refute the charge, pointing to findings of an

THOMASE SEMERATING STATION

BLACK MESSA PIFELING

PLACSTAFE

PLACS

exhaustive but controversial Environmental Impact Statement prepared by the federal Office of Surface Mining Reclamation and Enforcement (OSM). At the heart of the study is a "cumulative hydrologic impact assessment" that determined, through estimates and computer modeling, that no damage was occurring to Hopi water sources.

These studies, based upon "available information," found "no material damage" from mining to either Hopi springs or the immense, 3,000-foot-deep "N-aquifer" that feeds the Black Mesa Pipeline and is a source of water to thousands of Navajos and Hopis in the region.

Edward Sullivan, senior counsel for Peabody, suggests that the company is "an easy target" and that the region's decade-long drought is being overlooked by the Hopis as the cause of their water shortages.

"Over the last two years our data shows the average rainfall in northern Arizona has been less than 50 percent of normal," Sullivan says. "Over the last year it has been averaging less than 20 percent of normal. That accounts for a substantial diminution of the amount of water up there."

He says it is inconceivable under these conditions that streamflows beginning on Black Mesa could travel from the mine site to the village without evaporating, as the Hopis suggest.

"What's happening here is the Hopi are simply dissatisfied with the conclusions drawn in a five-and-a-half-year environmental study that was initiated because of them," he says. "They have been involved every step of the way with OSM in conducting that study. Now that the time for conclusions has come around, miraculously there's new evidence to suggest that all that research is insufficient. We just can't buy that."

The tribes waited anxiously for a decision on the last renewable federal permit Peabody may need to operate for the next 33 years, or for the "life of mine," as the company puts it. But in July, after a week of tense negotiations among lawyers for the Hopis, Navajos and the federal government, Interior Secretary Manuel Lujan surprised everyone by approving a permit for half the mine area — the less controversial Kayenta Mine — and holding up the one for the Black Mesa Mine.

This decision means mining will continue at both sites, but a separate decision on granting the Black Mesa Mine its permit will be made after further studies of the impacts on the huge, underground Navajo aquifer.

Hopi Chairman Vernon Masayesva called Lujan's decision a "significant victory" for the tribes, while Peabody spokesman Sullivan said the company will consider suing the government. Peabody argues that the renegotiated mining leases signed by the tribes in 1987 allow the company to mine 270 million tons of coal in addition to the 400 million tons permitted under three original leases dating back to 1964 and 1966.

Masayesva stresses that Hopis are not asking that coal mining be stopped. Today, 70 percent of the tribe's operating budget is fueled by the \$9 million in coal royalties it receives from the company. Curtailing that income would spell doom to the tribe's operations and unemployment for its 400 workers. But he says his tribe wants an end to the use of pure water to slurry tons of coal around the Grand Canyon to the Mojave Generating Station near Laughlin, Nev., 273 miles away.

"We're not against southern California getting electricity," he said. "They could still benefit from our coal resources. It just seems foolish to be using water as a transportation method from a desert climate where you have an average rainfall of six to seven inches."

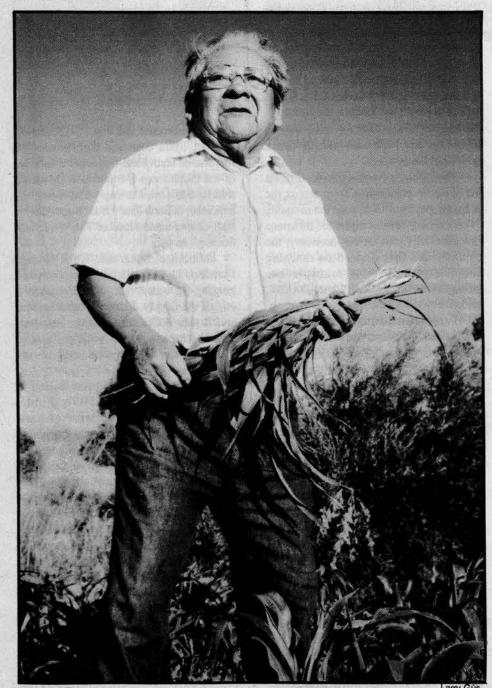
Masayesva says the Environmental Impact Statement that was done failed to analyze alternatives to using the aquifer for the pipeline, such as nearby Lake Powell or the Colorado or San Juan rivers. Other alternatives would be replacing water with a new methanol technology, or using a railroad like the one that delivers Black Mesa coal to the Navajo Generating Station near Page, Ariz.

If the life-of-mine permit is granted for Black Mesa, Hopis are fearful that the delicate balance of their desert environment will be destroyed, and that they will be left with seriously diminished water supplies long after the coal and the company are gone.

The Office of Surface Mining determined that groundwater pumping by the Indian communities surrounding Black Mesa, including the 12 Hopi villages, is decreasing the water table in places where the aquifer "pinches out," or becomes shallower. But the tribe faults the study for omitting an analysis of the pipeline and its use of groundwater. It argues that pumping so much water for the pipeline has a major environmental impact and is an integral part of the mining operation.

"If [the National Environmental Policy Act] has one purpose, it's to require the decision maker to consider and evaluate reasonable alternatives," says Hopi attorney Michael O'Connell. "If you're not going to propose reasonable alternatives, don't bother doing an EIS."

Peabody's Sullivan says the tribe gave up the right to have the pipeline



Hopi farmer Sam Shingoitewa

included in the EIS when it signed a settlement agreement with OSM in 1984. Hopis say that settlement no longer applies because of an Interior Department decision.

Five years in the making, the EIS is the first ever prepared for the 64,858-acre Peabody Coal lease area on Black Mesa, despite 20 years of strip mining and groundwater pumping. But it generated more than 1,000 negative responses. The Environmental Protection Agency, for example, said the data collected were "insufficient" to support the conclusions that mining has no adverse impacts on water resources, air quality and biological resources.

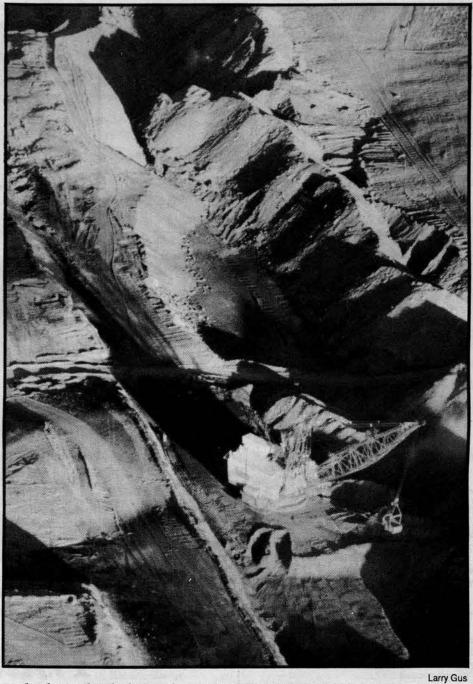
The EIS is the centerpiece of an energy-water drama that has pitted the federal government and the country's largest coal mining company against the nation's oldest — and, some would argue, most traditional — Indian tribe.

Approval, the Hopis say, would have triggered a large and expensive legal battle between them, the government and Peabody.

Masayesva and interim Navajo President Leonard Haskie both presented their cases directly to Interior Secretary Lujan. Masayesva told Lujan that hydrologists studying the region for a large Arizona Indian water rights case will soon have the best information ever assembled. In just eight months, he said, the Hopis' proof will be in, so caution is required now.

A new finding by the tribe's hydrology consultant, Dr. Harold Bentley, shows that water in the Moenkopi Wash — one of two major drainages flowing south from Black Mesa — was below the standard OSM has set for measurable damage. This summer the wash has been dry.

After this information was forwarded to the agency by the tribe, OSM said the damage level it published — 2.4 cubic feet per second baseflow — was a "typographical error." The true damage criterion, OSM said, is half that amount, or just below the level found by the Hopis' hydrologist. In other words, says Hopi tribal reclamation specialist Steve Blodgett, the government and Peabody still maintain there is no impact on water.



Peabody Coal's Black Mesa/Kayenta Mine in Arizona

"With this admission of error at the

very end of the process, the whole thing

starts to unravel," Blodgett said. "What I

had thought to myself all this time is

now becoming obvious to a lot of other

people - these guys cooked this data.

This is a fix. These people weren't

Moenkopi Wash in Blue Canyon where

the huge underground lake that is this

area's source of water surfaces and

flows into the streambed. But now,

Blodgett has walked along the

rather than water, Blodgett says, he finds dozens of cracks in the sandstone where water used to percolate out.

According to the OSM's own water assessment, water should be flowing here even in the hottest, driest months of the year.

"Based upon what I've seen," Blodgett says, "there's a diminution in flow, and this has nothing to do with the drought."

— George Hardeen

The 'moral outrage' over how water is used

impartial."

More than 24 years ago, the Sentry Royalty Co. signed valuable coal leases with the Navajo and Hopi tribes to stripmine 400 million tons of high-grade, low-sulfur coal from their reservation land.

The leases also allowed the company "to develop and utilize water for use in mining operation." This meant the construction of the Black Mesa Pipeline to slurry an annual 5 million tons of coal to the Mojave Generating Station near Laughlin, Nev.

Moving one ton of coal requires about 270 gallons of water.

Every day, some 3.9 million gallons of water is brought up from the 3,000-foot-deep "N-aquifer" beneath Peabody's mines high atop Black Mesa. It is then mixed with an equal amount of crushed coal and pumped around the Grand Canyon through the 273-mile-long, 18-inch diameter Black Mesa Pipeline — the only one of its kind in the country. After a three-day underground journey, the slurry arrives at the Mojave Generating Station near Laughlin, Nev., where most of the water is separated out and used in the power plant's cooling towers.

The 1,580-megawatt generating plant is operated by the Southern California Edison Co., which owns a 56-percent share. Another 20 percent of the plant is owned by the Los Angeles Department of Water and Power. Each year the plant burns approximately 5 million tons of coal delivered by the pipeline to supply electricity to some 2 million residents of southern California and Nevada.

To the Hopis, it is a moral outrage that their water is taken from the drought-stricken Southwestern desert and

used to transport coal to supply power to another region that rations its own water.

The Kayenta Mine, larger than the Black Mesa Mine, also has only one customer. Each year it produces 7 million tons of coal, which is shipped by an electric railroad 78 miles over open desert to the Navajo Generating Station near Page, Ariz.

The two huge Peabody mines are located on northern Arizona's remote, spectacular Black Mesa. The 64,000-acre lease area amounts to less than 1 percent of the 2-millionacre land mass that rises 2,500 feet above the Painted Desert. Much of its rocky surface is covered with sagebrush, junipers and pinyon pines. The Grand Canyon lies 125 miles to the southwest.

Black Mesa's isolation has kept the population of even its Navajo residents low compared to the rest of the Navajo reservation. But the mesa has been occupied by Indians for 10,000 years, as evidenced by hundreds of prehistoric ruins and the more than 1.3 million artifacts collected on the lease area alone by the Peabody-sponsored Black Mesa Archaeological Project of Southern Illinois University.

Water is sacred to the Hopis. Their elaborate religion is all a prayer for rain to nourish the fields of corn, beans, squash and melons.

World-renowned as dryland farmers, the Hopis over centuries have developed strains of brightly colored, drought-resistant corn. Visiting farmers from America's Corn Belt often express amazement that Hopi farmers are able to coax lush crops out of the barren, sandy desert, often on only one or two rains a summer.

-G.H.

HOTLINE

Colorado town called 'endangered'

The small town of Walden, Colo., population 800, has recently been designated as one of the 10 "endangered communities" in the West. According to The Denver Post, the National Association of Counties said that the Jackson County town is in danger because almost 75 percent of the annual income in the town and county relies on public lands, which occupy more than half of the county. Because Walden's economy is based on ranching, mining, timber and tourism, any federal restrictions on public land use would hurt the town. Tony Martin, a Jackson County commissioner, says he hopes the town's new status will focus attention on Walden and make "the folks in Washington, D.C., think twice on public lands decisions regarding jobs in rural Colorado." The U.S. Forest Service has recognized Walden's situation, Martin says, and has offered a \$40,000 grant to assist the town in revitalizing its economy. Part of this money was used to publish a new brochure describing the year-round recreational attractions of Jackson County. Other communities on the "endangered" list include Horseshoe Bend, Idaho; Columbia Falls, Mont.; Jarbridge, Nev.; Reserve, N.M.; Williston, N.D.; Mill City, Ore.; Escalante, Utah; and Cima and Weed, Calif.

Geysers vandalized

The geysers and hot springs at Yellowstone National Park are the latest national treasure to be vandalized. According to The Denver Post, a boulder was rolled into the steam vent of one geyser, and the crater rim of another was kicked in and trampled. The damage, which is thought to have taken place early in October, was not discovered for several weeks. Rick Hutchinson, the park geologist who detected the damage in Heart Lake Geyser Basin, said, "Any time someone throws a foreign object into a geyser, it is liable to mean a slow, lingering death to the feature, because most things cannot be retrieved." Rangers are trying to locate for questioning hikers who were known to be in the area, although they doubt that the vandals signed in at the trailheads. The maximum sentence for this type of vandalism is \$500 and six months in jail.

BLM may restrict safari

The Easter Week Jeep Safari in Moab, Utah, faces a reduction in trails and vehicles because of an Environmental Assessment prepared by the Bureau of Land Management. The agency is concerned that the annual event, which has grown dramatically in recent years, will damage riparian areas near 28 trails and disturb the region's bighorn sheep, according to the agency's Moab district manager, Gene Nodine. Some 1,600 vehicles are expected at next year's event. Because of its large size, the safari no longer is exempted from the environmental assessment process. The safari's sponsors, the Red Rock Four Wheelers, have accused the bureau of delaying approval of another five-year permit and trying to price the event out of existence by raising its fee. Although BLM rules state that organized tours of over 50 persons pay \$1.50 per person per day, the safari last year paid a flat fee of \$750, which came to about 65 cents per vehicle per week. The Southern Utah Wilderness Alliance faults the BLM for not properly noting that 16 of the trails are in an area proposed as wilderness.

Robert Hutchins Fruita, Colorado

ASSOCIATE

Grant Heilman Buena Vista, Colorado

Robert and Charlotte Uram San Francisco, California

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Vaughn Baker Mammoth Cave, Kentucky

Stephen J. Sullivan Denver, Colorado

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Kirk Thompson

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Dale L. Holst Colorado Springs, Colorado

John Isaacs Aspen, Colorado

M. Gale Morgan Peoria, Arizona

Bruce Paton Denver, Colorado

Jeff and Jessica Pearson Denver, Colorado

Basalt, Colorado

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Dr. and Mrs. Walter Spofford Portal, Arizona

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C.D. Angus Spring Lake, Michigan

Back of Beyond Books Moab, Utah

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H.H. Barton, IV Philadelphia, Pennsylvania

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David Bunzow Pocatello, Idaho

Bill and Lorene Calder Tucson, Arizona

Jack Carpenter Moscow, Idaho

Jim Case Cedar City, Utah

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Wilma Cosgriff Craig, Colorado

C.B. Crossland Santa Fe, New Mexico

William E. Davis Mexican Hat, Utah

Nonny Dyer Salida, Colorado

Myron G. Eckberg Lakewood, Colorado

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Beatrice M. Hyde Great Falls, Montana

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Richard Kust Irvine, California

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Ketchum, Idaho

Mary Ellen Lynch Grinnell, Iowa

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Nancy and Robert Maynard Woody Creek, Colorado

Janice A. McCoy Denver, Colorado

Harriet G. McGee Cody, Wyoming

Chris Mebane Seattle, Washington

Nancy Melling Salt Lake City, Utah

C.W. Monaghan

Lee Nellis Idaho Falls, Iowa

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David Nimick Helena, Montana

John Osborn

Spokane, Washington Steve Oulman Zephyr Cove, Nevada

David Pruitt Casper, Wyoming Boz and Katie Rathburn Boulder, Colorado

Z. Rouillard Gunnison, Colorado

Farley Sheldon

Monte Vista, Colorado

Judy P. Smith

Don Thompson

Gary Vogt Port Angeles, Washington

Paonia, Colorado

Jackson, Wyoming

Frank R. Young Wheat Ridge, Colorado

Los Alamos, New Mexico

Edmund J. Giebel

Steven M. Frank Menlo Park, California

David Schroeder

L.G. Bonney

Nancy Sue Dimit Carbondale, Colorado

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St. George, Utah

Friends of the Gila River

Ersilia Ganz Long Beach, California

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David S. Lavender

Ojai, California

Mark Lunsford

Boulder, Colorado Margaret E. Murie

J. David Oatman Dundee, Illinois

Socorro, New Mexico

Cara Priem

Milly Roeder

Lee Sayre Paonia, Colorado

Akron, Ohio Cutler Umbach Margaret Rhodes McCall, Idaho Denver, Colorado

Snowmass, Colorado Ellen J. Simpson

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Laurie Thal of Jackson, Wyo., poses beside a fake deer carcass made by Ly "does a lot of public-commentary-type art." Laurie kept the thing on her back. She is an artist, too, working in blown glass.

Thanks, Research F for helping us bi the West's real

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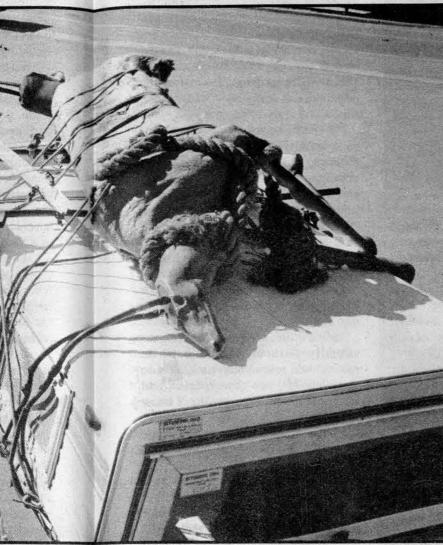
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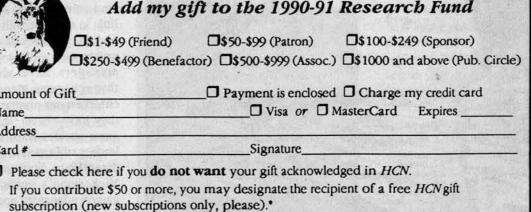
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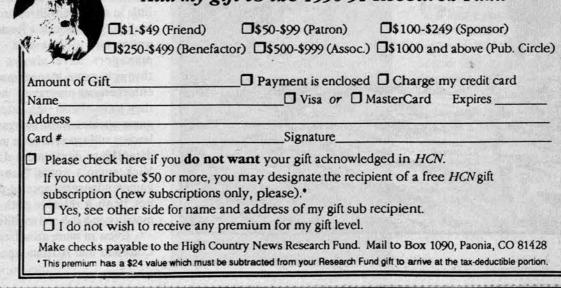
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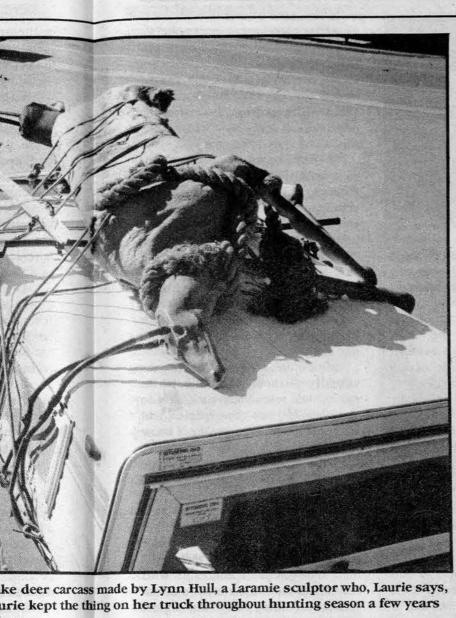
Monte Vista, Colorado

Sandy Righter Denver, Colorado

Tyrone L. Steen Edmonds, Washington









Crystal Images 19, Kathleen Marie

Changing game ...

(Continued from page 1)

It's a product that 80 percent of the American people think is great."

Wyoming game officials financed the program by persuading the state Legislature to create a special wildlife trust fund financed by hunters and fishermen who buy \$5 conservation stamps. The department also sells wildlife T-shirts, publications and gift items, and solicits private contributions. The fund now has surpassed \$9.5 million. The Wyoming game commission appropriates \$770,000 a year from the interest to acquire habitat, promote wildlife viewing, and finance non-game programs.

Wyoming has about 90 incorporated municipalities, Krukenberg notes, and 25 have approached the department to inquire about taking part in the wildlife promotion. "What the program has done is link us up with people in the business community, the tourism community," Krukenberg says. "It's had tremendous political benefits for the department."

Other states hope to emulate Wyoming's success. Utah's Division of Wildlife director Tim Provan, for example, is asking the Legislature for \$2 million as seed money for wildlife viewing promotion. "I've told them, Give us \$2 million and we'll create \$41 million for you through economic growth spurred by non-consumptive wildlife activities.

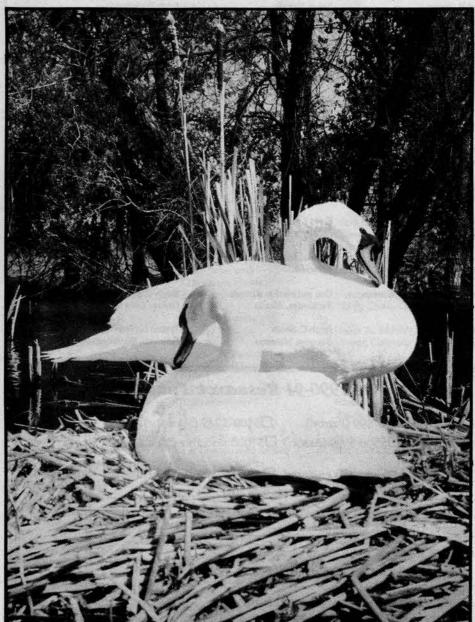
"Maybe we can get people out of their backyards and into wildlife," continues Provan. "We need to educate those people, showcase wildlife, get them involved, create some emotion there!" Last year Provan, a 46-year-old waterfowl biologist, became the first non-game official in the country to head a state wildlife agency.

Another motivating factor for change is the growing pressure on the habitat.

"I realized we had gone up against a brick wall in our ability to increase wildlife propulations by just managing the animals," says Bill Montoya, director of New Mexico's Game and Fish Department. "Without habitat there's no sense in having wildlife, so we've got to look at things that threaten it."

No longer willing to stand by while habitat is destroyed, Western game department officials now are speaking up when unplanned urban growth, accelerating timber harvests and oil and gas drilling threaten both private and public lands essential to wildlife populations. "State game agencies in the West are starting to show some backbone," says Jim Norton, The Wilderness Society's Southwest representative.

State game agencies are learning to treat wildlife as an irreplaceable economic and aesthetic asset, not just as quarry for hunting and fishing. Working with Defenders of Wildlife, a national wildlife protection organization, the Utah, Oregon, Montana and Idaho game departments are publishing wildlife viewing guides to attract birdwatchers, backpackers and touring motorists.



Colorado Game, Fish & Parks Div., Don Domenic



Wyoming Game and Fish Dep

Within the last decade, all 50 states have launched formal non-game wildlife programs. In 1976, Missouri voters amended the state constitution to dedicate one-eighth of 1 percent of state sales tax revenues to the state Department of Conservation's wildlife, education and habitat protection programs. Florida now charges new residents a \$4 fee when they register their cars, generating \$2 million a year for work on non-game species that may be threatened by the state's exploding population.

But in most states, says William R. Molini, director of Nevada's Department of Wildlife, non-game programs "have been kind of a piecemeal thing to get funded." Game agencies cobble money together by diverting some license revenues, tapping federal aid and seeking voluntary contributions. In 1977, Colorado became the first of 34 states to give state taxpayers the option to contribute funds to non-game programs by "checking off" refunds on their state income tax returns. But revenues have fallen off as initial publicity died down and competing checkoffs appeared on state tax returns.

Colorado's checkoff revenues peaked at \$740,000 in fiscal 1982 and shrank to \$373,000 seven years later. In 1984, as funding dropped, Colorado reorganized its wildlife division, assigning non-game field work to district conservation officers who often had enough to do enforcing game laws and studying game populations. A 1987 review by the Wildlife Management Institute, a professional organization based in Washington, D.C., concluded that the reorganization had curtailed checkoff contributions by reducing the program's visibility.

Sara Vickerman, the Defenders of Wildlife's Portland representative, suggests that wildlife agencies have been reluctant to put much effort into promoting controversial non-game efforts. Most turn non-game funds over to biologists, "who don't know how to run a program and don't have political savvy," Vickerman adds. "What they tend to do is to take \$200,000 or \$300,000, whatever they have, and dole it out to research programs on esoteric subjects. There are no linkages to on-the-ground wildlife management."

Within state game agencies, "game management has always been seen as a hard-core, common sense business" with little in common with research biology, a biology professor at a Rocky Mountain university points out. "Top-level managers have always moved up through game management and law enforcement programs," he adds, and they have shown little interest in nongame species. Most non-game program leaders still report to game managers, not directly to department directors. In Vickerman's words, "running a nongame/endangered species program has not been a reliable path to upward mobility in a fish and wildlife agency."

Even in more urbanized states like Colorado and Arizona, sportsmen still wield influence beyond their numbers over state game management policies. When Utah's wildlife commission meets, "the only people we get there are the special users, just the archers, just the muzzle-loaders," notes Tim Provan, the Utah wildlife director. "The rest of the public doesn't really know who we are, what we do and how we do it."

While game managers note that nongame wildlife still benefit from their efforts to enhance game habitat, they acknowledge that game species take priority. "We don't like to make species value judgments," says Nevada's Molini. "But there's a demonstrated demand for more elk, and the hunters are willing to pay for it." If biologists find that clearing sagebrush will improve elk habitat, Molini adds, "we're more apt to do it for elk and not worry too much about the sage sparrow."

Meanwhile, non-game wildlife goes virtually without protection while species slide toward oblivion. Colorado alone has 750 non-game species, and "there are about 250 ... we don't know anything about," says Judy L. Sheppard, the state's chief terrestrial non-game specialist. "We don't know if they're on the brink or not."

Colorado's wildlife division now devotes just \$1.5 million a year, 3.7 percent of its budget, to non-game programs. The division has three fultime non-game specialists who concentrate their resources on a dozen species, including peregrines, eagles, river otters, black-footed ferrets, prairie chickens, greater sandhill cranes and a few birds and fish that the state has listed as threatened or endangered.

By the time species are listed, saving them can be costly and politically controversial. "I want to keep species from becoming endangered," says Sheppard, a 36-year-old University of California at Berkeley graduate. "There might be some simple things we could do to keep species off that list," she adds, if the division could count on a steady supply of funds to conduct long-term research and take protective measures.



Montana Dept. of Highways

Lack of money and internal bureauderatic politics are not the only obstacles slowing change in the state game agencies. Another formidable force is the federal government itself, which owns the West's best remaining habitat. Here the state wildlife agencies are beginning for the first time to challenge federal policies on logging, road building, mining, grazing, and oil and gas drilling when they threaten wildlife populations.

In the 1950s and 1960s, state game managers in the West condoned logging in national forests as beneficial to big-game species that thrive where dense stands of timber are replaced by brush and seedlings. Game departments have grown more sophisticated since then as they recognized the need for diversity in wildlife habitats. Over the last two decades, the U.S. Forest Service and the Bureau of Land Management have hired their own oiologists to comply with federal environmental laws and congressional multiple-use mandates. But with top-level U.S. officials setting ambitious resource production goals, Western state game agencies have found themselves often at odds with federal on-the-ground decisions.

Game managers now recognize that steep-slope logging can cause erosion that carries silt into prime trout streams. They also contend that logging in remote forests may reduce crucial winter shelter and bulldoze roads into big-game calving or fawning grounds. "We tend to get into conflict with the Forest Service over roadless areas - areas being opened up for timber for the first time," says Idaho Fish and Game Department director Jerry Conley.

"We're trying to maintain a balance," Conley adds, in a state where logging remains an economic mainstay. "We're not trying to lock up large blocks of timber. At the same time, we want it done in such a way that it doesn't affect wildlife too much."

The Idaho department filed appeals on a few proposed timber sales several years ago, but now tries to work out disagreements ahead of time with forest supervisors, Conley says. The Washington Department of Wildlife appealed the Forest Service's draft Environmental Impact Statement on the northern spotted owl as providing too little protection. But in Oregon, Gov. Neil Goldschmidt has coordinated timber policy in the governor's office, and state government responses to national forest management plans accordingly have called for higher cuts than the Forest Service has been proposing. The Oregon Fish and Wildlife Department as a result "has been pretty low profile" on old-growth forest issues, says Rick Brown, a National Wildlife Federation specialist in the group's Portland office.

"State wildlife agencies should be more aggressive in how they deal with public land management agencies," contends Tom France, an attorney with the federation's Northern Rockies Natural Resource Center in Missoula, Mont, "There is consultation on timber sales, but how effective that consultation is, is very, very debatable."

Dissatisfied with Forest Service responses, both the Arizona and New Mexico game departments have filed formal appeals against planned timber sales in the Southwest. The Arizona department's biologists contend that harvests threaten endangered Mexican spotted owls, black bears, goshawks and other forest species. The Arizona agency earlier this year negotiated a three-year moratorium on cutting old-growth timber in the Apache-Sitgreaves National Forest and continues to fight logging in the Coconino National Forest.

New Mexico game officials caught the Forest Service off guard earlier this year by opposing two planned timber sales in the Lincoln National Forest. They contended that Forest Service plans to harvest old-growth timber would destroy habitat for the spotted owl, black bear, pygmy nuthatch and Sacramento Mountain salamander, a state-listed endangered species.

The New Mexico department withdrew the Lincoln Forest appeals in July under pressure from commissioners who contended that the department's move threatened to shut down an Alamogordo sawmill. The department also backed off from appealing another timber sale on the Gila National Forest after Forest Service officials agreed to cut back on proposed harvests.

"From a wildlife standpoint, the Lincoln sales are good timber sales, but there are real problems on the Gila," one Forest Service biologist acknowledges. The state game agency appeals are "putting a lot of stress on our outfit, in the sense that we're not doing as good as we could be doing," he adds. "The New Mexico department is becoming more sensitive to habitat needs, which is making them a better agency."



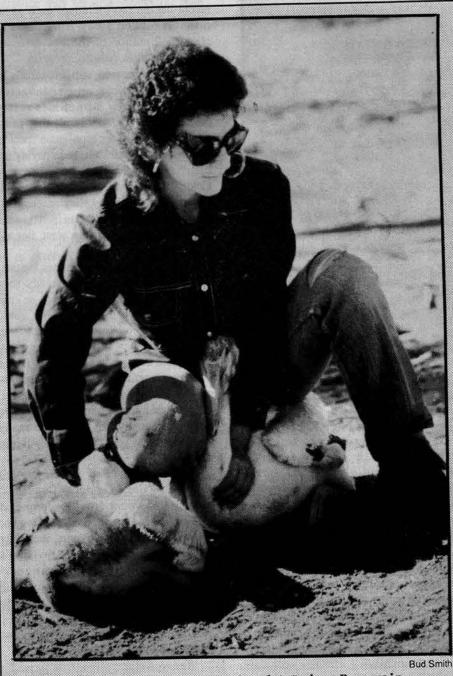
John H. Tobias Jr.

Yonservationists say that state game departments could be a tremendous force in the West's land-protection struggles. As government agencies, they command more financial resources, biological data and political credibility than most environmental groups can muster on their own. "It means something to the federal government when a state agency says it's concerned about what a federal agency is doing," says Douglas Meiklejohn, a former assistant New Mexico attorney general who now handles timber sale appeals as director of the New Mexico Environmental Law Center in Santa Fe.

In Wyoming, the Bureau of Land Management has routinely overruled its own field specialists who recommended oil and gas drilling restrictions, says Tom Dougherty, the National Wildlife Federation's Rocky Mountain representative. But to settle the federation's appeals against planned petroleum lease sales, the BLM's Wyoming office has signed a memorandum of understanding with the Wyoming game department.

Under the agreement, the bureau will give state biologists a chance to review federal leases before they are issued and to recommend that stipulations be attached to keep drilling from damaging wildlife populations. The department also will review oil companies' operating plans before the bureau approves applications to start drilling. "Under the MOU, we're obligated to listen, and we intend to do that," says Ray Brubaker, the bureau's Wyoming state director.

Wyoming game officials cannot veto leasing decisions, Dougherty says, but Bureau of Land Management officials have assured the wildlife federation that they will accept state recommendations unless federal biologists come up with contradictory information on drilling's impacts. If the bureau ignores that commitment, "it would be about five seconds before we'd hear about it," he adds. "They'd be risking a definitive lawsuit" on the oil and gas leasing program.



Judy Sheppard bands pelicans at Colorado's Latham Reservoir

Game agencies: A way of life

State game departments still are staffed predominantly by men who grew up in small towns and spent their youths hunting and fishing, Many studied wildlife management at state land-grant universities with close ties to agriculture and small-town business. Most newly hired wildlife specialists are commissioned as game wardens --now called conservation officers with authority to carry guns and make arrests for game law violations.

Game and fish officers remain a comforting presence in many parts of the West. Farmers and ranchers encounter game wardens sipping coffee in roadside cafes or patrolling backcountry roads in state-owned pickups and four-wheel-drive vehicles. In New Mexico, state legislators have resisted proposals to cut back staffing within their districts to concentrate manpower in problem areas. "We're part of the local scene," says John Hubbard, a veteran New Mexico Game and Fish Department biologist. "Local people regard us as an extension of the law."

But enforcing game laws can be controversial and even dangerous. Sportsmen and hunting outfitters can be a prickly lot, ever ready to go to the game commissioners to overturn department decisions that they don't like. Two Idaho game wardens were killed by a poacher a few years ago, and a poaching "sting" mounted by state and U.S. Fish and Wildlife Service officials in northern New Mexico and Colorado's San Luis Valley provoked bitter charges that they had set out to entrap impoverished Hispanic residents.

Although some states, including Wyoming, have hardly any female field officers, a woman now heads the New Mexico game department's northeast area office, and the Colorado wildlife division employs eight women as district wildlife officers.

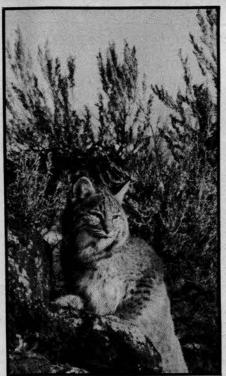
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ame departments can play a stronger Thabitat protection role, however, only if they can solve their long-term funding problems. With their budgets still tied to license sales, most state agencies lack the funds they need to protect non-game species and counter habitat destruction. So game departments must struggle to build broader political support among environmentalists and urban dwellers who don't go hunting and fishing.

The Missouri department's sales-tax share is the envy of wildlife managers around the country. Yet Washington state voters defeated a similar plan a few years ago, leaving the wildlife

(Continued on page 12)



Cindy Quinton

Changing game ...

(Continued from page 11)

department with serious funding shortages. California voters have approved ballot initiatives for buying habitat, and the state dedicates receipts from vanity license plate sales to nongame programs.

But the number of Californians who hunt is plummeting as suburbs sprawl across game habitat. Still relying on license sales for half its revenues, the California Fish and Game Department now runs a chronic deficit. Meanwhile, environmentalists and animal protection groups are mounting effective political challenges to department policy on hunting mountain lions, black bear, tule elk and other species.

The hunting ethic remains stronger in Rocky Mountain states, but game agencies foresee similar troubles in their future. To generate more funds, game departments have been raising license fees, imposing surcharges for permits to hunt some species and auctioning permits to hunt coveted trophy species, like bighorn sheep. But directors sense that they are coming close to the limit on how much sportsmen are willing to pay.

Colorado sportsmen's groups balked at recent license fee increases until game officials backed away from plans to channel \$2 million of the new revenues to fund a wildlife viewing program.

Many sportsmen support efforts to protect wilderness and endangered species. But they sometimes resent environmentalists' demands that game agencies do more for non-game species. "Sportsmen have always been paying the bill," says Jerry Hart, president of Colorado's United Sportsmen's Council. "Other people who say they're interested in wildlife have never participated in the cost of the programs they want, nor are they now."

With checkoff contributions lagging, some game agencies have already been forced to divert license revenues to keep non-game programs going. But game officials say they risk a backlash from sportsmen if they take resources away from game management efforts. "We've all been struggling with funding for nongame," Nevada's director Molini says. "We see that constituency getting more and more demanding. What we really want from them is to say that they'll help us fund it."

Colorado Gov. Roy Romer in April proposed a "Great Outdoors Colorado!" program that would provide a projected \$30 million a year in new funding for outdoor recreation programs, including \$7 million for the wildlife division's non-game programs. A citizens' advisory panel has suggested doubling the total to \$60 million. Colorado officials have discussed funding it by dedicating part of state sales taxes but have offered no specific proposals.

Ten years ago Congress passed a federal non-game law intended to finance expanded state wildlife programs. But the taxpayers' revolt took hold, and the law remains unfunded. The Fish and Wildlife Service in 1984 released a report analyzing potential revenue sources that included annual congressional appropriations, new mining fees on federally owned lands, sale of special postage stamps, and taxes on birdseed, bird houses, binoculars, backpacking equipment, wild animal furs, cameras and film, camping trailers, snowmobiles and other off-road vehicles.

Doug Crowe, an assistant Wyoming Game and Fish Department director, is now serving temporarily as Turner's special assistant at the Fish and Wildlife Service. He and Molini, as president of the International Association of Fish and Wildlife Agencies, this year began putting together a campaign to persuade Congress to fund the non-game program by 1992. But outdoor equipment manufacturers so far have opposed a special tax on their wares, and environmental groups are skeptical about extending the user-fee principle to non-game programs.

Douglas B. Inkley, a National Wildlife Federation specialist in non-game issues, suggests tapping the portion of federal gasoline taxes being paid for fueling chainsaws, snowmobiles and off-road vehicles. Vickerman prefers imposing mitigation fees on mining, logging and other habitat-scarring development. "There are hundreds of ways to get the money. It's just that nobody has the political will to do it," she contends.



In seeking non-game funds, game agencies are trying to develop ties to environmental groups without alienating their traditional constituents. The National Wildlife Federation, a group representing state sportsmen's organizations, supports expanded non-

game programs. But studies have shown that many hunters and fishermen resist any non-game funding mechanism that would give environmentalists more direct claims to influence over game departments.

"A lot of sportsmen feel like there are only two kinds of people: people who hunt and fish, and people who are anti-hunting," observes Hernbrode, who formerly directed the Colorado division's game management operations but now runs its "Watchable Wildlife" program. "They do not want the division to get into activities designed for people who are not hunters and fishermen."

Many game managers themselves remain fearful of the growing anti-hunting movement among animal-rights and wildlife protection organizations. Although eager to open new ties to mainstream conservation organizations, game officials have little experience in dealing with urban-based groups who distrust state game agencies as subservient to hunting and fishing interests. "Part of the problem," Vickerman says, "is that the constituency they need to reach out to is often suspicious of game departments."

Crowe sees wildlife watching programs as a way to sell more balanced wildlife management to the public at large. "The scientific community would prefer to talk about preserving biodiversity," Crowe says, "but that doesn't mean much to Joe Schmuck out there in a Cat hat and a flannel shirt. Watchable wildlife is pretty easy to comprehend. The thing I like about it is it doesn't drive that wedge between game and non-game."

Wyoming game officials hope that their program will generate public support for alternative funding measures. "For their own well-being, game agencies are going to have to develop programs that a broader segment of the public can relate to," Krukenberg says. "If the agencies are not willing to change, it's going to be the death knell of the wildlife conservation movement."

Tom Arrandale, a free-lance writer in Albuquerque, New Mexico, has a special interest in wildlife.

'Worth the watching' in Wyoming

_by Candace Crane

My home state of California has paved over so much wilderness, it's getting to be an event to see a ground squirrel. Thus it was with real excitement that I got in my truck and headed east for my first visit to Wyoming. I'd always heard this was where you could still see lots of wildlife—not just little, wimpy wildlife, but the big, charismatic animals wildlife writers like myself are not supposed to favor.

My first hour of driving in Wyoming took me through the most desolate country I'd ever seen. Deep canyons stretched out as far as you could see. Nothing stirred. No green plant anywhere broke a landscape so somber, it looked as if it had been bombed. But before the hour was up, I'd seen a falcon winging over the smoky-colored canyons, and a golden eagle, and a red-tailed hawk, its bustle glinting in the late sun.

Stopping at a rest area, I was diverted from my primary mission by a large, important-looking bronze sign

similar to an historical marker. I walked up to read it, expecting a chore. "Mama Sage," it was headlined. The copy below, in words as elegant as the engraved lettering, described the myriad of animals that depend on sagebrush. After reading it I stood and stared out at the sage-studded landscape I, as a longtime Westerner, know so well. I'd never thought of sage as a community full of life. As if to approve my attitude adjustment, a young rabbit hopped out from under a nearby sage plant and wiggled his ears.

My first destination was several miles down a dirt-and-boulder road (mostly boulders) in the Wind River Range. Here, in a pristine valley edged with sagebrushed and conifered slopes and tied together with a ribbon of creek, the Wyoming Game and Fish Department and the National Audubon Society cooperatively run a rustic ecology camp. The game department owns the land and manages it as winter range for bighorn sheep, which wander into view every day. I spent 10 days in this Eden with several dozen other wildlife watchers. We were an eclectic

crew, including an actor from Florida, a psychotherapist from Indianapolis, lots of schoolteachers and outdoor educators, and a former bill collector and private eye who is now conservation director of the Audubon Society in L.A.

During the days and nights that followed, the valley's animal abundance tumbled out to us like the harvest from a cornucopia. Buttery-yellow butterflies and scores of bugs. Marmots sunning themselves on rocks. Coyotes silhouetted in the moonlight. Beaver peeking out from their lodges. Fledgling ravens on a cliff, jumping around to try their wings. And always, every day, the regal sheep. I saw one moose in Wyoming, too—standing almost hidden in the shade in Grand Teton National Park.

After camp, I drove around the state, stopping by the roadside whenever it pleased me to wander into the hills. Once, in an arroyo, I stumbled on a pair of nesting red-tailed hawks. When I heard their warning, I backed up to a distance comfortable for the birds, sat on a log, and for a half hour watched them

hunt and feed their young as goldfinches rustled the nearby bushes and thistles bowed in the wind. It was sweet stillness, total peace.

As I headed home from my last stop, Sybille, I gazed absently at the grassland and the large, light brown boulders scattered over it. Wait—those weren't boulders. They were pronghorn! Right there at the side of the road. This was almost too easy.

I pulled over and got out of the car as quietly as possible. They just lifted their heads and studied me, calmly chewing grass. The breeze ruffled the hot afternoon. A baby pronghorn nudged its mother, trying to nurse. Two juveniles sparred. After a long while, the animals all turned at once and, white rumps bouncing cheerfully, ran across the prairie. Worth the watching.

Candace Crane is a free-lance writer specializing in endangered species. She lives in Pleasanton, California.

LETTERS

MAYBE DUMPS 'R' O.K. ON NORTHERN PLAINS

Dear HCN,

The cover stories of your Sept. 10 edition titled "Dumps 'R' Us," while showing most of the sides in the waste-disposal dispute, downplayed two of the most important aspects of the question.

The single most important feature of a well-designed disposal or storage site is not water table, geology, or distance from the source — it is population density. This factor is important not only because of the undeniable political implications, but even more because of the epidemiology. It will always be better to store or dispose of hazardous materials in sparsely populated regions, and the favorable geology, climate and

transportation of the northern Great Plains just increase its appropriateness for those purposes.

Second, there is a tendency to attack corporations for not building the safest possible facilities. In fact, it is against the law for corporations to proceed in that fashion! It is a breach of their fiduciary responsibilities to their stockholders to make less than the maximum possible profit, and it puts them at a decided disadvantage against less-principled competition. Although some corporations do see the profit in long-term relationships based on mutual trust and respect, many others do not. The checks in our system that "even the playing field" for the principled and unprincipled alike should be the land-management agencies but often are the watchdog organizations. More power to them!

In summary, it may well be that the localities discussed in your stories are very appropriate for waste disposal

and/or storage. An all-or-nothing resistance may be less productive than an approach which assures high-quality construction and operation, independent monitoring, and bonding to ensure long-term performance.

William Locke Bozeman, Montana

SOME POACHING IS EXCUSED

Dear HCN,

The wildlife poaching problem HCN has frequently written about is due in part to wildlife agencies that propagate excess game populations out of bureaucratic self-interest at the expense of funding enforcement.

When I called the poaching hotline in Arizona to report two men in camouflage spotlighting meadows from a slow-moving Jeep, I was told they were "probably just looking for deer." They were, and dawn revealed a fresh kill near the road.

When once I tried the Colorado hotline an answering machine advised me to call back during business hours. When did poachers start keeping business hours?

Because most poachers are lazy and hunt from motor vehicles (as well as most of the licensed hunters in my neighborhood), we should keep roads out of roadless areas, close more back roads during critical winter seasons, and greatly increase the penalties for carrying a loaded weapon inside a motor vehicle.

And since there are more rural deputies than game officers, why not increase their training in wildlife law and give their agencies incentives in the form of wildlife enforcement funds in direct proportion to the previous year's successful prosecution record?

Finally, we need an educated public to be the eyes and ears of the same game warden. I've heard too many lawabiding neighbors excuse poaching as long as it's done by "locals" rather than the dreaded "outsiders" like "city people." Would they feel as kindly if a local stole their car?

The non-hunting public could become more involved if they weren't locked out of the decision-making process of game boards and commissions. Proportional representation would heighten involvement, awareness and participation. Whose wildlife is it, anyway?

John Walker Coaldale, Colorado

SEALS AND LOPEZ

Dear HCN,

I was intrigued by the recent articles of David Seals and Kevin Lee Lopez, and surprised by the responding letters. I have an interest in Native American ideas, but all I know comes from a few books and numerous faulty stereotypes. I'd sincerely like to know what Native Americans want and expect from the rest of America. Many of us are sincere in our desire to help Native Americans, but let's not be arrogant about it. We non-Natives have a great deal yet to learn, also.

Jeff Foster Grand Junction, Colorado

GRAZING 'BRITTLE' LANDS

Dear HCN,

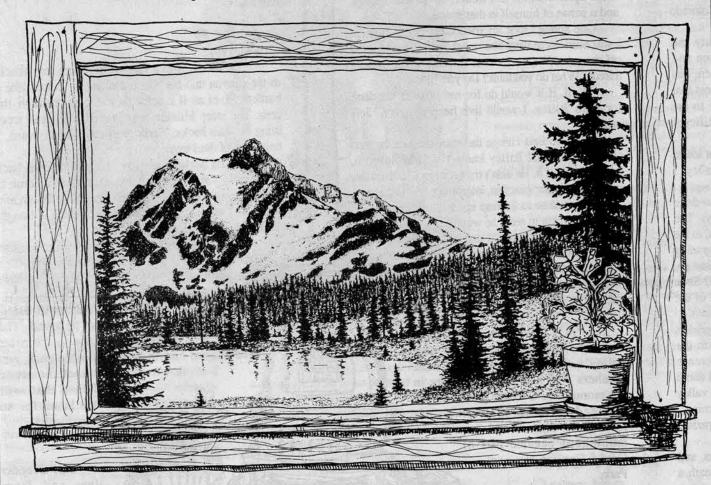
In your review of Seven Popular MYTHS About Livestock Grazing on Public Lands (HCN, 7/30/90), you suggest an alternative that might remove grazing from a "large chunk" of BLM and Forest Service land. Also in the review, you applaud Allan Savory and his Center for Holistic Resource Management for their free-thinking and innovative approach to grazing management.

I think it is important to point out that Mr. Savory advocates, among other things, the use of grazing to improve the resource condition in "brittle" environments. Brittle environments, as defined by Mr. Savory, are very typical of the West's public lands. He also suggests that extended deferment from disturbance caused by livestock grazing can lead to resource degradation.

If Mr. Savory's theories are correct, we need to consider the potentially negative environmental consequences of removing livestock from public lands.

Dean R. Stindt Norwood, Colorado

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Why I never burn one old juniper log

_by Edie Eilender

've been fussing with wood for months now: gathering, sawing and stacking wood, building a woodpile. When the cold and snow arrive I can unbuild it, carrying it log by log into my house to be burned.

In my woodpile I have some pieces of antique wood, some logs that I never seem to burn. They stay there year after year, escaping the fire because they hold memories. Perhaps the day will come when all other wood is gone, the cold will be in my bones, and I will cast sentimentality aside and carry these antique logs to the fire to be consumed.

Once I actually carried one, an old juniper log, into my house, but I couldn't give it to the flames. It sat in my living room until spring arrived. Then I carried it back outside to the woodpile, where it survives.

That juniper log came from the Arizona Strip, one of the least populated areas in the continental United States. Its southern boundary is the Colorado River as it cuts through the Grand Canyon.

The Arizona Strip is a land of raw beauty and immense space that stretches the imagination and speaks with voices from the past. How I got there was an accident, or perhaps one in a chain of events that were meant to be. Once I'd found my way to the Arizona Strip in 1971, and met Ranger John Riffey, I returned again and again.

Every time I drove the rutted dirt road that led to Riffey's small stone cabin in the Tuweap valley, I knew I was bound for an adventure.

One November day John taught me how to drive the road grader. The rain had fallen for two days. The third day the sky was clear and Riffey announced to the crew at breakfast that conditions were right for grading the road and he and I were going to do it. I looked up, cereal spoon in hand. What? Me, grade the road? Soon we were rumbling along, me behind the wheel of the road grader and Riffey beside me giving instructions.

Not only did I learn to drive Scratchy, the grader, and to move dirt from one side of the road to the other; that day I learned how to tell the difference between a marsh hawk and a red-tail. I learned about the winterfat brush and how it once covered the valley before all the grazing occurred. "But it's returning," John told me, "After 30 years of controlled grazing, finally returning."

He told me stories about animals, ranchers, and earlier days, stories and more stories, all beneath a bright blue Arizona sky as we rumbled down the road.

We spotted a coyote standing at the side of the road. "Dumb coyote!" John scolded. "Someone is going to shoot him, certain, if he doesn't pay

attention." The day before a coyote hunter had appeared at John's door, looking for a place to trap. John turned him away from the park. "It's crazy. The government pays me to protect the coyote and pays him to kill it."

On the way home John told me, "You know, there are only three problems with road grading in this country — too much water, not enough water, or just the right amount, and there never is the right amount." He laughed and I laughed as I tried to keep Scratchy heading straight.

ohn was a Renaissance man of the West, familiar with everything in his environment. He knew how to call the birds and how to fix the power plant. He could fly a plane, get a cow out of a cattle guard, and entertain his listeners with stories of the ranchers and the Indians who used to live in the valley. He had a sense of time that was more than minutes and hours: it included space, and a sense of himself in that space.

One spring I took my friend Jeff out to Tuweap. I was anxious to have him meet Riffey and to show off the area. We were out at the rim when I finally asked, "What do you think? Do you like it?"

"Well, if it would do for me what it has done for John Riffey, I would live here any day," Jeff said.

Does the land change the man or does the man change the land? Riffey knew the land, loved it, became part of it. He didn't try to change it, but rather was its caretaker, guardian, interpreter and historian.

Riffey came to Tuweap in 1942. He came out to spend one night to see if he would like it and ended up spending a lifetime. "I don't think I could have found a better place for me to work and spend my life. When I retire I'm going to live right down the road; a place good enough to work at is good enough to die at," he'd say.

In 1942, Tuweap was part of Grand Canyon National Monument and Riffey's main job was working with ranchers who had grazing permits in the monument. Over the years the job changed as ranching declined and recreational use increased. Later the monument became part of Grand Canyon National Park.

In November 1978, a group of "granddaughters," as he called us, gathered at Tuweap to share Thanksgiving dinner with Riffey. It was a wonderful time, filled with stories, turkey, 14 pumpkin pies, and trips out to the rim to look at the river and listen to the roar of Lava Falls 3,000 feet below.

Too soon, the time came for me to return home to the Colorado Rockies. I was talking to Riffey about the need to get wood for the coming winter.

"I know an area outside the park where we can get some wood," he said. "It's PJ country and it was chained a few years back."

PJ? That meant peanut butter and jelly.

"Pinon and juniper," he explained. We could cut some wood in a nearby canyon, John said. He explained chaining. A heavy chain is attached to two vehicles, usually tractors. The tractors move apart so the chain is taut between them, then move forward and mow down all the trees in their way. The purpose is to get rid of the trees in the belief that there will then be more grass for the cattle to eat. In spite of mainly negative results, the practice of chaining continues.

e drove Orange Blossom, my truck, to the canyon that had been chained. It looked like a battlefield, or as if a tornado had gone through the area. The steep hillside was littered with dead trees lying on their backs, black arms reaching skyward, a boneyard of dead trees.

John took out his chain saw and in no time the back of my truck was loaded with wood. I trucked it home to Gold Hill, where I burned it and enjoyed its warmth and smell. As I watched the flames in the fireplace, I thought of my return to Tuweap in the spring.

I did return many times and I still return to Tuweap. It has become part of my life. The juniper log remains in my woodpile and probably always will.

Riffey died on the job in July 1980. He is still there guarding the land that he loved. The Park Service made an exception to the rules and allowed him to be buried in the park, just down the road from the stone

house that was his home for so many years.

Edie Eilender lives and freelances in Boulder, Colorado.

BULLETIN BOARD

ARIZONA CONFERENCE

FACES UP TO MINING Arizona citizens can learn how to deal with mining issues that threaten public lands at a forum Nov. 10 called This Land is Our Land: Arizona Faces the Mining of the West. It will discuss regional mining threats, the 1872 Mining Law and grassroots action. Featured speaker Phil Hocker, Director of the Mineral Policy Center in Washington, D.C., will discuss how citizens can tackle mining issues in their region. Other speakers are John Leshy, author of The Mining Law: a Study in Perpetual Motion, Steve Hinchman, associate editor of High Country News and Nina Mohit, philosophy instructor at Yavapai College. Workshops and panel discussions will help participants develop strategies to oppose specific mining projects. The conference is sponsored by Granite Mountain Action, which is now appealing an exploratory mining lease in Prescott National Forest. It will be held from 8 a.m. to 7 p.m. at Yavapai College, 1100 Sheldon St., Prescott, Arizona. Registration fee is \$10. For more information write to Granite Mountain Action, P.O. Box 1463, Prescott, AZ 86301, or call 602/776-1502.

FORESTS, NOT FASHION

A citizens' group in New Mexico has launched a boycott against stonewashed jeans to protect the Jemez Mountains from stripmining for pumice, a volcanic rock used in the processing of stonewashed products. According to the organization, the Jemez Action Group, up to one-third of all pumice mined is used for the manufacturing of stonewashed denim. Members of the "No More Trashin' Land For Fashion" boycott are organizing protests at factories and shopping malls, demanding that manufacturers replace pumice with recycled glass, and requesting Congress to repeal the 1872 Mining Law (HCN, 6/18/90). The group believes that the ecological and cultural resources of the Jemez are too valuable to be sacrificed for fashion, and demands an end to the use of pumice in the fashion industry. For more information on what you can do in the fight against pumice mining or to obtain boycott posters and pamphlets, contact the Jemez Action Group, PO Box 40445, Albuquerque, NM 87196; 505/256SYMPOSIUM ON WATERSHED
MANAGEMENT

Timber, fish, wildlife and water have historically been utilized and managed independently despite their interrelationship. "New Perspectives for Watershed Management: Balancing Long-Term Sustainability with Cumulative Environmental Change," a symposium sponsored by the University of Washington's Center for Streamside Studies, will bring together resource managers, scientists and policy makers in an effort to integrate research and information at the watershed or landscape scale. The symposium, which will be held Nov. 27-29, will feature a presentation on the incompatibility of a "boom-bust" economy with a healthy environment by Ed Marston, publisher of High Country News, as well as discussions of fundamental elements of ecologically healthy watersheds, mitigation and restoration of watersheds. Registration is \$175. For a registration form contact the Continuing Education Office, College of Forest Resources, AR-10, University of Washington, Seattle, WA

98195 or call 206/543-0867.

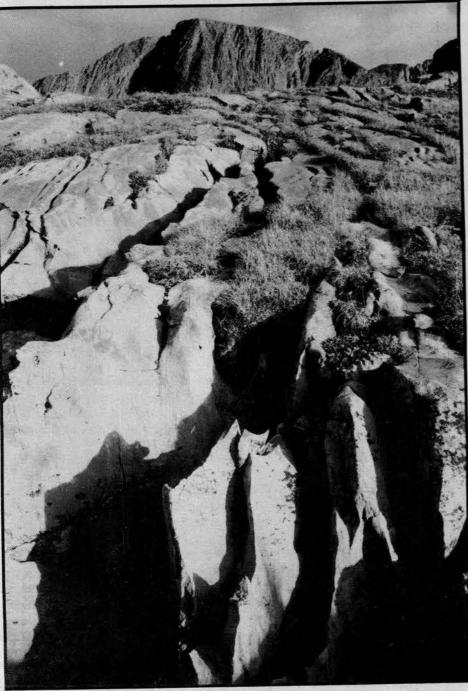


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COLORADO: OUR WILDERNESS FUTURE

With informative words and inspirational photos, nature photographer John Fielder makes a push for preservation with his new book, Colorado: Our Wilderness Future. The book focuses on 20 wild and pristine but vulnerable areas recently proposed by members of the Colorado congressional delegation for protection under the National Wilderness Preservation System. Fielder hiked 600 miles of wilderness to capture in color and light the value of these places that words cannot convey. His photos take you to an alpine meadow of the Oh! Be Joyful area near Crested Butte, to an aspen grove on the Spanish Peaks, and to a mountain top during a South San Juan sunset. Various authors, including Sen. Tim Wirth, Thomas Barron and David Lavender, explain how

wilderness designation would affect water rights, state economics, recreational use, extractive use and wildlife. They describe each area's location, flora, fauna, and threats from development. The largest proposed area, in the Sangre de Cristo Range, is threatened by possible leases to oil and gas companies, while ski area development near Steamboat Springs could encroach upon the Service Creek area. This is the first large-format, color photography book to be made with recycled paper. Printed with a matte finish, the photos have a soft and realistic quality.

Westcliffe Publishers, 2650 S. Zuni, Englewood, CO 80110. Paper: \$14.95. 80 pages. Illustrated with map and photos.



DON'T WASTE U.S.

A new grassroots group, Don't Waste U.S., has organized to fight the proliferation of nuclear waste. Formed mostly by anti-dump activists from around the country, Don't Waste U.S. calls for a major revision of national nuclear policy, which currently promotes extensive development of nuclear power and nuclear weapons. Because there are still no known ways to assure the isolation of radioactive waste from the biosphere for the waste's full life, the group wants a new policy that would prevent additional radioactive contamination. Don't Waste U.S. proposes that the nation end promotion and subsidies of nuclear power; halt production of nuclear weapons; ban new nuclear reactors, prohibit deregulation of radioactive wastes; and cease importing or exporting nuclear technologies. The organization has members in 20 states, including Nevada, and is working to recruit more members in the West. For information on membership and publications, contact Bill Jeffrey at Don't Waste N.Y., 285 Broad St., Norwich, NY 13815, or call 607/336-4246.

GREEN RAGE

"This book does not pretend to be objective or dispassionate about the radical environmental movement," says Christopher Manes in the preface to his recent book, Green Rage, radical environmentalism and the unmaking of civilization. For him, and other Earth Firstlers, there should be "no compromise in defense of mother earth," as the group's principal tenet goes. Accordingly, Manes, a graduate student and selfstyled authority on ecopolitics, sets out to justify the radical movement, explain its political and philosophical origins and debunk its critics. He saves his most scathing attack for mainstream environmentalists, who are, in his eyes, overpaid corporate and legal parasites. In such moments, the otherwise articulate narration lapses into petulant righteousness. For example, Manes murkily complains the moderate environmental community is "becoming a career endeavor for professionals rather than a calling for those committed to the environment." But for some reason Manes let his bio slip onto the jacket cover. It tells us he is studying for a

Little, Brown and Company, 34 Beacon St., Boston, MA 02108. Cloth: \$18.95. 298 - Florence Williams pages.

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HIGH COUNTRY NEWS classified ads cost 30 cents per word, \$5 minimum. Display ads 4 column inches or less are \$10/col. inch if cameraready; \$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.

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SCHOLAR CHAUTAUQUANS: The Center of the American West at the University of Colorado at Boulder seeks humanities scholars to portray historical characters beginning September, 1991, at the American West Symposium. The theme of the program will be "Water in the West." Participation in a series of public humanities forums in Colorado and other western states during 1991-92 will follow. The Center invites applications for scholarly portrayals of Mary Austin, John Muir, William Mulholland, Sarah Winnemucca, and other late 19th century figures with interesting perspectives on water in western history. The scholar team will be directed by Clay Jenkinson who will portray John Wesley Powell. The final troupe will include no more than five scholars. Applications should include a letter of interest, a resume, a brief sketch of humanities themes associated with the character, and a 25-page photocopied anthology of primary writings by the proposed character. Send materials to: Water Chautauqua, Center of the American West, CB 401, Boulder, CO 80309-0401. Application deadline: November 30, 1990. Scholars whose primary interest is in theater are not encouraged to apply. (1x21b)

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BOOK NOTES

Promise and ruin along the Pacific Rim

The Good Rain: Across Time and Terrain in the Pacific Northwest, by Timothy Egan. Alfred A. Knopf. 1990. 254 pages. \$19.95, cloth.

Review and Prologue by Pat Ford

Timothy Egan begins his account of the Northwest by "Finishing up with Grandpa." After too much delay, he takes his grandpa's ashes ("a winter with Gramps in the basement will not do") up Mt. Rainier to Winthrop Glacier, the source of a trout stream the old man knew. After wine and food, "I swing back all the way and toss the ashes out. They shoot up and then curve down in a grand arc, a sepiatoned rainbow, stretching from this glacial edge to the dawning trickle of the White River, a thousand feet or more below. We watch until all the ashes have scattered from view. And then we say goodbye."

Back in Seattle, seeking why it was named Winthrop Glacier, Egan finds *The Canoe and the Saddle*, Theodore Winthrop's account of a threemonth, 320-mile journey through the Northwest in 1853. Twenty-five years old then, Winthrop was to become the first American officer killed in the Civil War. His adventure, and his youthful report of what he saw, felt and prophesied for the Northwest, is the scaffold on which Egan builds *The Good Rain*.

Egan has a good story — water, land and people in today's Northwest — and he tells it well. The excerpt below shows how well: deft narrative with a good stride and little overreach, despite subjects and landscapes that tempt it.

There are chapters on the Columbia Bar, the killing breakers where the river pounds into the Pacific; the Olympic Peninsula; tribal peoples; Seattle; Victoria, capital of British Columbia; Crater Lake; harvests and wineries in central Washington; the old-growth fight in Oregon's Siskiyou Mountains; and a horror story, stretching five decades, of public vs. private hydropower and Communist-baiting in the Okanogan Valley, culminating in a crazy murder in Seattle.

Egan's chapter on salmon, and other salmon stories scattered throughout, are as good as *The Good Rain* gets. ("The Pacific Northwest is simply this:

wherever the salmon can get to.") He also writes very well about a person in a place; the best example in the book is the legendary lone climber Fred Beckey in the North Cascades. Beckey pioneered many of its peaks and spires. He wrote three guides, describing "every climbing route on every mountain in the Cascade Range from the Columbia River to the Fraser River." He climbed never-climbed peaks all over the West. And he never stopped — for money, courtesies, family, a house, or normal people who couldn't keep up. At 65 he's still at it, using a friend's couch when he comes out of the mountains, living on a few thousand dollars in royalties.

Because the next edition of *High Country News* will be a special issue on Northwest ancient forests, this review is also a prologue. There is no better preparation for that issue than Egan's book, which conveys the active energies of this active region. But I want to frame the dynamic of that upcoming issue by disputing with Theodore Winthrop, and perhaps with Egan, over something called "Pacific Nation" (the title of Egan's last chapter).

As any renegade young blue-blood might, Winthrop saw in the Northwest a new, special place that would breed a new, special man:

Our race has never yet come into contact with great mountains as companions of daily life, nor felt that daily development of the finer and more comprehensive senses which these signal facts of nature compel. That is an influence of the future. These Oregon people, in a climate where being is bliss — where every breath is a draught of vivid life — these Oregon people, carrying to a newer and grander New England of the West a full growth of the American idea... will elaborate new systems of thought and life.

We can relate to the hope, but must admit the delusion. The Northwest is a blessed place, but no more than Appalachia or the Southwest will it transform those who inhabit it. The roll is the other way — we are transforming the Northwest into one more played-out setting for the human torrent. We won't bring down

Rainier or tame the Columbia Bar, but we can and are bringing down Snake River salmon, spotted owls, old forest, fertile soil, clean air — and, finally, the good living we temporarily make by bringing them down.

Egan doesn't buy Winthrop's line, and he chronicles much of the bringing-down. But in his epilogue he seems to accept a modern variant:

When many Northwesterners hear talk about the decline of America, it means little to them; they see, in such talk, the diminished influence of Europe and those power centers in the American and Canadian East that look to Europe for identity. As the nations of Europe meld to a single continental unit, stagnant in population growth and new immigration — the "tribes of the setting sun," as West Coast author Joel Kotkin calls them — the Pacific Rim is bursting with fresh life and ideas and commerce.

I acknowledge my Idaho blinders (insularity tops the list), yet: What I see bursting along the Pacific Rim, including the American Northwest, is certainly new energy, but applied to the same old commerce by the same old ideas.

Fresh life? Or just a fresh spasm of the old chase for more dollars, materials and consumption? The Asian fishing fleets; the people pouring into Puget Sound, the Willamette Valley and the Oregon coast; the maw of the "global economy," chewing up, down, under and above the Pacific Rim. Are these the "tribes of the rising sun"? Or just the latest, nearing the last, of the tribes of the present tense?

Egan's book is full of good stories told well. When I look for their lessons, I find the same ones I find everywhere — in the young Pacific Rim, or old Europe, in Kuwait or the Boise Valley. The new commerce we must build is in sustainability, not trade. It will not "burst" upon us, but grow from earth-anchored work and lives. The Northwest creates nothing new and will leave nothing enduring if it just supplies fresh gonads for the same old grab.

The Nisqually Delta: Metaphor for a region under stress

At the Nisqually Delta, where Puget Sound picks up the runoff from one of Mount Rainier's longest glaciers and then doglegs north, creatures of the air and water have hunkered down for their last stand. It's an odd place for a sanctuary, this intersection of man and aqua-beast, of freeway and marsh, of fresh water and salt. At the time of Winthrop's visit, the mouth of the Nisqually served as regional headquarters for the otter- and beaver-hide trade; it was a swap mart for hard-edged men carrying furs to be worn by soft-edged urbanites in distant cities. The fashion designer stood atop the predator chain then.

I come to the Nisqually Delta, not by canoe as did Winthrop, but on an interstate that carries eight lanes of traffic through eighty miles of megalopolis. As the road drops to cross the delta, leaving behind acres of inflatable exurbs and Chuck E. Cheese pizza palaces, the land turns shaggy and damp, a sudden reappearance of the original form. What used to be the fortress of man, surrounded by wild, has become the fortress of beast, surrounded by city. I find a handful of Nisqually Indians holding to a slice of land along the river, and soldiers playing golf on a bluff once guarded by the Hudson's Bay Company. The mosaic of salt water and river rush — one of the last true wetlands left on the West Coast — now is a federal wildlife refuge, the animal equivalent of the Indian reservation. Hunters pick off returning loons as they near the Nisqually, but once the birds make it

through the firing line to land on the fingers of the river, they find a smorgasbord of food, and federal government protection. The refuge designation came just in time: the Weyerhaeuser Company, owner of 1.7 million acres of timberland in Washington, wanted to build a log-export facility in the Nisqually Delta to help speed the shipment of fresh-cut trees to Japan. When the company backed off during the timber recession of the mid-1980s, conservationists stepped in and saved the delta. However, it may turn out to be wildlife under glass; the county surrounding the delta is the fastest-growing community in the country outside of Florida, and Weyerhaeuser, which calls itself the tree-growing company, plans to build a new city of fourteen thousand people on its acreage bordering the refuge.

A sponge for winter rains, and feasting grounds for species that thrive in the blend of mud and grass, the wetlands in this wet land have always been looked

upon as ill-defined and malformed. Not suitable for human habitation, they were judged to be worthless. One by one, the estuaries of the West Coast have been filled in, paved over, planked up. Puget Sound, with more than two thousand miles of inland shoreline, has only a few small places left where river and soil and tide converge to support the bounty of delta life. The Snohomish, outside Everett, has lost three-fourths of its marsh; the Duwamish marsh has disappeared altogether, its tideland filled in with 12 million cubic yards to accommodate Seattle's early-century expansion. Commencement Bay, where the Puyallup has lost all but a few acres of its wetland cushion, is a toxic nightmare, home of the three-eyed fish and a pulp mill which has been the source of one of the most lasting nicknames in the

Northwest — the Aroma of Tacoma. For the last century, oxygenstarved marine life in Commencement Bay has been fed a diet of heavy metals, PCBs and algae.

The Nisqually, for the time being, looks as it did when Winthrop saw it: wide and wet, a stew of shorebirds and marine mammals, more than 240 animal species, with tall grass growing around scattered firs, thick cottonwoods along the river, and in early summer, waves of pink blossoms from the thorny blackberry bushes. I could set up camp here, as the Nisquallies have for centuries, as Winthrop did overnight, and never need to walk more than a few miles to find every food source necessary to lead a long life. But I don't need the delta

Walking a trail planked over the mud and eelgrass on a warm summer morning, a day when much of the country is praying for water and trembling about the prospect of global warming, I pass through a window to the air-conditioned wild; with each step, traffic noise gradually recedes and the full-throated sounds of marsh creatures gain. Inside this thousand-acre garrison eagles nest atop box springs of heavy twigs, mallards feast, needle-legged blue herons and big-headed belted kingfishers dive for prey, and assorted others of webbed toe and water-resistant coat hide out for a few weeks. But where are the sea otters? Winthrop found stacks of their furs inside the palisade of Fort Nisqually here. Where are the packs of wolves that howled outside the gates and disrupted his sleep? Where are the whales he dodged while paddling down the length of Puget Sound? Where are the geoducks he called "large, queer clams," century-old bivalves with necks half as long as a jumprope?

