

A report on groundwater pollution

High Country News

May 25, 1987

Vol. 19 No. 10

A Paper for People who Care about the West

One Dollar

HCN



A silent, insidious invasion

✓ See page 10

Dear friends,



High Country News

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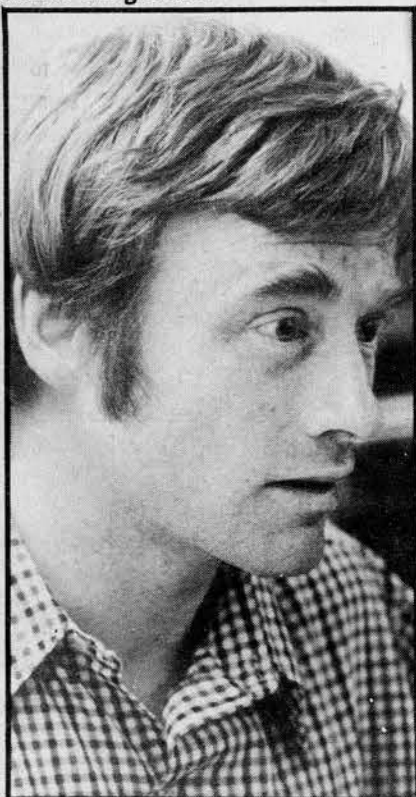
The power of the press is awesome. Just ask Tom Lustig, an attorney with the National Wildlife Federation in Boulder, Colo. Twice now HCN has spelled Lustig as Luspig. We did it first in the March 2 issue in a story on Colorado ski areas. There we quoted Luspig time after time as to the folly of permitting two more ski areas in Colorado for 25,000 or so more skiers. Then, in the last issue, we quoted Luspig again on the attempt to turn Arizona's Mt. Graham into home base for a flotilla of telescopes.

Once we learned of the mistake from HCN board member Andy Wiessner, who has had his name misspelled here several times, we called Lustig to apologize, but were too late. He told us the National Wildlife Federation newsletter is about to rechristen him Luspig. He also said our goof awakened memories of the third grade. "I'd get up to answer a question and the kids would start going, 'oink, oink.'"

Occasionally, a reader writes to say that the cumulative effect of HCN's stories are depressing and to suggest that we seek better news. From now on, we shall send those readers articles from the last issue on the two Idaho rancher-legislators who have been fighting for years against what must seem to them also a depressing situation. They were perfect stories for this newspaper: people who have the perseverance and smarts to win victories even though they are in a conservative, development-minded state.

Accompanying the profiles was another good-news story -- this one on the 1987 Idaho Legislature. The session did some good and relatively little harm. On HCN's beat in the rural Rockies, that is good news indeed.

The writer of the profiles and legislative report was our micro-bureau head for Idaho, Pat Ford, who is one of this paper's most valued writers. In real estate, they say only three things count: Location, location, location. And in writing for HCN, only three things count: solidity, solidity, solidity. Pat Ford has these three qualities. His stories reach to the ground.



Pat Ford

Unfortunately for us, his tenure as microbureau chief for Idaho may be interrupted for the next few months by a temporary position he may take. To cement him in place,

however, we will assume he will return in the late summer and are printing the biography he sent in after weeks of nagging:

I was born in Nebraska, but my family moved to Idaho Falls, Idaho, when my father went to work at the newly established National Reactor Testing Station, now called INEL, on the Arco Desert. Until college, I was a beneficiary of the prosperity INEL brought to the area.

I went to Columbia College in New York City but left in 1969, in flight mode, only a few points short of graduation, but unable to handle the city any longer. I wouldn't have missed the experience, but don't regret leaving. Since then, I have called Idaho home.

After seven largely wasted years, I began working with the Idaho Conservation League in late 1977 in Boise. In early 1979 I became director of ICL, which is a grass-roots advocate-lobbyist for state-wide conservation issues.

I left that job in 1984. Although we worked on many issues during those years, I remember most fondly the work on wilderness, energy and mining. I am proudest of our role in building conservation activism in Idaho's rural areas, notably the towns of central Idaho. We made mistakes, too, but I won't mention those here.

Since then, I have been making a living, barely, writing and trying to learn to write. I haven't fully succeeded yet, and my daughters, Leigh, 14, and Annie, 9, wish their father had a regular job and a steady income, like so-called normal people.



Jane Kay

We will not try to pass off this issue as filled with good news. Its theme is grim: the pollution of groundwater throughout the region by various substances. The centerpiece is by environmental reporter Jane Kay, who spent much of 1985 at the Arizona Daily Star investigating and writing about the pollution of Tucson's drinking water.

Kay interviewed more than 500 residents on Tucson's south side, functioning as medical sleuth and reporter in pursuit of causes of the cancers and other illnesses that appeared to occur at high rates in neighborhoods near toxic groundwater. Her series won several awards last year, including the Edward J. Meeman Award given by the Scripps Howard Foundation. She has rewritten and brought her work up to date for HCN.

If some readers are depressed by their fortnightly exposure to HCN, then the staff ought to be a collection of basket cases. But we have our



Waterfall at Dominguez wilderness study area near Paonia

defenses. First, we believe in the glare of publicity. We are pleased if we can turn over a rock and shine a light on the bleached, scuttling things below. We are only depressed by the rocks we can't get to.

Second, we're "professionals" and maintain a distance from the events reported on. Earth First! warns against professionalism, but we're not sure how to do this work without some protective hardening. We remember vividly the day a local reader walked into the office sobbing over some piece of rapine the Forest Service or BLM had done to a nearby piece of land. We're not particularly proud of our reaction: We quietly hoped she would take her grief elsewhere.

But on occasion, even Kojack is touched. The most recent occasion was the locking off in early 1986 of the 70,000-acre Dominguez River. The closure by the BLM of the Bridgeport Bridge that provides sole practical access to the area was, and remains, a blatantly improper act done under pressure from BLM head Robert Burford and former Congressman Mike Strang at the behest of a fellow rancher (HCN, 2/17/86). A ranch owned by the Musser family is adjacent to the Dominguez area and over several generations they have come to see land we all own as part of their private domain.

In a breakdown of professionalism, HCN staffer Ed Marston, acting as an individual, appealed the closure and is now awaiting word from the Interior Board of Land Appeals in Washington, D.C.

Meanwhile, the community is not letting that closure by the BLM go unchallenged. On Saturday, May 9, the Western Slope Energy Resource Center rented a motorboat and ferried more than 100 people across a very full Gunnison River into the Dominguez area. Another 30 or so people floated down the Gunnison to its confluence with Dominguez.

To their credit, BLM officials John Singlaub and Wade Johnson spent their day off in Dominguez to see if anyone cared about the closure. They found people of all ages, especially local, older people, who love the area and who took

(Continued on page 15)

WESTERN ROUNDUP

A Ute proposal could triple size of Mesa Verde

Efforts to solve crushing economic problems on an Indian reservation may result in commercial development along a Park Service road just 90 feet from the border of Mesa Verde National Park in southwestern Colorado.

The Ute Mountain Ute Indian Tribe wants to draw more visitors to their Ute Mountain Tribal Park, a private, mostly undeveloped version of Mesa Verde National Park. The Indian park is twice as big as Mesa Verde and contains hundreds of the stunning, ancient Anasazi cliff dwellings. The main tourist access to the tribal park is the Park Service's road to Mesa Verde, and most of the Ute's tourist-oriented building would be on Mesa Verde's borders.

The issue pits two growing concerns in the West: the need to protect National Parks from encroachment versus the need for Indian nations to create jobs.

The 1,500 Ute Mountain Utes are descendants of the Weeminuche Ute Band that used to inhabit southwestern Colorado. They live on an isolated and arid reservation marked by canyons, high mesas and pinon and juniper woodlands. Unemployment on the reservation ranges between 50 and 60 percent, and over the past five years, the tribe has lost 60 percent of its revenues due to the slump in oil and gas. Cortez, the only town nearby, is 25 miles away.

Mesa Verde is an internationally famous park, recognized by the United Nations as a World Heritage Site for its large and excellently preserved cliff dwellings. The park draws 600,000 - 700,000 visitors a year and is a tourist gold mine in the midst of the depressed Four Corners region.

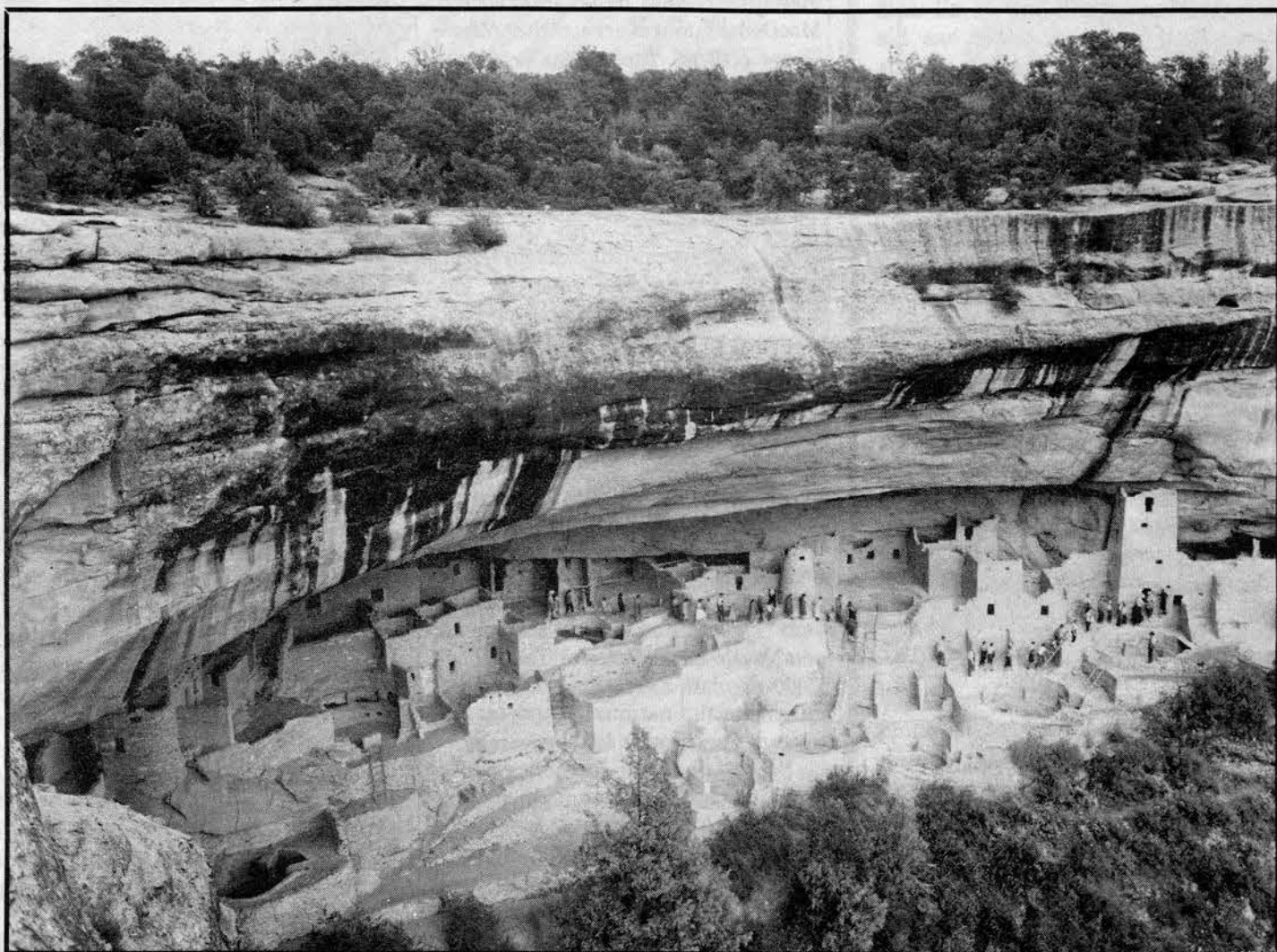
Because of inaccurate federal surveys in the 1940s and 1960s, a section of the Mesa Verde road travels off Park Service land and 90 feet deep into the Ute Mountain Ute reservation. The trespass occurs on a narrow mesa between canyons that boast Mesa Verde's most visited cliff dwellings, Cliff Palace and Balcony House. For years, Indians of many tribes have set up camp on the 600-foot-long stretch of road to sell their wares to tourists.

The Ute Mountain Utes now hope to capitalize on the Park Service's survey mistakes. Last summer the Utes granted a helicopter service a contract to fly tours of the tribal park from a makeshift pad just off the road at Soda Point. They also set up open-air buildings to sell pottery from the reservation's pottery factory. On the drawing board are plans for a restaurant, museum and shops, which worry the Park Service. They are concerned that this much commercial development will mar the experience of visitors to the national park.

Ute Mountain Chairman Ernest House says the tribal park is the tribe's greatest resource, one of the few opportunities for the Utes "to become active participants in the quality of life shared by most Americans."

Mesa Verde official Doug Caldwell says development at Soda Point could require the Park Service to extend water, power and sewage

Colorado Tourism



Cliff Palace at Mesa Verde National Park

lines, which might disturb archaeological sites. Last year Mesa Verde officials did an environmental assessment on a plan to re-align the controversial road entirely within the park. Caldwell says a spur would be left to give access to Soda Point, thereby giving tourists the option of visiting the reservation development.

The attempt to re-align the road brought immediate and angry protests from the Utes. At Soda Point, the tribe has a captive market that can reach up to 3,000-4,000 tourists on a busy summer day. The helicopter service, which operated for only half the season last summer, took 1,200 passengers on flights that cost between \$30 and \$135. Ute tribal park Superintendent Art Cuthair says this summer's tours will mean jobs and good money to the tribe, but "if they re-align the road that would cut us off and we're out in the cold."

Cuthair also said a re-routed road would threaten archaeological sites as much as putting in new utility lines. The tribe's position was supported by the Anglo community of Cortez, which is also dependent on a strong tourist economy. Ron Livingston, owner and operator of Four Corners helicopter service, says, "It benefits everybody in the community. People will stay a little longer and spend a little more money."

In March, Park Service Chief William Penn Mott met with Ute Mountain Tribal Chairman Ernest House and Colorado Rep. Ben Nighthorse Campbell. D. Mott agreed to delay action on the road until joint studies could be done on development possibilities for the tribal park.

The Utes may have the Park Service and the Department of Interior in a bind. Much of Mesa Verde was once part of the Ute Mountain Ute Indian Reservation,

and the agreements that gave the land to the U.S. in 1913 obligated the Park Service to protect the Ute treaty rights and manage the park so as not to impair the economic and governing ability of Ute Mountain Utes. Interior also has a trust obligation to help Native American peoples regain self-sufficiency.

In a letter to Mesa Verde Superintendent Robert Heyder, Chairman House warned that the tribe also has other legal rights that could nullify the road re-alignment. In 1913, some 1,300 acres, in addition to what the Utes gave up in the land exchange, were taken without tribal consent. "This area includes Balcony House as well as the land with the proposed road re-alignment," House wrote.

But the Utes don't want to fight that battle, adds Cuthair. He says he welcomes the Park Service decision to delay action. The tribe has offered the Park Service an easement for the road and lists a series of mutual benefits for the two parks. Those benefits include class one boundary zoning, cooperative management and diversification of Mesa Verde's attractions to include a living Native American experience as well as helicopter and horseback tours. The trade-off is letting the Utes build their developments.

Cuthair says the Utes don't have the resources to compete with a national park and intend to maintain their tribal park primarily as a primitive park. Development would occur on the periphery, bit by bit, Cuthair says. "We don't want all kinds of buildings out there, paved roads, handrails, lacquered picnic tables and what-have-you. It's just a natural park." In the Ute park, ruins and artifacts have been left as they were found, and have not been stabilized.

The Park Service agreement with the Utes is for a three-phase study

that will examine previous development studies and then take another look at the "big picture" before recommending any specific projects, says Jim Harpster of the Park Service's Rocky Mountain regional office.

Tribal development director Joe Keck, who has worked with Durango's Ft. Lewis College for several years writing development scenarios for the park, says the tribe has neither time nor money to spend another two years looking at some "global picture." The Utes want specific feasibility studies, he says, but everything depends on whether the Park Service is willing to extend utilities to Soda Point.

--Steve Hinchman

HOTLINE

Hunting and fishing for revenue

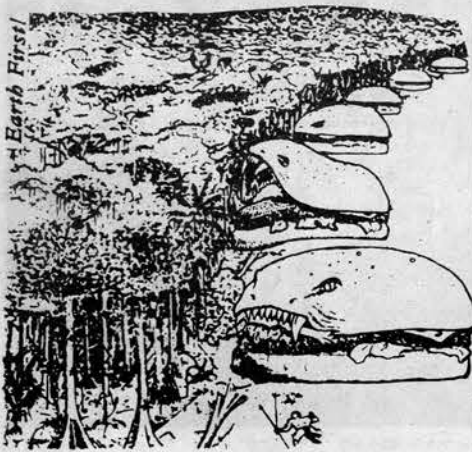


Almost \$300 million will be needed over the next 13 years to protect Colorado's wildlife, a governor's task force reported recently. The group of corporate executives, developers and conservationists said that new funding sources had to be found and suggested a tax on motor vehicles or excise taxes on outdoor equipment. The sale of licenses is now the Division of Wildlife's major source of money -- \$29.5 million out of a \$38.6 million budget -- but the task force said many people benefit from wildlife and natural areas who do not hunt or fish. The group also predicted that as Colorado continues to urbanize, money will be needed to replace lost fish and wildlife habitat, to expand fish hatcheries, and to improve public access to streams and lakes.

HOTLINE

Hansen is rejailed

Former Idaho congressman George Hansen will stay in jail until Dec. 26 if a parole officer has his way. Hansen, who served six months of a 5- to 15-month sentence for breaking federal ethics laws, was jailed again after an April 29 hearing. The hearing officer said he recommended parole revocation because Hansen did not comply with court orders to properly file monthly financial statements. Character witnesses at the hearing included Anne Burford, a former administrator of the Environmental Protection Agency, who resigned amidst charges that the agency was tainted by conflict of interest, mismanagement and favoritism. A regional parole board decides soon if Hansen remains in jail.

**A beef against Burger King**

Earth First! protesters dressed as cows and trees plan to descend on Burger King hamburger restaurants this month to challenge the chain's policy of buying beef raised in Central American rainforests. The nationwide "Whopper Stopper" boycott targets Burger King and other fast-food hamburger chains. The U.S. buys 90 percent of Central American beef exports and critics say converting forests to cattle pasture could eliminate the remaining rainforests in the area within 20 years. Cheap imported beef also drives down the price of domestic beef, say stockmen.

Power to the states

Environmentalists and the mining industry are waiting to see how a Supreme Court decision that allowed California to impose environmental regulations on a mine on a national forest will affect other activities on federal lands in the West. John Leshy, attorney for the western states that appealed the Granite Rock case to the Supreme Court, says the new decision overturns the 1979 Ventura decision, which said local governments cannot require permits for activities on federal lands. Leshy says it will take another case before the Supreme Court to settle the matter. Until then he recommends that state and local governments interpret the Granite Rock case to mean local permits can be required for mining or oil and gas leasing on federal lands. The Granite Rock decision may also force major revisions to the 1872 Mining Law, Leshy adds. Mining companies have been hesitant to patent mining claims because their operations would then become subject to state regulations, but states can wield that power regardless, Leshy says.

Navajos may soon have a weekly paper

WINDOW ROCK, Ariz. -- It has been a long interim for interim publisher Willus Brown. Named in March by Navajo tribal leader Peter MacDonald to resurrect the *Navajo Times TODAY*, Brown has yet to see a newspaper roll off the Navajo presses.

The country's only daily Indian newspaper was closed Feb. 19 when MacDonald claimed it was bleeding the tribe's budget with its annual \$1.3 million operating costs (HCN, 3/16/87). After he gave 53 employees the pink slip, MacDonald selected an eight-person panel to review the paper's finances and editorial content.

The consulting publishers and journalism professors from around the nation concluded the paper's costs could be dramatically reduced by publishing it weekly and slashing its staff. In its recommendation to MacDonald, the panel also said the daily paper contained too much non-Navajo related news. The former 7,000-circulation *Times* had blended international, national, and southwestern stories with local coverage.

Brown, who headed the reviewing panel, was then named interim publisher. "We thought we would have it ready May 9," he said of the elusive paper the chairman has been promising would "be on the streets" last month. "And then we thought we would have it ready May 15. Now, we're still hoping we'll have it May 22."

Brown, former veteran publisher of the *Rapid City Journal* in South Dakota, is now a consultant for Cowles Media in Scottsdale, Ariz. He said the new weekly tabloid *Times* would be very small.

"We're looking to see what we can do. Before, when they were publishing, they spent an awful lot of money," Brown declined comment on the budgetary constraints the tribe has placed on its publication. A decision has yet to be made on whether tribal press releases will be used in lieu of reporters actually covering local politics, he said.

Staff members were being hired last week. Brown reported between 12-14 full- and part-time people would be on the payroll. The Navajo Finance and Budget Committee has allocated \$67,000 for the paper during May 6 - Sept. 30.

Former staff members say they are "disappointed" with the outcome of the controversial closing. George Hardeen, night editor at the daily *Times*, said he would have considered re-applying for his old job if the paper showed any sign of journalistic integrity.

"We put too much faith in the tribe," Hardeen said. "Those of us who wanted to come back really thought the tribe would at least try to produce a decent paper."

Hardeen joined four other staff members in Phoenix to accept the Arizona Press Club's Distinguished Service Award April 25. Press club president John Leach said the staff was selected because of their continual battle to run a free press under the thumb of the Navajo Tribe.

Accepting the award before a crowd of 500 attending the awards banquet, former editor and publisher Mark Trahan said: "We all stuck to our principles and convictions and never once compromised. And in the end, that probably was our doom."



Stored Navajo Times dispensers

In his analysis of the staff, MacDonald accused Trahan of spending more time at the Gallup golf course than in his Window Rock newsroom. Trahan is now working for *The Arizona Republic*.

The Arizona Press Club noted that Trahan was one of many *Times* publishers who played a game of musical chairs: "Although none of the paper's publishers has claimed to be a jet pilot, the desk that goes with the job does seem to have an ejection seat." The 27-year-old paper has been through 14 publishers or general managers.

On another controversial subject, the Navajo Tribal Council recently agreed to buy a large cattle ranch south of the Grand Canyon. The price tag: \$33 million for 729,532 acres.

The land is slated to relieve current housing and livestock overcrowding on the reservation's 17

million acres. It may also be used for cattle-raising and possible tourism on the edges of Grand Canyon National Park.

But the purchase does not sit well with either the Hualapai Tribe, who live near the new Navajo "Big Boquillas Ranch," or with the Havasupai Tribe, who live in the canyons below. Hualapai Chairman Edgar Walema said his small 1,300-member tribe is concerned about the continual expansion of the 200,000-member Navajo Tribe. "What can we do to stop them?" Later Walema retracted his statement and wrote a letter of apology to the Navajo Tribe.

MacDonald told the press it was the largest tract of land the Navajo Nation has been offered. "My belief is that Navajos will always go after land, no matter what year, no matter what age we're in."

--Patricia Guthrie

Bears versus bikers

The Forest Service overruled Region One Forester James Overbay and prohibited off-road vehicles from specified areas of the Swan Range on the Flathead National Forest in northwest Montana.

The temporary order closes approximately 3,700 acres of the Noisy Face, a popular recreation area southeast of Kalispell.

In April, Overbay had granted a stay of the closure initially ordered by Forest Supervisor Ed Brannon in March. Brannon ordered the closure while officials decided on a final management plan for the area.

Finding a course of action that would mollify both off-road vehicle users and conservationists has been the crux of the problem for USFS officials. Conservationists want to see grizzly bears remain undisturbed during the spring in this critical habitat area. Trailbike and horseback riders say the ban unfairly restricts the number of trails open to them.

Two conservation groups, the Swan View Coalition and the National Wildlife Federation, joined forces and appealed Overbay's stay to

Forest Service Chief Dale Robertson, who made the latest ruling.

Notice of Robertson's decision was made just before a hearing in Helena before federal district court judge Charles Lovell. Bob Garner, a coordinator for the Montana Trail Bike Riders Association, said his group has not yet decided what action they may take. Garner said, "It's unfortunate that the Forest Service yields to the type of pressure applied by the Swan View Coalition and National Wildlife Federation."

The dispute took an ugly turn recently. A horse rider discovered fishing line strung across one trail, and a Kalispell hiker discovered a 16-inch metal plate studded with eight, five-inch nails partly buried in another trail. Swan Lake district ranger Bill Pederson, who reported finding more fishing line tied to trees along trails, said he had some ideas about who booby-trapped the area, but no proof.

"It's too bad they resort to something like that," said Pederson. "People that aren't even involved end up getting hurt."

--John Holt

A small town fights a large asbestos dump

Southeastern Wyoming residents are temporarily ahead in their fight to stop a company from putting an asbestos dump near their town. At a public hearing in Burns, a small town 15 miles east of Cheyenne, the state's Environmental Council yanked Mountain States Solid Waste Management's permit even before local residents had a chance to testify against it.

The council revoked the permit because the Wyoming Department of Environmental Quality failed to require Mountain States to give proper public notice before proceeding with plans to build the dump. Residents said they knew nothing about an asbestos landfill until signs were posted in front of the almost-completed project.

Public notices about the dump had been printed in the *Wyoming State Journal*, but as Environmental Council member John Crow said in his motion to revoke the permit, that paper is not a local paper. David Clark, another council member, also said that Mountain States made several changes in its permit application after notices were published. The Wyoming Environmental Council is a citizen board appointed by the governor to oversee the Department of Environmental Quality.

Mountain States Vice President Al Sparks said his company will amend and re-submit its permit application, addressing drainage problems and concerns of residents living within a half-mile of the site.

Meanwhile, residents have formed a committee to fight the dump, and at the hearing, Burns Mayor Harry Pauli vowed to take the case "all the way to the Supreme Court, if necessary."

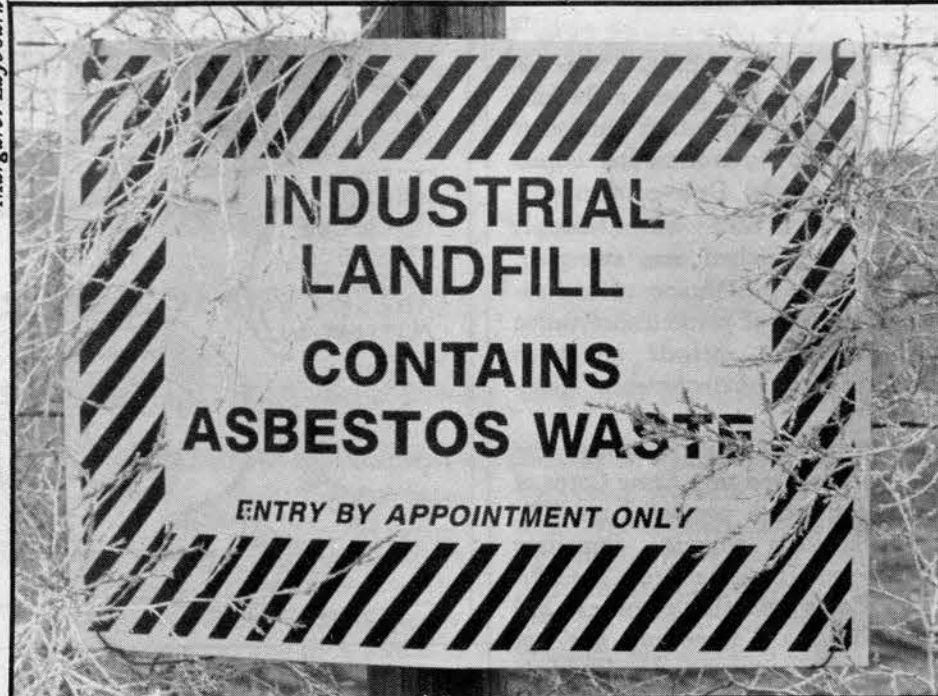
The proposed dump site is located along Interstate 80 three miles south of Burns, and can take up to 250 cubic yards per day of asbestos and attached materials. Mountain States' permit requires employees to remove the double-bagged wastes from trucks and bury them in trenches under six inches of soil, all by hand. When a trench is filled, bulldozers will cover the contents with four more feet of soil.

Boyd Frye, a spokesman for the 400-member People for the Environment, said the bags could break when heavy equipment is used to bury the waste. "The badgers that live out there will burrow in and scatter that stuff to the four winds," he warned.

Teresa Cox, a homeowner next to the proposed dump, said it is the worst possible site because there are houses on all sides and the land is split by the interstate. After inspecting the site, U.S. Sen. Alan Simpson, R, said, "It's absurd where they have it."

Possibly as a result of local opposition, Mountain States has recently approached Rock Springs about locating a dump there. In March, Mountain States representative Dave Ling told Sweetwater County Commissioners that the company might abandon the nearly completed Burns site and shift the entire project to Sweetwater County. Ling also told the *Casper Star-Tribune* that asbestos and other hazardous waste sites might be received more favorably near Rock Springs because "the needs of

Margaret Laybourn



Telltale sign near Burns, Wyo.

industry are more recognized there." For the Rock Springs alternative, however, Mountain States is seeking public comment before making any investments. Burns Mayor Pauli says the different approach is because Sweetwater County has its own landfill regulations. By contrast, the Burns site is in Laramie County, which is one of the few in the state

that had no landfill zoning laws, says Pauli. That's why Mountain States chose to build there in the first place, he adds.

But last month Laramie County passed landfill zoning regulations, which Mountain States will have to meet in order to re-apply for a new permit.

--Margaret Laybourn

Nuclear dump draws fire

Generally speaking, many Westerners react to the possibility of having a national nuclear-waste repository in their state as if it were the AIDS virus. Montanan John Driscoll doesn't think that way.

A member of the state's Public Service Commission, Driscoll has generated headlines as well as criticism for his recent proposal. He has urged the governor and legislative leaders to court the federal government to study Montana as the site for the nation's first high-level nuclear waste repository.

Toward the end of the 1987 Montana legislative session, Driscoll floated a letter for signature among leading lawmakers. It urged Gov. Ted Schwinden to open a dialog with the Energy Department on siting the repository in Montana. Driscoll also brought DOE officials to the state for briefings, but initial reaction was cool and he got no outright endorsements. For his efforts he was criticized by conservationists.

"It's a stupid idea" and it "lacks fundamental common sense about Montanans' feelings about nuclear waste" said Jim Jensen, director of the Montana Environmental Information Center, a citizens' lobbying group. By referendum, Montanans have twice since 1980 rejected siting nuclear-waste facilities in the state.

Driscoll's proposal made headlines because it came from a member of a board that is influential in setting public policy. The Public Service Commission, a five-member elected board, regulates Montana's utilities and railroads and is often involved in pivotal issues affecting the state's major industries.

The DOE has chosen three sites -- Hanford, Wash., Yucca Mountain, Nev., and Deaf Smith County, Texas -- as finalists for the nuclear waste repository. But local opposition in each state, lawsuits against the federal government on its selection

process, and political wrangling have left a final choice unresolved.

"I knew it was risky to even suggest it," Driscoll said recently, but he added that "we (Montanans) have an environmental ethic" and the skills necessary in hydrology, geology and engineering. Driscoll cautioned that he would not support a repository in Montana unless the federal government finds a suitable site.

According to Driscoll, the repository could generate \$150 billion in benefits over its expected 75-year life and create 4,000 construction jobs and 1,000 permanent positions. But Driscoll said the economic benefits of the facility are secondary.

"I thought it was a couple of hundred jobs and a hole in the ground...jobs was an afterthought," he said.

Brace Hayden, Schwinden's natural resources aide, said the governor will talk to the Department of Energy on the issue only when so directed by the Legislature -- something the lawmakers have yet to do. Most legislative leaders have either expressed outright opposition to Driscoll's proposal or said it needs further study.

--Bruce Farling

Amax gives up on Crested Butte

For the first time since the early 1970s, Amax Inc. is not seeking to develop its mineral claims on Mt. Emmons, near the ski town of Crested Butte, Colo. Amax spent about \$120 million in an attempt to build a large molybdenum mine in the face of strong opposition from the ski town. It ended its mine development project in 1981 due to depressed moly prices. That depression has continued, forcing the firm recently to cut back its Leadville and Henderson mines. But it continued to try to sell its Mt. Emmons interests to other developers. Water rights,

HOTLINE

Bob Perillo



Moms for peace

About 3,000 women, men and children trekked into the Nevada desert this Mother's Day, May 10. There they protested nuclear weapons testing at the Nevada Test Site, 65 miles northwest of Las Vegas, and urged a comprehensive test ban treaty. Police arrested 746, but everyone was released quickly and no charges were pressed. There were dozens of sponsors of the demonstration, including the American Peace Test and Women's International League for Peace and Freedom.

Waiting in Arizona

Arizona Game and Fish is still waiting for someone to testify against a hunter suspected of killing a jaguar in the southern Arizona desert last December. Officer Dave West says even though the reward for information on the killing of the extremely rare and endangered jaguar is up to just under \$5,000, no one has yet come up with the pictures, skin or witness necessary to convict the killer. In a related case, a Montana taxidermist who wishes to remain anonymous received \$1,000 in April from the Audubon Society as a reward for providing information that led to the conviction of a Wisconsin hunter who illegally killed a grizzly bear. U.S. Fish and Wildlife spokesman Jack Hallowell says commercial wildlife crime in the U.S. and other nations is increasing, and black market prices for animal parts are extremely profitable. Hallowell says a jaguar skin can sell for over \$3,000, polar bear skins go for \$5,000, hyacinth macaw \$10,000, eagle feather warbonnets \$5,000, and gyrfalcons up to \$100,000.

however, were a precondition to any deal, and Amax continued to seek conditional water rights for a mine and mill. A 1985 option to buy the project, signed by Wyoming-based U.S. Energy/Crested Butte, indicated that the mine might still be built, and bought Amax some time in water court. However, the deal fell through in February, and the mining giant was forced to drop its water rights application. An Amax spokesman said, however, that Mt. Emmons will be "the next molybdenum mine to be developed."

--Gary Sprung

HOTLINE

Bear is spared

Chuck Gibbs, an avid Montana wildlife photographer, was killed by a grizzly bear April 25 in the southern end of Glacier National Park. Gibbs was taking photographs of a female grizzly and three yearling cubs when the bear attacked. The 40 photos found in his camera revealed that the bears tried to move away from Gibbs, but he continued to come closer. He managed to climb 15 feet up a tree, but the grizzly pulled him down. Because it was a case of a mother bear protecting her young, park officials said the bear will not be destroyed. The park has kept records of bear incidents since 1907, with the first fatal mauling occurring in 1967. This death brings the total of fatalities up to seven.



A tenacious opponent

A Montana environmentalist is once again asking stockholders of a Canadian mining firm to abandon plans for a huge open-pit coal mine. The proposed mine is seven miles north of Glacier National Park on the Montana-Canadian border. John Frederick, president of the North Fork Preservation Association in Polebridge, Mont., has fought the 4,000-acre Cabin Creek mine for over a decade. Since 1983, when he bought shares in the mining firm, Rio Algom Ltd., Frederick has attended every annual shareholders meeting to argue against the mine on economic, environmental and foreign policy grounds. His attempts are mainly symbolic, but over the years Frederick gained support among some minority stockholders, and his efforts gained the attention of the Canadian media. A joint U.S.-Canadian team is currently studying the project to determine if it would violate an international water-quality protection treaty, and the U.S. Securities and Exchange Commission is investigating whether Rio Algom properly observed Frederick's rights as a stockholder. The Canadian government long ago approved the proposed mine, but it has been on hold ever since coal markets went sour.

Fisbery is destroyed

Nearly 10,000 German brown trout went belly-up in Utah's Ogden River May 1, after an unknown company illegally dumped a mixture of chemical weed killers into an Ogden storm sewer. The Utah Division of Wildlife Resources identified the herbicides as 2,4-D and 2,4,5-T, which together comprise a form of the defoliant Agent Orange. The Environmental Protection Agency banned 2,4,5-T four years ago with some limited uses allowed, and Utah outlawed the chemical completely in 1986. State officials say a company involved in lawn care or farming probably dumped the herbicides because of the high cost of detoxification. The agency plans to put 20,000 rainbow trout in the Ogden River this spring, but says it will take time to rebuild the fishery and replace the German browns.

EPA rips the Two Forks Reservoir EIS

by Ed Marston

The Environmental Protection Agency has given a flunking grade to the draft version of a \$30 million environmental impact statement on the Denver metropolitan area's future water supply system. Its criticism was sweeping, ranging from the choice of alternatives to neglect of water conservation to a failure to include mitigation measures for environmental damages.

In carefully chosen language, the EPA also accused the Army Corps of Engineers, which prepared the EIS, of deliberately omitting important information. The letter from the EPA to the Corps said the engineers had engaged in a "screening out" of water quality impacts developed as part of the EIS process. The screening out, the EPA said, resulted in the concealing of certain water quality impacts.

The EPA told the Corps that it could still produce an acceptable document if it thoroughly reworked the draft. The Corps replied to the EPA critique by saying that it will not thoroughly rework the Metropolitan Denver Water Supply Draft EIS, also known as the Two Forks EIS. Instead, the agency intends to meet an August deadline set in Washington, D.C., for producing a final EIS.

Colonel Steve West of the Corps, in his reply to EPA acting regional administrator Alexandra Smith, ignored the EPA's charge that the Corps had engaged in the "screening out" of important information. Instead, the Corps said the EPA had been involved in the five-year-long EIS process, and that it had, through that involvement, essentially signed off on issues it now claimed needed redoing. West also said that EPA's own differences with the state of Colorado on water quality standards had put the Corps in a position where it could do no right on that issue.

The EPA's April 23 critique is remarkable for its broad condemnation of a document the Corps, an army of consultants, the Denver Water Department and 46 or so Denver-area cities, counties and water companies have spent five years and \$30 million on.

The EPA hit the draft in two areas. First, the EPA has the responsibility to examine EISs for overall adequacy. It found on a number of general grounds, including the nature of alternatives, the neglect of conservation, and the lack of mitigation plans, that the draft was deficient. It also said that had the Corps done its work properly, it could not have concluded "that Two Forks is the most cost-effective alternative."

In addition to its overall responsibility, the EPA is in charge of air and water quality impacts. It found there that the document "does not adequately assess the potentially significant environmental impacts of the proposal, particularly water quality standards violations..."

Overall, the EPA gave the draft a grade of EU-3, which in high school or college would be an F/F.

In a particularly tough part of the letter from acting regional administrator Alexandra B. Smith to Colonel West, the EPA laid out the consequences if the Corps failed to



issue an adequate supplement to the draft.

"In the event that the Supplement to the DEIS and FEIS remain inadequate, EPA may elevate this matter for higher level review, pursuant to either a CEQ (Council on Environmental Quality) referral or Clean Water Act Section 404(q). Additionally, EPA may exercise its Section 404(c) authority."

EPA is saying that it may ask the CEQ in Washington, D.C., to review the document for overall quality, while the EPA itself may deny Two Forks Reservoir a permit under the Clean Water Act.

One reason for the EPA's hard line on the document may lie on page four of the EPA's summary of its comments:

"The Water Quality Work Group (consisting of representatives from the U.S. Forest Service, U.S. Fish and Wildlife Service, Division of Wildlife, Colorado Water Quality Control Division, Denver Water Department, and EPA) under full consensus arrived at criteria to determine 'significant water quality impacts.' The DEIS does not apply the Work Groups' criteria to the data found in appendix 4C. This has resulted in a 'screening out' of what the Water Quality Work Group and the EPA consider significant water quality impacts... Also, the text of the DEIS does not clearly describe the significance criteria. The EIS should clearly acknowledge and apply the significance criteria developed by the Water Quality Work Group."

The EIS process has been hailed as one that operated by consensus. In the above paragraph, the EPA is charging that the Corps dropped criteria to judge water quality impacts that were developed by major players in the process, including the EPA. That dropping, or "screening out," meant that changes in water quality that the EPA considers quite serious could be ignored in the EIS.

The Corps' Col. West ignored that charge. But he indicated (the Corps' response is incredibly dense and bureaucratic) that the EPA had jumped the gun by threatening to withhold a permit. The EIS is not a permitting vehicle. It is a disclosure document that will then be used by decision makers in agencies to decide whether specific projects should be permitted. West asked the EPA to tell the Corps to specify "the

mitigation measures" needed to make the project acceptable. West also said that he "did not believe" a supplement was necessary.

The Omaha office of the Corps has been committed to its August deadline by its Washington office. It cannot meet that deadline and issue a supplement to the draft EIS. But if the EPA is correct, and the document has deep problems, then the Corps has a hard choice. If it does not redo the EIS, it faces a challenge not just from the EPA, but from anyone who wants to sue and use the EPA critique in court. If it does quickly but thoroughly rework the draft, but not go through a public comment period, it denies the public a chance to critique a new document, and could be vulnerable legally on those grounds.

The two sides in the five-year struggle over the Denver area's push to build the \$500 million Two Forks project on the South Platte River differ in their judgment of the EPA's action.

The Denver Water Board and the Water Providers, a consortium of Denver's 40 or so partners in the project, downplay the significance. Bob McWhinnie of the Providers said the EPA made a mistake. "My feeling is that there are people in that agency with egg on their face." He said the EPA is objecting to things in the draft that it agreed to two years ago. "The criticism is inconsistent with the previous agreement."

Ed Pokorny of the Denver Water Department said the EPA hadn't been involved on as high a level in the five-year-long EIS process as other federal agencies. He also said that matters were further confused by the fact that the Region 8, or Denver, office of the EPA was between directors when the critique was issued. But he didn't see the EPA critique as something that fell out by accident. "I think the EPA comments are things they think should be addressed."

The representatives of the Environmental Caucus saw the EPA's comments as very important. Dan Luecke of the Environmental Defense Fund in Boulder, said:

"The EPA's comments are an indicator of how the staff, the region and even Washington feel. The comments are not a fluke. In order to get this kind of rating -- the worst they can give -- the EPA had to go

back to Washington and brief the EPA administrator, the congressional delegation, and still get that letter signed by the acting administrator.

"We followed that process very closely. There was strong support in Washington for the letter, less support here in the region. To Washington, the Denver Water Board is a small, remote local entity. It doesn't have the clout there that it has in Denver."

Bob Weaver, a Denver-based water consultant and another member of the Environmental Caucus, said, "I think it's politically significant. The Denver Water Board and the Water Providers have saturated Washington. They have pulled all the political strings they have with the Reagan administration. They obtained orders from the head of the Corps of Engineers (Brent Dawson) to meet an August deadline."

Weaver said that despite the Denver area's free use of political influence, they could not stop the EPA from issuing its critique. "I think it means to some extent that the Denver Water Board and the Water Providers may have generated a political backlash."

McWhinnie of the Providers denied that his group of Front Range cities, suburbs and water companies had attempted to unfairly influence the process. "I take great exception to that. We have not tried to use political muscle."

McWhinnie accused the Two Forks opponents of having behaved irresponsibly in their use of the process. "It doesn't cost much to raise an issue, but it costs a lot to rebut them." The Providers say the \$30 million-plus cost of the EIS is in part a result of the endless raising of issues.

Luecke and Weaver, who have been the environmentalists' technical representatives in the EIS process, are adamant that the Front Range has attempted, on a variety of issues, to muscle the process. Weaver cited the decision by the federal Fish and Wildlife Service on Dec. 8, 1986, that the portion of the South Platte that Two Forks would inundate is a category I stream, and therefore of the highest quality and irreplaceable.

Weaver said the Front Range brought pressure on Frank Dunkle, head of Fish and Wildlife in Washington, to fire his Denver regional head, Galen Buterbaugh. But, Weaver said, the Providers and Denver failed, and Buterbaugh still has his job.

In a more public effort, Weaver and Luecke said, the Providers and Denver have also apparently fallen short in their attempt to stifle the Colorado Division of Wildlife. That state agency has said the mitigation of the South Platte site for Two Forks will cost an estimated \$219 million, which is roughly half of the cost of the construction part of the project. Denver says it will cost a fraction of that.

The stream is valuable because of its high trout productivity and its closeness to the urbanized Front Range. The last two Legislatures have seen bills introduced to hinder the DOW's freedom to comment on the impacts of water development. The 1986 bill failed. The 1987 bill

'The EPA comments are not a fluke. In order to get this kind of rating - the worst they can give - the EPA had to go back to Washington and brief the EPA administrator, the congressional delegation, and still get that letter signed by the acting administrator.'

may pass, but in a form that should not cripple the DOW.

But in the large game of political chess, the environmentalists say, the Providers and Denver recently won a significant victory. The EPA letter to the Corps was signed by an acting regional administrator, Alexandra Smith, who was serving between John Welles, who departed in late 1986, and Jim Sherer, who took over a few days after the letter was signed.

Sherer, a former Republican Colorado state legislator and successful businessman, has no background in the environment. He is also a protege of Sen. William Armstrong, R-Colo., and conservative Denver businessman Joseph Coors. It is the same combination that brought Anne Gorsuch Burford to head the EPA and Steve Durham to head EPA's Denver office. Like Sherer, Durham and Burford were former Colorado legislators. Both left the EPA under a cloud.

But Sherer's apparent similarity to Burford and Durham may not tell the entire story. Luecke said Sherer comes to the EPA with a different reputation. He was highly effective in the Legislature and is not believed to carry heavy ideological luggage.

In order to play a role in this process, Sherer will have to come quickly up to speed on a large number of complex issues affecting water quality. The EPA staff believes that construction of Two Forks, and the subsequent diversion of water from areas in western Colorado that have been disturbed by mining, will bring high levels of some heavy metals to the South Platte River.

The agency also said that changes in how Denver operates its water system will result in deterioration of water quality in its Chatfield Reservoir. Finally, the removal of high quality water from areas of the Western Slope to fill Two Forks will result in less dilution and a decrease in water quality.

These physical facts must then be run through various regulations for a determination of whether they are so serious that they require mitigation, or could stop Two Forks cold. Here, the analysis runs into differences between the way the state of Colorado treats changes in water quality and the way the EPA wants it to be treated.

Col. West, in his response to the EPA critique, said that the EPA and the state must decide how to treat the issue of degradation of existing stream quality before the Corps can be accused of not doing its job. The degradation issue is complicated. But, oversimplifying it, the state of Colorado has exempted water de-

velopment projects from the need to meet anti-degradation standards the EPA requires under the Clean Water Act. For the past several years, the EPA has been trying, half-heartedly, to bring Colorado into line.

Now, according to EDF attorney Melinda Kassem, the EPF has filed a notice of intent to sue unless EPA forces Colorado to treat the degradation of streams more seriously. The Corps' EIS used the easy state approach to anti-degradation, rather than the tougher federal standard.

Even the tough federal standard does not prevent streams and rivers from being lowered in quality, or degraded, by a water project. But it does require a public process to show that such degradation results in offsetting social and economic advantages.

Such a process could be difficult for a project like Two Forks. According to the regulations, the social and economic benefits of the project must occur in the same place as the degradation. Two Forks will require the diversion of water from western Colorado to benefit the Front Range. So the losses and benefits are in different places, for which the regulations do not allow.

In its critique, the EPA appears to be insisting that the stricter, federal standards be used to settle the degradation question. And the Corps, in its response, is telling the EPA to work that out with the state of Colorado first.

The Corps is in a difficult position. The Front Range counties, cities and water companies have spent over \$30 million on this EIS. If the Corps and other federal agencies, on the basis of the EIS, were to deny a permit for Two Forks, the heads of numerous Front Range officials could fall. Having spent a well-publicized \$30 million, the Front Range would undoubtedly pony up another few millions to sue the Corps.

Aside from self preservation, the Front Range establishment seems totally committed to construction of Two Forks, and resistive to an array of alternatives, including greater use of groundwater, more conservation, leasing of water from existing projects such as Windy Gap, and additional purchase of Front Range agricultural water.

There is strong precedent for their single-minded insistence on the massive Two Forks project. Cities as diverse as New York and Los Angeles have supplied their water needs by going far afield for water. The history of America's major metropolitan areas in this century has been one of unceasing growth. When the central city faltered, as

Denver has, the surrounding suburbs took up the slack, as Aurora and Englewood have.

The Two Forks decision comes at a difficult time for its growth-minded proponents. The Denver area has been in a serious bust for several years. That bust is symbolized by a vacancy rate of 30 percent in its office buildings. The situation is so severe that developers are resorting to auctions, and have leased large amounts of space at very low rents. And the bust goes beyond the office space to its residential and commercial sectors.

Denver's economy is made up of two parts. Some of it is urban -- the airport, high-tech manufactured goods that are distributed throughout the nation, military contracting, tourism centered on Denver, and a very large federal payroll.

The second part is rural -- oil, gas, coal, power plants, agriculture and other natural resource activities in the Great Plains to the east and north of Denver and the intermountain region to its west. Denver is not just Colorado's city; it is also Wyoming's and Montana's city. The rueful joke in Wyoming is that a Wyomingite can go to heaven, but first must pass through Denver's Stapleton Airport.

Now the mix of natural resource extraction, agriculture, energy and in-migration that buoyed Denver's rural areas for two decades are over. Also apparently over are the large federal projects -- from dams to power plants to oil shale -- that also kept the rural West going.

To a large extent, the Denver area's idea of economic development has been the construction of utilities, office space, airports, and the subdividing of land to meet the almost automatic growth that fed into the Front Range because of rural activities and migration from the Midwest's rust belt. Today, the counties around Denver continue to subdivide land as if the boom were still in progress, even though the Denver metropolitan area's unemployment rate is high, and its in-migration and growth rates very low.

Two Forks appears to be part of the assumption that all the Denver area need do is prepare for growth, and it will come. Should there be another sustained energy and natural resources boom in Denver's multi-state rural area, Two Forks will almost certainly be built, whatever the quality of its EIS. But without such a boom, the fate of the Denver area, and of Two Forks, may turn on whether it can shift from the real estate and utility development of the past to a fundamental form of economic development.

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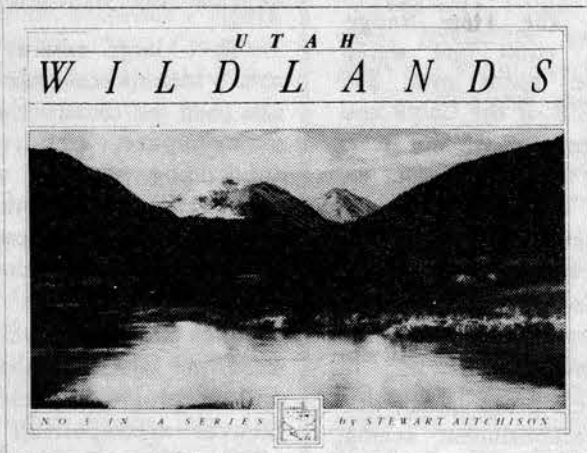


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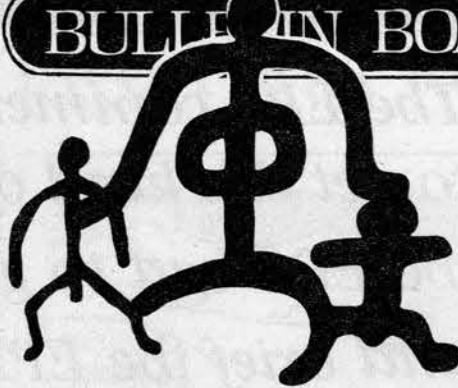


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FUTURE CHOICES

What do Jean-Michel Cousteau, marine preservationist, Russell Peterson, president emeritus of the National Audubon Society, Fritjof Capra, author of the *Tao of Physics*, and Dick Gregory, comedian and activist, have in common? All are speakers at Windstar's second annual symposium June 12-14, called "Choices for the Future." Windstar is the nonprofit foundation created by entertainer John Denver to work with individuals and groups "to create a peaceful sustainable future." The symposium will be held in Snowmass Village, in the Colorado Rockies near Aspen. Fees are \$525 by June 1; \$565 after. Write Windstar Foundation, Box 286, Snowmass, CO 81654 or call 303/927-4777.

MONTANA WILDLIFE FEDERATION MEETING

The Montana Wildlife Federation holds its 52nd annual convention in Kalispell, Mont., May 29-31, with the keynote speaker Bill Howard, Executive Vice President of the National Wildlife Federation. The meeting will focus on controversial issues such as privatizing wildlife and unblocking access to public land. Members can also enter the annual drawing to win a \$600 muzzle-loader. Write the Montana Wildlife Federation, P.O. Box 3526, Bozeman, MT 59715, or call 406/587-1713.

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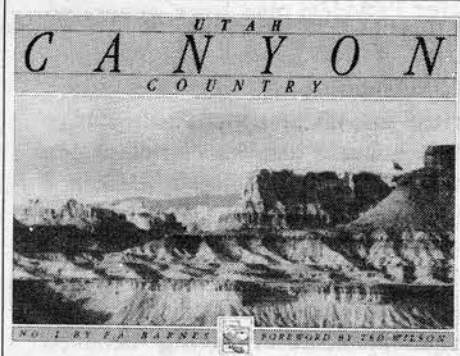
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Aldo Leopold

The Man and His Legacy

The Leopold legacy lives on in this new book from SCSA. The thoughts, ideas, and accomplishments of this conservation pioneer are recaptured in essays by his family, friends, and followers. This illustrated book honors the significant life of the man known to many as father of the land ethic and founder of game management. As scientist, activist, philosopher, and author, Leopold is probably best known for *A Sand County Almanac*, published posthumously in 1949.

Along with family recollections, you'll find:

"Aldo Leopold and the Evolution of a Land Ethic" by Susan Flader, author of Leopold's biography *Thinking Like A Mountain*;

"The Leopold Legacy and American Wilderness" by Craig W. Allin, political historian and author;

"The Farmer as Conservationist: Leopold on Agriculture" by Curt Meine, a young researcher;

"Aldo Leopold and the Limits of American Liberalism" by Roderick Nash, famous historian and author;

"The Scientific Substance of the Land Ethic" by J. Baird Callicott, editor of *Companion to A Sand County Almanac*;

"The Land Ethic and the World Scene"

by Raymond F. Dasmann, renowned wildlife ecologist and author;

"North American Deer Ecology: Fifty Years Later" by Dale McCullough, who reminds us that the deer taught Leopold to "think like a mountain";

"Aldo Leopold and the Real World" by Huey D. Johnson, who asked employees to read *A Sand County Almanac*;

"The Land Ethic: A Guide for the World" by Bruce Babbitt, former governor of Arizona;

"Built on Honor to Endure: Evolution of a Leopold Family Philosophy" by Sharon Kaufman, an Iowa naturalist;

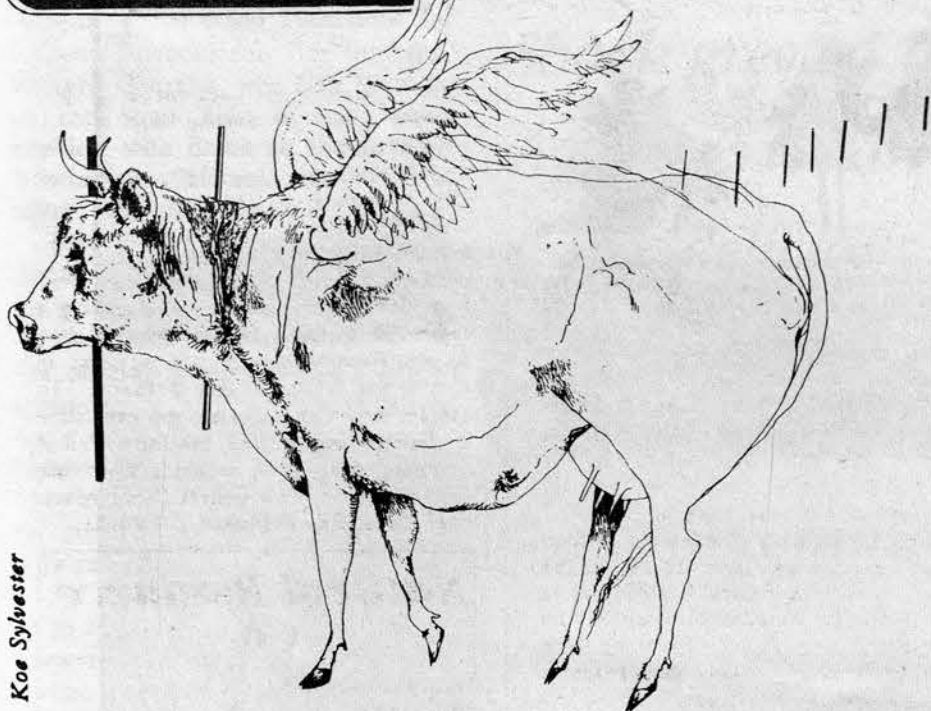
"The Leopold Memorial Reserve" by Charles C. Bradley, director of research at the reserve.

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LETTERS



Koe Sylvester

THRUST AND COUNTERTHRUST

Dear HCN,

I feel compelled to respond to Lynn Jacob's letter of March 2, 1987. As anyone who has read *Free Our Public Range* knows, Lynn Jacobs is on a mission certainly equal in fervor to that of any far-right fundamentalist. His message is "get the cattle (and fences) off the public range."

There are 310,000,000 acres of public range and 31,000 ranchers. Lynn Jacobs has one final solution to apply to this vast array of landscapes (forests, plains, mountains and deserts), and the many individuals using them. I do not intend to defend all ranchers. Conversely, I see no reason to condemn all ranchers for historical abuses or the abuses of some contemporary ranchers. Does Lynn Jacobs want to prevent all campers from using the wilderness because some of them leave trash and fire scars? Or do you deal with the offenders on an individual basis?

In fact, Lynn Jacobs' solution may not be any good even for areas undergoing desertification. Allan Savory has demonstrated that too much rest is as bad for grass as overgrazing. He claims both wildlife and cattle could be increased and the grass improved by using his grazing method, where timing is critical.

I agree that subsidies should be done away with, but his adding up of "indirect" costs is extremely questionable. Most programs and projects are financed by a percentage of the grazing fees and additional money from the individual rancher. Sometimes the rancher finances projects totally himself; sometimes he provides the labor (expensive, too).

I think that ranches are the most environmental, political, and economical way to preserve land. Grazing has a place on the 310,000,000 acres of public range-land. It is an ideal way of converting grass to protein.

Ranchers, like everyone else on earth, have some impact on their environment. In cities it is easy to forget that each individual is contributing to the air pollution, trash problems, noise, traffic, waste accumulation, and indirectly to strip-mining, deforestation, and acid rain. Desertification and over-grazing should be stopped. I think the solution lies in work, education and time rather than a blanket termination of all grazing on public lands.

Marj Perry
Carbondale, Colorado

MULTIPLE ABUSE

Dear HCN,

Sam Bingham's article on Allan Savory is a lot of bunk (HCN, 4/27/87). If Savory really cared about wildlife, or watershed protection, or human recreation on our public lands -- instead of the present policy of multiple abuse -- he would not be serving as a front man for the public-lands beef industry. Sure, the ranchers and their flunkies in the BLM and Forest Service love him. But nobody else does.

Ed Abbey
Oracle, Arizona

FARTHER RANGING

Dear HCN,

Your April 27 issue had a two-sided feature on Allan Savory which I enjoyed. Sometimes getting a strong partisan on each side helps sharpen the issue. But let me note that Steve Johnson may have let his enthusiasm get away from him on two factual matters: one on buffaloes and one on cows.

Regarding the historic range of the current small buffalo (*Bison bison bison*): Its range definitely included New Mexico, which lies to the south of Wyoming somewhere. See Speth, John D: *Bison Kills and Bone Counts: Decision Making by Ancient Hunters* (Chicago: University of Chicago Press, 1983), which publishes the work at a high plains site in southeast New Mexico near Roswell. Chapter 6, "Southern Plains Bison in the 15th Century," notes that desertification was advancing in the area at the time the various kills were made, based on tests of teeth, bones, etc. In the 16th century, early Spanish explorers encountered buffalo in what is now New Mexico, and you'll recall that Cortez saw his first buffalo in Montezuma's zoo in Mexico City. So much for the statement, p. 12, last col.: "According to paleontologists, none of the arid Southwestern states have had large herbivores present for at least 10,000 years ... Buffalo were not found west of the Texas Panhandle or south of Wyoming."

A few sentences later, Johnson writes: "The land is simply not capable of furnishing a steady state of resource withdrawal, such as the 10,000 pounds of plants consumed each year by one cow." Some COW! High altitude dairies might feed high performance cows that in a year, in confined quarters. But that's not what grazing animals eat. There are

all sorts of well-known ways to calculate what cows eat; usually as a function of weight, whether they're gaining, calving, etc. On most range what they eat is green for only part of the year, sun-dried the rest. Anyhow, not five tons per head.

Dave Reynolds
Lander, Wyoming

In the March 30, 1987, HCN, freelance writer Jeanne Englert said that dryland farmers in southwest Colorado have gone to court rather than accept federal water from the Dolores irrigation project, of which McPhee Dam on the Dolores River is the centerpiece. In the April 27 HCN, Durango attorney Frank E. (Sam) Maynes denied in a letter to the editor that legal action had been taken:

"We are sure we would have received notice had such a court case been initiated, other than notice via publication in High Country News."

JEANNE ENGLERT REPLIES

Dear HCN,

Sam, you are absolutely right that HCN readers deserve the truth. So why did you tell them that all the entities in the Dolores Project have valid contracts when you knew at the time you wrote your letter that wasn't true?

The truth is that Sam's law firm recently discovered that none of the dryland farmers' petitions, with the exception of the Cahone block, are valid contracts to buy water from the project because the board of directors of the Dolores Water Conservancy District failed to follow the procedure spelled out in the law to accept them. Nor has the district

obtained contracts from Cortez, Dove Creek or for 900 acre-feet of rural domestic water, the first bill for which is due and payable Dec. 31.

As for the contract between the district and the federal government, that is precisely what is being challenged in the lawsuit, a suit Sam well knows exists. Space limitations prohibited me from including minor details in the story, but since Sam is so concerned that we HCN writers not abuse our First Amendment rights, technically what has been filed is the formal notice of intent to sue. By law the plaintiffs must wait six months before they can go into court, which will be in June.

HCN readers who would like to see the Bureau of Reclamation made accountable for its crimes against the Dolores River can send their tax-deductible contributions to: American Wilderness Alliance (check earmarked American Wilderness Alliance River Defense Fund -- Dolores) 7600 E. Arapahoe Road, Suite 114, Englewood, CO 80112.

Jeanne Englert
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10-High Country News -- May 25, 1987

Elizabeth Mengelsdorf, Arizona Daily Star



Melinda Gonzales, the teacher whose former classmates kept getting sick

A deadly plume threatens Tucson

by Jane Kay

When Melinda Gonzales counts up all the people from her old neighborhood in Tucson, Ariz., who are sick or dead, she feels like crying.

Twenty years out of high school, she is still in touch with many of her former classmates. Most have remained living in the solidly integrated Latino-Anglo neighborhood on Tucson's south side. The neighborhood borders on the municipal airport and a mammoth industrial plant operated by Hughes Aircraft Co.

"First I heard about Barbara, and of course I felt real bad about it," Gonzales said, remembering back 10 years. "Not too long after that, I heard about Danny. I saw his wife, Donna, at the drugstore picking up a prescription. She told me Danny had brain surgery and lost part of his hearing, just like Barbara.

"Then I remembered Beth Saner who died so young of cancer. And other things started happening little

by little. It wasn't long after that that Sylvia Valdez was really sick with lupus. It seemed that so many in our age group were coming down with cancer or other problems. "Is it just our side of town?" she wondered.

Gonzales suspected pollution as a cause. Her neighborhood is next to the Tucson International Airport, which since World War II had been the site for modifying and building military aircraft, and several miles from Hughes Aircraft. Hughes operates the Air Force's industrial plant that since the early 1950s has built aircraft, then missiles and sophisticated electronics systems.

"Being so close to Hughes and the Air National Guard, I thought maybe we were exposed to radiation, something being dropped in the desert that we didn't know about. We talked about compiling a list and trying to find out what had caused it," she said.

So it was with a kind of bitter dread that Gonzales heard the news in 1981: The pollution wasn't an invisible radiation but a colorless, odorless, ubiquitous chemical used by mechanics and manufacturers to remove grease from metal. Drinking-water wells in a four-square-mile area that includes her neighborhood were found to be contaminated with the solvent, TCE, or trichloroethylene.

TCE, the most common industrial chemical to pollute U.S. wells, had been dumped as waste by the Tucson aircraft and electronics manufac-

turers in pits, ponds and arroyos since the early 1950s. Because it is volatile, users believed it would evaporate in an invisible puff. But as a chlorinated hydrocarbon, TCE is not biodegradable and can seep through more than 100 feet of soil to deep aquifers.

TCE is no longer widely used as a degreaser or a drycleaning solvent since laboratory tests in the late 1970s found it caused cancer in animals. Two years ago it was classified by the Environmental Protection Agency as a probable human carcinogen with a cautionary note that more tests were needed to determine whether it was a mutagen.

But its persistent wastes have already ruined miles of groundwater in the West. In Arizona, only a teaspoon poured into 250,000 gallons of water is enough to spoil it, raising the TCE level above Arizona's health guideline of five parts per billion. Tucson, 60 miles north of the U.S.-Mexico border in the heart of the Sonoran desert, thus became first on Arizona's list of toxic-waste sites deserving of cleanup.

Now, six years later, groundwater cleanup and a health investigation sought by residents and local politicians under the state and federal Superfunds are still months, maybe years, away.

To ensure a clean drinking water supply to the city, eight tainted wells remain closed, putting a strain on Tucson's summertime water supply. City officials talk about putting one

back in use. An underground plume of industrial chemicals, primarily TCE but also containing chloroform and other organic compounds, moves slowly but ominously in the sole aquifer toward the city's main well fields.

More than 500 Tucsonans with serious illnesses, or survivors of deceased Southsiders, joined a class action suit against Hughes. Filed in U.S. District court in October 1985, the suit charged that the company ruined their health by tainting their drinking water.

Last November, Hughes sued the city of Tucson and the Tucson Airport Authority (and added the Arizona Air National Guard and state in another suit in January), saying they should pay or at least share in any judgment against them for harming the health of Tucsonans.

As a sad search for those with health problems continues in the neighborhood, the list of plaintiffs is still growing. Fredrick M. Baron, a Dallas lawyer who has won millions of dollars for his clients in asbestos cases, is the lead attorney in the legal team preparing an aggressive court fight.

Doctors and other medical experts who have been hired by the lawyers to assess health in the neighborhoods say they find startlingly high numbers of people with neurological disorders and cancers.

Gonzales, an elementary school teacher and president of the teachers' union in the same school district

that she attended, helped found a citizens' group called Tucsonans for a Clean Environment. Her husband, Richard Gonzales, who also grew up on the South Side, is one lawyer working with Baron on the lawsuit. Another is California lawyer Fred Sayre, who also grew up in Tucson.

Every day Melinda Gonzalez thinks about the pollution that does not go away. "It's really amazing to me at this stage of the game that the city officials pretend the TCE in the groundwater and the illnesses just don't exist. Or maybe it's that they believe they've done all they can. They're so laid back about it. There's no rush to clean it up. It's like they're in slow motion."

"I realize that it's going to take 10 to 20 years to clean it up, at least, even if they were to get started now. I even have my doubts if it can be cleaned up."

Arizona is just one of 34 states forced to close wells because of TCE pollution. Tucsonans have joined the list of Americans from the Silicon Valley in Santa Clara County, south of San Francisco, to Woburn, Mass., who are wondering whether low levels of chemicals caused sickness and death in their neighborhoods.

Shock greeted the Environmental Protection Agency's discovery that Tucson's pure, delicious groundwater -- currently the only supply for the growing metropolitan area of 600,000 -- was contaminated by industrial chemicals.

Such water pollution may have been expected in New Jersey but not in sunny Arizona. Industry -- what there is of it -- was thought to be clean and the groundwater was considered deep enough to be protected from sources of contamination. But as months went by and more and more wells were tested and found to be spoiled by the five-mile-long plume of chemicals, officials admitted they were wrong on both counts: Synthetic organic chemicals could invade a deep regional aquifer and military avionics manufacturing was a dirty business. Still, groundwater pollution was considered a resource problem instead of a public health problem.

As soon as the TCE was found, city and state officials assured everyone that they were turning off the pumps to the wells. The water in the tainted part of the aquifer couldn't get to people's houses unless the well was in service, they reasoned.

Anyway, they said, the water that had been pumped to individual homes in the past had first gone to large reservoirs where it was diluted to such low concentrations that it wouldn't threaten health. Reassured, Gonzales and others on the South Side didn't take their worries about friends dying of cancers and other diseases to public officials.

After all, weren't the directors of the Tucson Water Department and the Pima County Health Department telling them that no Tucsonans received water tainted with TCE at levels above the state health guideline?

In all, seven tainted public wells were closed down by 1983. But the thousands of people who had drunk water over 10 years or more from TCE-contaminated wells didn't know that the water from only *one* of the seven was diluted in a reservoir.

Shock greeted the Environmental Protection Agency's discovery that Tucson's pure, delicious groundwater - currently the only supply for the growing metropolitan area of 600,000 - was contaminated by industrial chemicals.

Water from the others went directly to the neighborhoods.

And didn't they laugh along with everyone else when public officials said TCE caused a few malignant tumors in mice, but not in rats, and that it was used as a decaffeinator of coffee? They had no way of knowing that the reassurances were false.

After a year of silence, charges and denials, Hughes Aircraft in 1982 accepted responsibility for polluting its own wells and one city well. The Air Force, which precipitated that admission by turning over hydrological documents to the EPA, said its military contractor had contaminated a chunk of the city's precious groundwater.

The Department of Defense has its own military Superfund program, and officials have just launched a \$27 million cleanup of groundwater beneath the Air Force property. But lawyers for the Air Force and Hughes deny that the giant plant caused the chemical plume that by now has tainted eight city wells. They blame some of it on aircraft modification activities at the Tucson International Airport in the 1950s.

Hughes, which manufactures some of the world's most sophisticated electronics systems for its airplanes and missiles, came to Tucson in 1951. At that time, it was standard operating procedure at Hughes to discharge thousands of gallons a day of toxic wastewater into the surrounding desert. From the degreasing vats, useless residues of TCE and other synthetic organic chemicals and heavy metals were dumped in trenches. Barrels and drums were buried in pits. No environmental

laws prohibited that sort of disposal until 1977.

Hydrologists studying the environmental problems caused by Hughes at Air Force Plant No. 44 in Tucson have estimated that only 3,650 gallons of TCE got into the groundwater, although more of it was dumped on the ground.

From 1951 to 1970, Hughes estimates that 15,000 gallons of concentrated solutions, including toxic chromium and cyanide, were discharged. From 1970 to 1977, Hughes disposed of about 160 gallons of concentrated solutions every week.

In wells drilled especially to measure the chemical concentrations in groundwater, TCE was found at 10,200 parts per billion. That exceeds Arizona's state guideline by more than 2,000 times.

A former drinking water well at Hughes contained chromium at 400 parts per billion. The federal drinking water standard is 50 parts per billion. TCE was found in a former drinking water well used by thousands and thousands of Hughes workers since 1951 at 4,600 parts per billion, 920 times the state's action level.

Hughes officials say they don't know when the well became polluted because they never tested it for TCE. They have said excessive levels of chromium and other contaminants used at Hughes were found in the well and that's why it was not used after 1979.

Hughes officials have provided records that show when the tainted well was pumped and to what extent it was blended with another drinking water well that didn't contain high

(Continued on page 12)

TCE and birth defects

After noticing what appeared to be a relatively high number of young heart patients from the city's South Side, the University of Arizona launched a major study on their parents' exposure to TCE. The study will be published in several months.

The goal is to determine whether children of parents who were exposed to TCE in drinking water have a higher incidence of congenital health disease than do children whose parents did not drink TCE in water.

About 1,200 children with heart-valve defects were found by a team led by Dr. Stanley J. Goldberg,

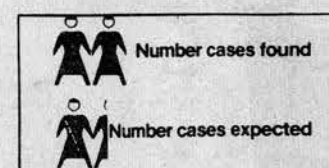
professor of pediatrics at the University of Arizona Sciences center.

The investigation centered on mothers and fathers who were exposed to TCE before conception and mothers who were exposed in the first trimester of pregnancy.

In California's Silicon Valley, where residents south of San Francisco drank water contaminated with TCE and other volatile chemicals, the California Department of Health Services recently found a higher than normal number of infant heart-valve defects and miscarriages.

--Jane Kay

Higher-than-expected cancer cases on Tucson's southside 1965-1985



Testicular cancer

Ages 15 to 19



1.6

(6.7 times expected number)

Nervous system cancer

All ages



1.3

(3.8 times expected number)

Leukemia

Ages 5 to 9



1.9

(2.6 times expected number)

Nasal cancer

All ages



2.3

Bone cancer

All ages



3.7

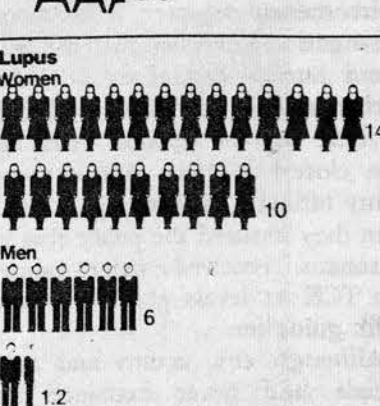
(3.7 times expected number)

Ovarian cancer

Ages 1-44



2.6



Note: Expected incidence of cancers was computed from the National Cancer Institute tables, based on nationwide reporting, adjusted to the southside population from 1965 to 1985.

Elizabeth Mangelsdorf, Arizona Daily Star



Small water treatment plant installed by Air Force at Hughes cleans chromium from groundwater

Tucson...

(Continued from page 11)

levels of TCE. Hughes said it would cooperate in a health study of its employees, but it placed the burden on the Pima County Health Department to write a protocol and find the money to conduct it. So far no such study has been announced.

Despite Hughes' consultants' report saying the Hughes' chemicals aren't responsible for the entire plume of underground pollution, the EPA, the state and the city of Tucson disagree. All agree there is one underground plume of chemicals. But Hughes says its concentrations fall off, then new chemical pollution starts from the Tucson International Airport, perhaps, they say, from some undiscovered geological fault.

In May 1985, four years after the EPA first reported the groundwater contamination at Hughes, the *Arizona Daily Star* published an eight-day series of stories which I wrote as the environmental reporter. A six-month investigation revealed that the suspected human carcinogen TCE had reached as many as 20,000 people by the time all the spoiled wells had been closed in 1983. And city and county officials were wrong in 1981, when they assured the public that no Tucsonans received water tainted with TCE at levels above the state health guideline.

Although city, county and state officials had never examined the health of southsiders, they denied that diseases such as testicular cancer in young men and childhood cancer were associated with TCE-contaminated water. In mid-1984, I

checked the pumping and well-distribution records at the Tucson Water department. It didn't take long to realize that the wells had been pumping directly into the neighborhoods, and, although there were many factors that determined how much water neighbors would get from certain wells, longtime residents could have been receiving water containing the chemicals for decades.

About that time, another *Star* reporter, Margo Hernandez, told me about the many illnesses occurring among her classmates from high school on Tucson's South Side. She told me that a friend had compiled a list of 11 seriously ill people, just from the graduating class. This was the same neighborhood above the plume of groundwater pollution.

I met her friend, Melinda Gonzales, and got her list. Then I went to the neighborhood and started interviewing people who were sick. One led me to another -- friends, classmates, neighbors, cousins of friends. First I started with the graduating classes of the mid-to-late 1960s, the grownup kids, now in their 30s. But there were so many others, young and old, that I logged everyone. By the end of the first six months, I had interviewed more than 500 people.

At the newspaper we were plagued with ethical questions. Should we publish our findings? We were categorizing illnesses, including many cancers, based on advice from scientists at the National Cancer Institute. But we were rookies.

A renowned cancer specialist at the University of Arizona Cancer Center warned me that we would panic people. The advice was sound. We nearly decided not to publish the TCE story.

But what made us pursue it, with the goal of convincing federal officials to do a health study, was the philosophy expressed by David Burmaster, a Cambridge, Mass., scientist. He wrote the pioneer report on chemical contaminants in the nation's groundwater for the President's Council of Environmental Quality in 1980, before he was fired by the incoming Reagan administration.

He said: "We the people of the United States have not purchased enough epidemiological studies. And just because it's damn difficult, that doesn't mean we ought to give up."

"It was very difficult to invent penicillin, but we've done it. It was very difficult to invent faster computers, but we've done it. None of these things are easy."

Solving the mystery of Legionnaire's Disease is an example of the United States spending time and money for path-finding medicine, Burmaster said.

"We ought to do some things like that for groundwater contamination," he said. "We the people of the United States ought to get busy and buy some of these things with our tax money."

In Tucson today, the chemical plume continues moving toward the city's well field. Hydrologists say it moves from 300 to 1,000 feet a year, depending on the character of the aquifer at any one point.

True to its promise, the Air Force recently began cleaning up the groundwater beneath its property this April. The pumping-up for treatment at a rate of 5,000 gallons a minute was first considered a way to at least slow the flow of the plume.

But now the "rinsed" water will be recharged back into the aquifer, so there's some worry that it may hasten the movement of the plume. The treatment technique is to run the pumped-up contaminated water through aeration towers to evaporate TCE vapors and trap them in carbon; the toxic metal chromium is removed in an ion-exchange process. The overwhelming and costly task of trying to clean water lying more than 100-feet deep in the ground is expected to take decades.

While the Air Force pumps and cleans on its own property south of the city, the EPA, state and city are responsible for developing cleanup measures for the portion of the contaminated aquifer closest to the city. That's where the front end of the nearly five-mile plume threatens good wells. But that group is far behind its original deadlines.

City Water Director Frank Brooks and his staff took the position early on that they had plenty of water and weren't worried if they had to shut down a few more wells while they completed a cleanup design. Despite the limited water supply of a burgeoning city in the desert, they showed little concern for the spreading plume.

In fact, Tucson Water Department officials still joke about TCE. They say -- quite inaccurately -- that it is used to decaffeinate coffee, even though coffee producers gave it up in the 1970s when laboratory studies showed that it caused tumors in mice.

Elected officials did take the pollution very seriously. Both city and county boards, bucking powerful business interests, backed strong statewide measures in 1985 to control the discharge of toxic chemicals into

the environment. They also voted to seek federal health studies for the South Side.

A year later, the state Department of Health Services released a birth-defect study that showed statistically significant higher levels of central nervous system, heart valve and musculo-skeletal defects such as misshapen skulls and other bone and muscle defects where the TCE-contaminated wells had pumped water. The study examined birth certificates and hospital records from 1979 to 1983 in two Arizona urban counties, Pima and Maricopa.

But state epidemiologist Dr. Glyn Caldwell, who came to the department in 1985 from the Center for Disease Control in Atlanta is still not convinced. He says no proof exists that chemically polluted water caused illnesses. He has been vocal in denying even the possibility of environmental health problems on the South Side.

That angers and disappoints members of Tucsonans for a Clean Environment. The last straw for the group came when Caldwell said it wasn't necessary to do follow-up studies on the South Side because people weren't "dying like flies." That aroused even the EPA, which nudged the local health departments to begin some health studies.

Last June 1986 a committee of TCE experts, including staff from the EPA, recommended the study of testicular cancer in young men and childhood leukemia, saying there may be a link between the cancer rates and the drinking water. Six months later, the state Department of Health Services designated the Tucson neighborhoods as the first site for health studies under the \$5

million state superfund, or the Environmental Quality Act passed in 1985.

But it wasn't until March 1987-- nearly two years after the public was alerted to the possible health problem -- that the department actually got the \$114,000 to start the year-long part of the study's first phase, says Phoenix epidemiologist Norman Peterson.

Despite foot-dragging by the bureaucracy, the voters used leverage on the Legislature last year, and by threatening a clean-water initiative, a strong groundwater-quality protection law was passed. Supported by former Democratic Gov. Bruce Babbitt, the Arizona Center for Law in the Public Interest, and the Tucson-based Southwest Environmental Service, it now serves as a model for the rest of the country.

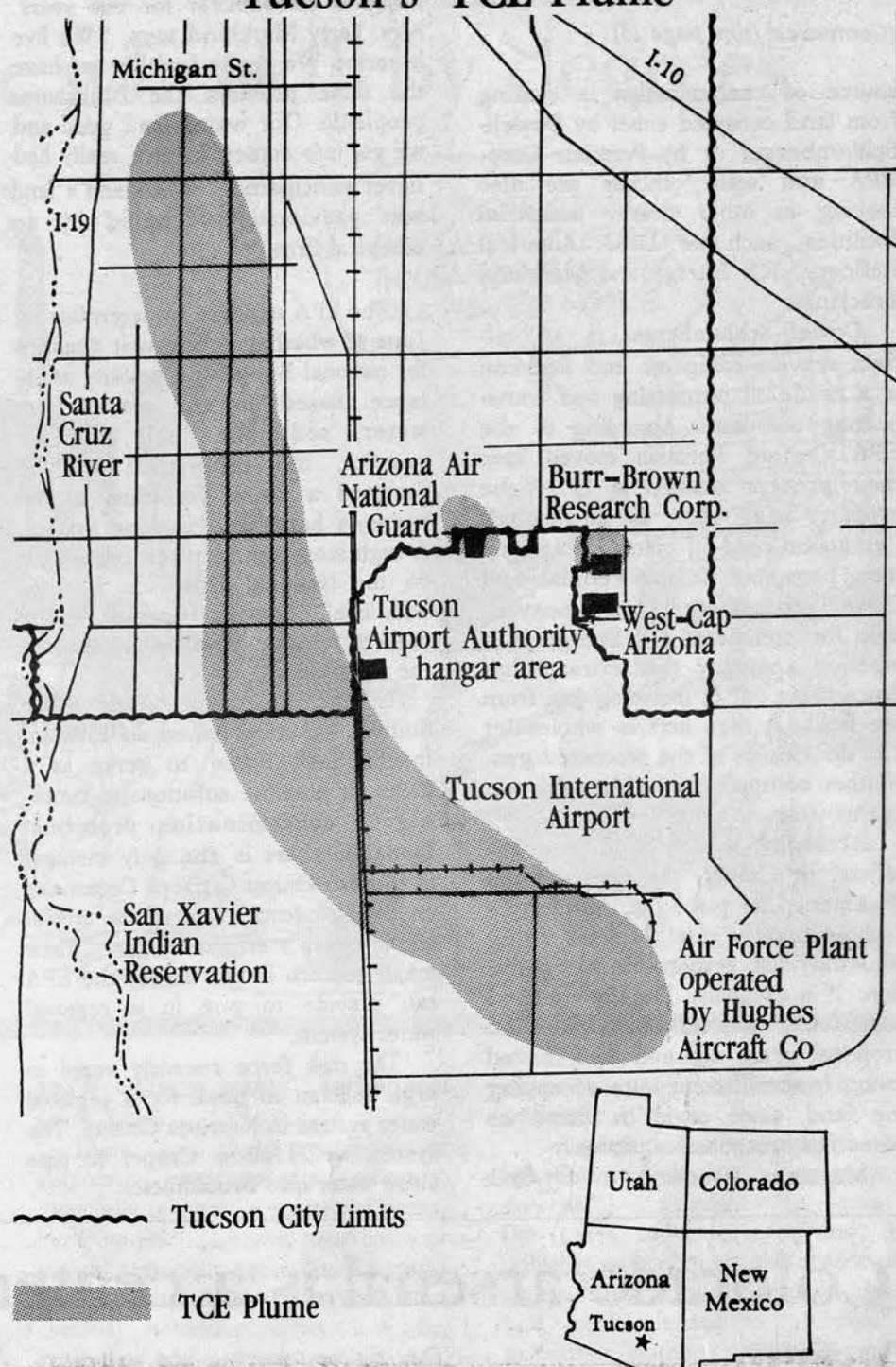
What the thousands of signatures in support of a clean-water initiative and public opinion polls reflected was a demand for strong environmental protection. That message was powerful enough to bring compromises from mining, agricultural and electronics interests. All had fought passage of the law for years.

Yet environmental protection is on the wane in Arizona, as health investigations and groundwater cleanup are downplayed and ignored by public officials.

Once the message rang loud and clear as wells closed. Now it is only a whisper: "We have one drink of water. Let's protect it."

Jane Kay is now an environmental writer at the *San Francisco Examiner*. This story was paid for by the High Country News Research Fund.

Tucson's TCE Plume



You can't drink the water or breathe the air

by Rick Stokes

In a rural subdivision 2 1/2 miles east of Casper, Wyo., about 80 families are drinking bottled water because their wells are contaminated. Brookhurst subdivision is close to the North Platte River, Little America Refinery is to the west, and smaller industries sprawl along the Burlington Northern tracks that roughly form a southern boundary.

Last October the state Department of Environmental Quality warned residents not to use their water for drinking or cooking because potentially dangerous levels of trichloroethylene (TCE) and benzene were found in domestic wells. TCE and benzene have been linked to possible birth defects and cancer. Later that same month, Dr. Bill Marcus at the EPA's Washington headquarters advised against using the water for any domestic use.

Carol and Jack Leslie have lived in Brookhurst since 1975, three years after it was subdivided. "We put a lot of money and a lot of time into our house and property, and at this point it's not worth a dime... It's hard... I don't really want out, but I don't think it's a safe place to live."

According to resident Joyce Pittser, four families have already moved out for fear of their health. She and her husband, John, and daughter, Dawn, have lived in Brookhurst for eight years. Last July,

after several weeks of sore throats, headaches and the odor of noxious fumes in the air, John Pittser called the Natrona County Sheriff's Department. Mrs. Pittser refers to that day as "an awakening for the entire subdivision of Brookhurst."

The fumes were apparently coming from their industrial neighbor, Chemical Marketing Services. CMS is a chemical plant that processes and ships sulfur, hydrochloric and sulfuric acid and is next to the only road leading in and out of Brookhurst.

Concern about what was in the neighborhood's air turned to concern about what might be in their soil and drinking water. Frustrated with the seeming lack of concern from local and state officials, residents met on July 30 to form the Brookhurst Citizens Committee. Two months later, EPA tests confirmed what many residents already suspected: Their water was contaminated.

The latest test results from groundwater in the subdivision now reveal the extensive presence of

another toxic substance -- the wood preservative pentachlorophenol, or "penta." Because the use of penta in the wood-preservation process often produces dioxins, testing will now focus on those compounds as well.

Several companies near the subdivision are suspected of illegally dumping hazardous material. The EPA has concluded that a principal

(Continued on page 14)



Entrance to the contaminated Brookhurst subdivision in Wyoming

Groundwater...

(Continued from page 13)

source of contamination is coming from land occupied either by Dowell-Schlumberger or by Permian Corp. EPA and state officials are also looking at other nearby industrial facilities such as Little Americal Refinery, KN Energy and Markland Trucking.

Dowell-Schlumberger is an oil-field service company, and Permian is a crude-oil purchasing and transporting company. According to the EPA, before Permian moved into their present location in 1977, the property was used as an asphalt "emulsion road-oil plant." Management personnel at both Permian and Dowell-Schlumberger were unavailable for comment. KN Energy is a pipeline company that extracts hydrocarbons out of incoming gas from the field. It then acts as wholesaler and distributor of the processed gas. Neither company wished to comment at this time.

According to Bob Stone, an EPA official in Casper, the agency must document a piece of property's "whole chain of title" in determining who may be responsible for pollution. If a company illegally dumped hazardous material on a piece of property years ago and then moved away, innocent companies occupying the land since could be listed as potentially responsible parties.

Markland Trucking, a dry-bulk

transport company, has only been based in Brookhurst for two years. Mrs. Larry Markland says, "We live in terror. We really feel like we have the same problem the Brookhurst people do. Our water isn't good and we got into something we really had never anticipated." Markland's land was previously occupied by an electrical firm.

The EPA expects to determine by June 30 whether Brookhurst qualifies for national Superfund priority assistance. Based on test results from water, sediment, soil and air samples, the subdivision will be assigned a score according to the agency's hazardous ranking system. A high score would place Brookhurst on the National Priorities List for additional Superfund money, to be used to relocate families or clean up the subdivision.

In the meantime, Gov. Mike Sullivan has established an Environmental Task Force to serve as a focus for possible solutions to Brookhurst's contamination problems. Linda Burkhardt is the only member of the Brookhurst Citizens Committee on the task force, and she is critical of the group's efforts so far. "Their major concern is the money the EPA can provide to put in a regional water system."

The task force recently voted to urge Sullivan to push for a regional water system in Natrona County. The system would allow Casper to pipe clean water into Brookhurst.

Marcia Stokes



Contaminated Brookhurst subdivision near Casper, Wyo.

But several homeowners are concerned that a safe water supply would do nothing to clean up the air, soil or aquifer in their subdivision. Worried about long-term health effects and lowered property values, some homeowners say they are angry and frustrated by government bureaucracy.

When the Leslies moved to Brookhurst it was zoned light-industrial. Mrs. Leslie says, "Within the last three to four years the county has zoned it heavy industrial. We fought that, but it doesn't seem to matter what the residents want." Families say they moved to Brookhurst because they could live a rural life, with children raising animals for

4-H. Each home has a well and water is cheap; hooking onto a regional water system would be expensive.

Until the EPA decides whether Brookhurst is uninhabitable, Gov. Sullivan asked the Wyoming Community Development Authority to make 16 of its homes available to subdivision residents rent-free. But families must absorb utility costs, moving expenses and provide a deposit. An authority home is also subject to sale at any time, which means a Brookhurst family would then have 30 days to vacate.

□

Rick Stokes is a freelance writer in Casper, Wyoming.

Colorado arsenal is a center of infection

by Steve Hinchman

In Colorado, high concentrations of the toxic chemical TCE have shown up in drinking water aquifers underlying Denver suburbs next to the U.S. Army's Rocky Mountain Arsenal. The 24-square-mile arsenal has been called the most polluted area in the country.

Environmental Protection Agency officials say TCE levels in the suburban aquifers reach as high as 128 parts per billion and extend for four miles from known source points. The maximum allowable limit for TCE under the Clean Water Act is 5 ppb.

The EPA has identified at least one TCE contamination source on the arsenal grounds. Two other sources are from businesses in the same neighborhood, according to EPA project coordinator Connally Mears. He says Stapleton International Airport, another suspected source, is clean so far.

Monitoring data reveal that TCE levels are gradually increasing, and the agency is still trying to locate other possible sources.

TCE was first discovered at the Rocky Mountain Arsenal in 1984, on a tip from an Army officer. An EPA staffer who inspected the site found TCE and other similar solvents in an open trench that had collected grease and toxic wastes from an Army motor pool for as many as 35 years.

According to a 1986 *Denver Post* report, the EPA ordered the Army to quit using the waste trench. But the agency failed to require a cleanup and also failed to inform the state or local governments until two years later.

Through the years, TCE and other poisons had infiltrated wells downstream of the arsenal that are used for drinking water in four townships. A citizens' group, Citizens Against Contamination, formed to pressure the Army into cleaning up the water, and in May 1986, the Army and EPA agreed to buy a water treatment system for the South Adams County Water District.

In May 1986, with \$1 million in Army funds, the South Adams County Water District set up a temporary filter system that removed TCE and other toxins from the water. During that summer the EPA spent another \$1 million in Superfund monies to hook 180 private wells into the treatment system, giving all 30,000 users of the contaminated water clean sources two years after the contaminants were discovered (*HCN*, 8/4/86).

The EPA is now weeks away from announcing plans for construction of a permanent treatment plant for the water district. The EPA's Mears says the agency's preferred choice is still an activated-carbon filter system, and that work on the \$8-\$9 million project should begin next winter. Six million dollars of that will be paid by the Army and the rest will come from as yet undetermined sources, says Mears. Until the permanent system is completed, residents will remain hooked into the temporary filters.

Rocky Mountain Arsenal spokesman Tom Donnelly says currently only one monitoring well on arsenal grounds has TCE levels above legal limits. Donnelly says the Army is still investigating the southwest

portion of the arsenal for signs of further contamination.

The Army is currently developing a total reclamation program and schedule for the arsenal, which it estimates will take until the year 2000. There are over 100 separate contaminated sites, with many different complex contaminants on the arsenal grounds, Mears says. It may very well take them until the year 2000 or longer to identify and treat the entire facility, he adds.

So far, the arsenal has shut off the deep well that was used in the late 1960s to inject liquid chemical wastes deep underground. Those wastes are now shipped to a landfill in Utah.

Three pumping stations are now in place on the arsenal's downstream boundaries, two operated by the Army and one by Shell Oil. The pumps draw up contaminated groundwater migrating off arsenal land, clean it through carbon filters and then re-inject cleaned waters back into the aquifer.

This year the Army will drain one of its many holding ponds filled with contaminated liquids. After Basin F is drained this summer into three-million-gallon holding tanks, the surrounding soil will be scraped and treated, Donnelly says. At least four other major holding ponds remain to be cleaned.

This month the Army will also ship 175 tons of liquid chemicals used in the production of nerve gas to a detoxification center in Muscle Shoals, Ala. Donnelly says the chemical has been sitting in the storage tanks at the arsenal for 35 years.

ACCESS

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GUEST ESSAY

The EPA is hunting those who kill by degrees

by David Wann

There are a thousand and one ways to get rid of a drum of hazardous wastes, but only a handful of them are legal. Despite shelves of hazardous waste laws and regulations with their well-defined civil and criminal penalties, environmental crime is increasing roughly in proportion to the country's escalating chemical production.

By the early 1980s it became obvious that a corresponding increase in criminal enforcement was also necessary. So in 1981, the Environmental Protection Agency and the Department of Justice began a program to investigate and prosecute environmental crime.

What distinguishes conventional environmental violations from criminal offenses? Intent, or knowledge of the crime. The challenge facing criminal investigators and prosecutors is therefore to establish the principle of *scienter* -- or what exactly was in the offender's mind.

For example, the Colbert brothers tried to sell the Zimbabwe government hazardous wastes they claimed were cleaning chemicals. Each got a 20-year jail sentence for his efforts.

In the 1983 *U.S. v. Stanko* case, meatpacker Stanko was convicted of selling meat unfit for human consumption even though he was in another state at the time. Under the precedent set by this case, an employer can be held liable for an employee's offense, especially when that offense was a result of established company practice. Thus, *scienter* is extended to a corporate president's responsibility for knowing exactly what is going on.

In Illinois, it was proven that three corporate officials knew they were mismanaging a silver recycling operation. When a Polish immigrant worker fell dead from cyanide inhalation, the officials were charged with murder.

These are exceptional cases in the new field of environmental crime enforcement, but they are by no means the only cases. In fact, in the last five years about 250 indictments have been made, according to Jim Prange of EPA's Investigations Center in Denver. More than \$3 million in fines have been judicially imposed since 1982, and environmental "bad actors" have already served over 10 years behind bars.

There are currently 37 special criminal investigators working for EPA; coming from such diverse backgrounds as federal drug enforcement and city police forces. These agents are filling a gap in law enforcement by combining expertise in criminal investigation with a working knowledge of environmental science.

In a recent case in Denver, special agent Bill Smith personally discovered and built a case against an ink manufacturing company. After spotting some leaking drums near a public thoroughfare, his first step was to photograph and take chemical samples. Then he did some research on the company as well as the likely components of its wastes, finding that ink manufacturing wastes con-

tain heavy metals and solvents that are extremely hazardous to public health.

Smith carefully constructed his case. He conducted clandestine interviews with company employees, who provided crucial evidence, and after obtaining a search warrant he paid a visit to the facility's plant manager who demanded: "Is this the U.S. or Nazi Germany?" The agent remained unimpressed and his investigations ultimately resulted in a guilty plea, a \$200,000 fine, plus three years' probation.

While the techniques in environmental investigations are vigilance, logic and legwork, there are some high-tech tools available. In one New Jersey case, air surveillance revealed that large tanks which were purportedly used for treating wastes were actually sitting empty except for weeds growing inside. Routine sampling of waterways often provides an initial clue concerning an environmental crime, and techniques such as bio-monitoring (using indicator species) and effluent-dye analysis can trace pollutants back to their sources.

Lab equipment plays a critical role, too, matching "anonymous" wastes with a company. Agents have become adept at finding discrepancies in the required manifests of waste generators. Under the Resource Conservation and Recovery Act, the nation's hazardous waste law, an extensive paper trail documents wastes from their generation through their disposal.

If a waste hauler claims to have made three 12-hour trips to Kansas City in a single day, chances are good that an experienced agent can follow the fraudulent paper trail right into the courtroom. Agents have also been known to go undercover when necessary, posing as waste-haulers, for example, or drum-woodstove manufacturers.

But there are some cases for which an insider's testimony is indispensable. "If you can get an employee to do the right thing and report an environmental crime, then

you're halfway home," said special agent Smith.

There has been evidence of organized environmental offenses, especially in heavily industrial areas, but from all indications most environmental criminals are individuals who have gradually degenerated into criminal behavior. They look the other way while drains are left open, or contract lab work to laboratories with routinely "lower" hazardous waste analyses, so disposal costs will be lower. They mix small amounts of waste with recycled waste oil, rationalizing that "everybody does it." They cover the "Hazardous Waste" label on a drum with a fresh coat of paint and store the drum back in the warehouse, where it gets accidentally punctured.

Because there are no immediate victims, these environmental criminals continue to cut corners and fudge numbers, not realizing the serious health impacts their cumulative actions are having on the

Dear friends...

(Continued from page 2)

advantage of the event to visit a place now closed off to them.

It was a wonderful day spent in a wonderful setting; the rock pools, waterfalls, petroglyphs and overgrazed but still attractive riparian habitat along Big and Little Dominguez creeks are as compelling as anything in southern Utah.

We are in no position to do objective reporting on the closure of the bridge -- a closure that bars the public from crossing a bridge on foot that the Mussers are allowed to drive pickups across -- so we are including the account of the day here. Thanks for organizing it go to Bill Brunner and Robin Nicholoff, with able assistance from Dave Johnston, John Benjamin, Mark Paigen, Hank Hotze and others.

Our new intern here in Paonia is Susan Martineau, who commutes home each weekend to see her husband, Tyler, in Gunnison, Colo,



American public and on American ecosystems.

Investigator Smith's greatest satisfaction is bringing a case to a successful conclusion. "In some of the cases we've investigated, the perpetrators definitely deserve a nice warm bunk in the Greybar Motel, and we're pleased to be able to provide it for them." Smith's view is shared elsewhere in the EPA. Thomas Adams, assistant administrator for enforcement and compliance monitoring at EPA, promised when he took office in 1986 that he would "ring some chimes in the corporate boardrooms." Adams said there is a strong deterrent value in going after individuals rather than companies. In the past, some firms opted to pay civil environmental fines as a business expense, a habit that diminishes when criminal indictment is possible.

David Wann is a writer and researcher at the Environmental Protection Agency in Denver.



Susan Martineau

which you may have heard is one of the coldest spots in the nation. It is also rich in recreational opportunities, Susan says, with surrounding national forests that offer great hiking, biking and skiing.

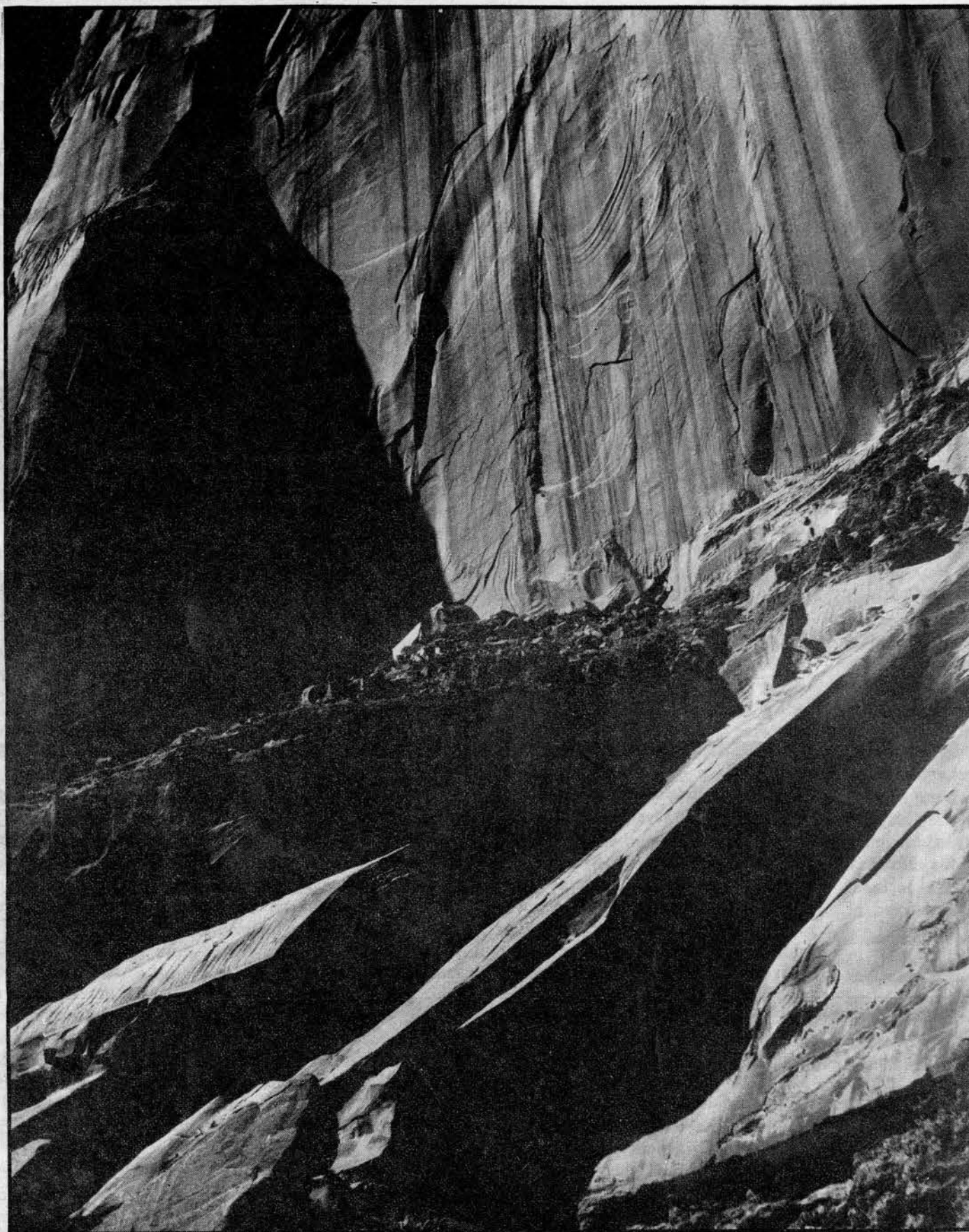
Joining Susan weekdays is 2½-year-old Jimmy, who likes to run, drop blocks, eat cheese and flirt with older women. Susan ran her own landscape architecture firm in Grand Junction, Colo., for five years and is now pursuing a career in publishing and writing.

--the staff

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afield

Jack McLellan



Hummingbirds, sandstone, time lived wild

by R. Edward Grumbine

Near the end of a 15-day hike exploring the Escalante River, wild watershed of the Colorado Plateau, our wilderness-education group separates, seeking what John Muir believed could only be found "alone, in silence, and without baggage." Students leave for slickrock perches, cottonwood terraces, small slot canyons. What is a two-day solo like, a half-mile up a side canyon from the last-named river in the continental U.S.?

The Escalante runs shallow and clear. Never in six years have I seen it approach such clarity. Used to be that every ford, shallow or seep was a risk since the bottom was hidden by the muddiest water this side of the Colorado. In camp at the end of the day you allowed time for sand, clay, cow dung and who-knows-what-else to settle out before supper. Now, with the mild winter and spring, you can follow the progress of individual sand grains on the bottom of the channel as they move

in waves downstream. And no ford in 12 days has been over the knees.

Up Choprock Canyon, alone, the fords are even easier to navigate. There is no water. My camp is in a great alcove around a few bends from the Escalante. Carved into Wingate sandstone over the last thousand years or so, the cave is inhabited by a few old bones, rabbitbrush, jimsonweed, an old shovel, scattered spiders and mice, all sharing a floor of red sand as fine as sifted flour. For the last two years a pair of ash-throated flycatchers have raised broods in a niche at the back of the cave.

There is also what I call the "cowboy contraption," several logs lashed together into a square frame six feet high and deep. The main feature of this architectural wonder is a leering cow skull tied to one of the uprights.

Fifty feet above in the alcove, gazing out, you meet the great arc of mother sandstone, a tremendous bow holding blue desert sky. Though I have slept here by myself twenty nights, I have never been alone.

At the mouth of Choprock the river takes a right turn over gravel, half-hidden in willows where the elusive yellow-breasted chat, largest of the new world warblers, squeals its varied calls. I bathe in evening where swooping violet-green swallows flutter gnats into bird-flesh and light, avian bone. The western sun sheens the water with translucent oil.

The Escalante, like all rivers flowing through arid land, bears more than water, drifting floss and sprouted seeds. Its green pathway, slicing through white sand and red rock, is life itself.

Sandstones have lain with the Escalante the longest, and walking up canyon I am partner to the process. Geologists figure erosion in the Colorado Basin at roughly 30 feet every millenium, an incredibly fast rate. Back against a slab I figure that since my first visit to Choprock the walls have faded inward two inches.

Whirrrrr! The world shatters into furious vibrancy. A black chinned hummingbird, wings beating 500 times an eye's wink, explores my red bandana, hovers, is gone. That quick.

Solitude comes from a word root in Latin, "sol," meaning "to burn with an inner flame," like the sun. The suffix "tude" refers to mental states, rounding the word toward an active mingling of inner worlds with outer. Such meaning is difficult to grasp without hummingbirds, sandstone, and time lived wild.

High afternoon, I walk the terrace above the wash. The sun sucks moisture from all my companions: wax-coated pinyons, fledgling flycatchers, sacred *Datura's* intoxicating trumpets.

My water bottle is drained. I swim in sweat and the smell of crushed flowers, visions of peeling rocks and metallic birdfeathers.

Then I am back at the alcove. Choprock, the canyon, holds this immense cave like a graceful shell, a cup of waiting water. And the river, the river, you always return to the river.

□

Ed Grumbine directs wilderness studies at the University of California Extension, Santa Cruz.