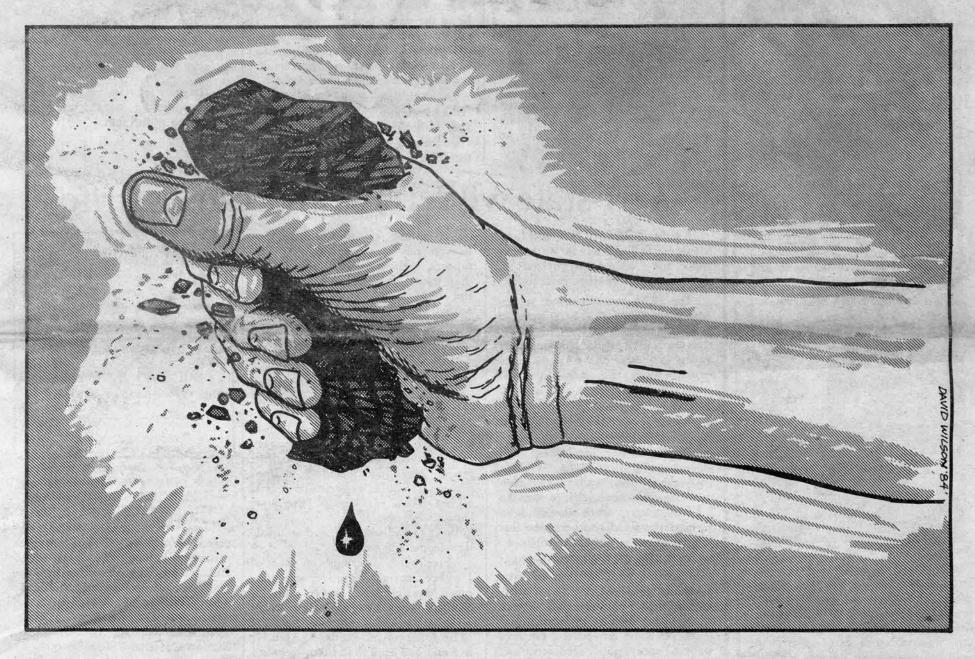
OIL SHALE comes on hard times



An introduction to this Special Issue on oil shale

The only way to understand oil shale is by analogy and parable. It is best thought of the way mountaineers think of Everest -- as something to be climbed because it is there. Or as immigrants once thought of America -- a land where streets are paved with gold.

Even these analogies falter, however, since man almost routinely conquers Everest and some immigrants do find America's streets paved with gold. But no one has conquered oil shale and no one seems likely to do so in any reasonably foreseeable future. In fact, the vital signs of this latest, most sustained effort to cook liquid oil out of oil shale are rapidly failing.

Oil prices are less than half the

estimated cost of producing shale oil: Union Oil has spent the last five months unsuccessfully trying to get its \$650 million oil shale project to work; there are about 180 Congressmen sponsoring a bill to kill the Synfuels Corp; and SFC directors and high staff are getting off the ship. The seven-person SFC board is down to four.

Another sign of death is explored at length in this issue: the fiery breakdown of negotiations among government, industry and environmentalists aimed at creating comprehensive national oil shale legislation. Among the reasons for the failure is the fact that the environmental community no longer takes oil shale seriously. It didn't pay very much

attention to the year-long talks because James Watt, coal leasing, and wilderness bills had a much higher priority.

But it may be a mistake to count out oil shale, for the lure of streets-paved-with-gold remains. The incredible fact about oil shale is that there are 400 billion barrels of recoverable high quality oil shale in Colorado alone.

That's exactly equal to the total liquid reserves in the Middle East, and it dwarfs the 65 billion barrels of liquid reserves in North America. The difference -- a crucial difference -- is that Middle Eastern oil can be produced for a few dollars a barrel while shale oil costs at least \$60 to \$70 a barrel with present approaches.

So economics plus the oil and natural gas gluts pose high barriers. It might seem that reasonable people would find alternate ways to obtain BTUs -- solar, coal, natural gas, oil company mergers, wood stoves, and so on.

But there is another side to the coin. That side is best shown by the account inside of a press conference held by Fred Hartley, the president and chairman of Union Oil. Hartley expresses forcefully the corporate culture which drives toward oil shale development. Another insight is contained in the interview with Kevin Markey, an environmentalist who has made a career of bird-dogging oil shale.

WESTERN ROUNDUP

Idaho's Envirosafe is examined once again

A hazardous waste task force appointed by Idaho Governor John Evans (D) has concluded "no imminent health hazard has been identified" at the Envirosafe dump in Owyhee County. But it also said, "The potential for such a hazard exists."

Evans appointed the ten-person group in response to controversy surrounding the Envirosafe dump (HCN, 12/26/83). There have been allegations that poison may be leaking into the groundwater, that liquid wastes are being illegally buried, and that trucks bringing waste to the site are hauling food out of the rural farming area. Envirosafe has been fined \$200,000 by the EPA and cited for various violations.

The attorneys, hydrologists, scientists, academics and industry representatives on the task force called for an alternative toxic waste site to replace the current Envirosafe dump.

Evans, who has changed his mind several times on the Envirosafe question, said he would "take an active role" in determining the future of the site. However, aide Paul Cunningham said the nature of that role is yet to be determined. Cunningham said the governor will wait to see what legislation is passed, or not passed, in the current session before acting. Cunningham indicated that if the legislature failed to act, the governor might proceed administratively in some areas.

The task force report also said the following:

• A decision to close Envirosafe cannot be made until "a full and complete understanding of the physical and chemical nature of the site has been achieved."

• "Future disposal activities at the Grand View site (Envirosafe) may not be in the state's best interests."

• "The state of Idaho has insufficient legal authority and financing to protect its interests in regulating hazardous wastes."

• "An alternative site more environmentally and socially acceptable" should be selected, with the state helping to choose and acquire the land. Finally, the task force called upon the EPA and the state to "provide results of monitoring activities to the public in a more timely fashion" and it asked for more monitoring by Envirosafe at the dump site. Echoing earlier EPA stipulations, the task force recommended additional safety measures, such as runoff control and improved employee training.

Idaho Conservation League director Pat Ford said he had not studied the
report yet, but "it struck me as sort of
an odd thing" that the task force noted
a weakness in the regulations and then
failed to make any recommendations
in that area. He said he was
disappointed the task force did not
support legislation removing a
stringency clause which limits the
state's regulation of hazardous
wastes.

The state legislature is in the midst of considering hazardous waste legislation at this time.

--Glenn Oakley



High Country News

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A tri-state wilderness area causes strife

A recently released Bureau of Land Management Draft EIS for wilderness within the Owyhee Canyonlands in three states has sparked controversy.

The BLM recommended wilderness protection for 374,000 acres in Wilderness Study Areas in Idaho, Oregon, and Nevada. Although the total is 86 percent of the 436,000 acres examined in the Environmental Impact Statement, it is only about 20 percent of the original 1.8 million acres identified by the BLM as having wilderness potential.

The Committee for Idaho's High Desert and the Idaho Wildlife Federation, who want 1.2 million acres in wilderness, charge that the 1.8 million acres were whittled down by pressure from ranchers who fear limited access to public lands.

The areas included in the BLM Draft are primarily the rivers and their associated canyons; eliminated areas are high desert plateaus. Bill Meiners of the Idaho Wildlife Federation said those plateaus are where ranchers want to "spray, plow, seed, fence and stockpond with public funds."

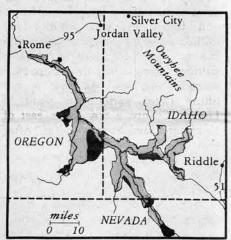
The plateaus are essential to the completeness of the entire canyon-lands ecosystem, Meiners said, because pronghorn antelope, sage grouse, and other wildlife species that live there will be vulnerable without wilderness protection. "I don't fault the BLM plan; it's just that it isn't enough," Meiners said.

The BLM's John Benedict, who helped prepare the Draft EIS, said many areas which conservation groups want as wilderness simply don't qualify. 'They have a different idea of what is outstanding.' Benedict added that 'political dealings' played no part in analyzing potential lands. Benedict mentioned, however, that each study area was considered as a discrete unit, not as part of the entire ecosystem. If a study area did not qualify as wilderness by itself, it was dropped. 'We were not allowed to consider cumulative impacts,' he said.

Although the Owyhee ecosystem is not "rim to rim," Benedict said, most of the proposed wilderness includes about a mile of land outside the canyon rim to protect habitat for raptors, bighorn sheep, deer, Canadian geese, and other species. What the BLM found difficult, Benedict added, was to include habitat for pronghorn antelope and some birds. "Their habitats are not well defined."

Under the proposed alternative, annual grazing levels in the wilderness areas could increase about 20 percent, primarily because of excess forage in Oregon. There would also be controlled burning on 17,890 acres, the development of 14 springs and reservoirs, and 14 miles of new fence. Areas not included in the proposal would experience even higher levels of livestock use and range development and would be subject to hydroelectric and mineral development as well.

Five public hearings on BLM's Owyhee Canyonlands wilderness proposal have been scheduled for April in all three states. Hearings will be April 10 in Jordan Valley, Oregon; April 11 in Boise; April 12 in Portland; April 17 in Reno; and April 18 in Elko, Nevada. Public comments are also being



The Owyhee Canyonlands of Idaho, Oregon and Nevada. Shaded areas are BLM recommended wilderness; blackened areas were examined in the EIS but not recommended.

received through May 24. Written comments, requests for copies of the EIS, and inquiries concerning the time and place of the hearings should be addressed to the Bureau of Land Management, Boise District Office, 3948 Development Avenue, Boise, Idaho 83705 (208/334-1582).

-- Paul Larmer

Dear friends,

We once competed against a newsman in a small community who covered town council discussions of dog control by writing: Dogs Again!

Were we smart, we would have written: Oil Shale Again! Instead, we try this week to sum up the industry. Unfortunately, on our way to this goal the story bifurcated -- it split into an account of oil shale, and an account of negotiations about oil shale legislation.

The failed negotiations are interesting because they give some insight into how the always understaffed, always underfinanced environmental community deals with government and industry. As an antidote to the oil shale negotiations, we include an account of the successful negotiations carried out on the Arizona Strip wilderness study areas along the Grand Canyon.

This week also finds a page of

letters on our inflammatory "Should we kill the Forest Service?" editorial. A very lengthy, thoughtful letter from a Gunnison, Colorado Forest Service official is set in type but didn't get in the paper. We hear more letters are on the way, including one from a retired Intermountain Regional Forester, who told us on the phone: "I'm going to try to make something constructive out of your destructive editorial." We appreciate the interest, and only beg letter writers to hold the line on length -- remember, you're not writing EISs.

Finally, it is a pleasure to welcome back Mike McClure, former HCN photographer, now chief photog for the Casper Star-Tribune. This week's centerspread is part of hundreds of photographs he took for a travelling exhibit, "Wyoming: Tradition and Transition."

Exxon gets its Riley Ridge sour gas permit

Exxon Corporation's half-billiondollar Riley Ridge proposal in Wyoming's Overthrust Belt cleared its last major hurdle March 12, when the state's Industrial Siting Council unanimously approved the sprawling natural gas project.

The approval by the six-member Council came after 5½ days of public hearings in Diamondville. Although unanimous, it was not a rubber-stamp approval. Exxon has negotiated impact mitigation agreements totaling about \$5 million with 35 government and permitting entities to help deal with 2,000 construction workers expected by 1985 and with other impacts. Exxon will also help protect wildlife under an agreement with the Wyoming Wildlife Federation. In addition, the Council added stipulations on air quality and other matters.

The Council avoided one key issue: it did not decide on the question of jurisdiction which hovered over the hearing. Exxon had challenged the Council's control of air quality impacts on nearby wilderness, as well as its authority over the wellfield and the sour-gas pipeline. But the Council acted as if it had jurisdiction and Exxon appears to implicitly accept that jurisdiction.

The project is a complex one. Seventeen wells, each 16,000 feet deep in Sublette County near LaBarge and Big Piney, will produce 400 million cubic feet (mcf) of gas a day laden with poisonous hydrogen sulfide. That gas will flow through a 40-mile 'sour gas' pipeline to the Shute Creek purification plant in Lincoln County, a few miles east of Kemmerer and Diamondville. After purification, a pipeline into Sweetwater County near Green River and Rock Springs will deliver the gas to

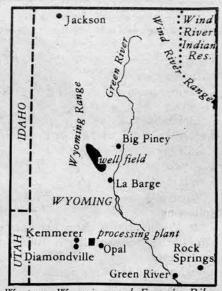
market.

Riley Ridge was originally to be larger: three separate projects were to produce 2,800 mcf a day, seven times as much as today. Exxon, by itself, was going to produce 600 mcf. But the gas glut caused American Quasar and Northwest Energy-Mobil to cancel. Exxon scaled back to 400 mcf, with expansion to 600 mcf scheduled for

Although small compared with the original plans, Exxon's 400 mcf goal is still impressive. In February, 1983, Wyoming produced 1400 mcf per day while the U.S. as a whole produced 43,000 mcf per day. So Exxon's 400 mcf is 30 percent of Wyoming's present production and 1 percent of

U.S. production. The project's high cost comes from the need to purify the gas. It comes out of the three-mile-deep wells as a brew of 63 to 70 percent carbon dioxide, 7 percent nitrogen, 0.5 percent helium, 4.5 percent hydrogen sulfide, and 20 to 25 percent methane. Eventually, the carbon dioxide may be piped to exhausted oil fields to flush additional petroleum out of the ground. And the helium, which is a strategic mineral, may also be recovered. For now, both will be released to the atmosphere. The problem child in the gas is hydrogen sulfide, which poisons even in low concentrations. The massive Shute Creek plant will convert 99.7 percent of the hydrogen sulfide to elemental

The remaining 0.3 percent will be incinerated and discharged to the atmosphere as sulfur dioxide -- the stuff of acid rain. Debbie Beck of the Wyoming Outdoor Council said the release of some SO2 was a major



Western Wyoming and Exxon's Riley Ridge Project, showing the proposed natural gas well field and Shute Creek gas processing plant.

concern. The potential of acid rain to harm the nearby Bridger Wilderness in the Wind River Range was the subject of many hours of testimony, some of it barbed and heated.

As part of its findings, the Council required Exxon to participate in an ongoing Forest Service air monitoring study in the area. The oil company must also monitor the effect of its own activity, and deal with any damage its SO2 may cause. Beck said the Wyoming Outdoor Council was pleased with that result. "In some cases we got less than we hoped for; in others we got more."

A week after the Siting Council's go-ahead, the Forest Service recommended that the state grant Exxon an air quality permit. But Dennis Haddow of the Forest Service also recommended that Exxon be monitored and that remedies should be devised if there are air quality problems.

The project will affect more than the natural environment. The communities in the area have been on an economic roller-coaster since OPEC's 1973 oil embargo boomed the area's oil and gas. Governments were caught flatfooted. Small towns like Evanston doubled overnight. Rock Springs became a tent city. New residents found poor housing, high prices, bad streets, crowded schools, and so on.

Government and the private sector eventually geared up, only to be hit

from the opposite direction when oil and gas declined, the trona mines laid off people in Sweetwater County, and large numbers of workers moved out. Despite the out-migration, Lincoln County hit 22 percent unemployment in early 1983.

Then came Exxon, saying the Shute Creek plant and support facilities would require 2,000 workers by mid-1985. Local governments were pleased, but worried about impacts. The concern led to mitigation contracts with 36 governmental agencies, regulatory bodies and conservation groups. Most agreements guarantee tax receipts so that towns, school districts, et al won't be caught short if Exxon pulls out of the project part way through construction.

Concerns were also expressed by unaffiliated citizens at the hearing. Mrs. Marika Thayer, whose husband is an oil worker, testified that she feared the pipeline would rupture and kill her. She finally accepted the company's promise to 'set her fears to rest' by conducting a series of information meetings. She lives within a mile of the line.

The Powder River Basin Resource Council was not satisfied. Staff director Jon Huss told the Casper Star-Tribune that the Council should oversee placement of the sour-gas pipeline and should provide recourse for dissatisfied residents.

Relief when the grueling process was finally gavelled to a close was summed up by a proposed t-shirt: "I survived the 1984 Exxon-I-S-C hearings." Hands were shaken, bags packed, and the crowd faded away. Exxon officials especially were smiling, relieved.

Among those not smiling were several unemployed construction workers who had attended the hearings. After the permit was granted, they left the hearing room, resumes in hand, bound for the Job Service Office in Kemmerer. They would join the 30 to 50 people a day routinely told: "Exxon is not hiring today. We'll keep your name on file for when they do." Although Exxon still needs a few more permits, including one for air quality, a spokesman said Help Wanted signs could go out soon.

-- Ken Rand, staff

Tribes move against threat

Concerned about the Riley Ridge project on the other side of the Wind River Mountains, the Joint Business Council of the Shoshone and Arapahoe tribes voted March 7 to seek federal protection for their Wyoming reservation's air quality.

John Washakie of the Council said the tribes are worried about their roadless area, which was established by the tribes and recognized by Congress in 1938 -- decades before the Wilderness Act. Washakie said the area contains more than 200 lakes whose plentiful fish would be vulnerable to acid precipitation. The tribes are also concerned about losing income from selling fishing licenses to non-Indians.

The tribes must now begin an air quality study and hold public hearings before making their formal proposal to EPA. Under the Prevention of Significant Deterioration section of the Clean Air Act, EPA decides whether the reservation's air quality can be

changed to Class I. Class I allows almost no degredation of air quality.

The Environmental Protection Agency's decision is based solely on whether tribes followed procedures required by the Act. If the Wind River reservation succeeds, it will become the fourth reservation in the country to upgrade its air status to Class I. Others are the Flathead, Fort Peck and Northern Cheyenne reservations in Montana. Under the Clean Air Act, large wilderness areas and national parks are automatically Class I. The voluntary redesignation section applies to local governments as well, but only tribal governments have used it so far.

According to Dennis Haddow of the Forest Service, the tribe's decision is not likely to affect Exxon's plant because of the lengthy procedural requirements necessary to move to Class I. But Haddow said the change might affect two plants planned later for the Riley Ridge gas field.

--Marjane Ambler

HOTLINE

States sue feds

Six Northeastern states have decided, as a last and possibly desperate resort, to file suit against the Environmental Protection Agency, charging that it is ignoring the Clean Air Act requirement that Midwestern states reduce sulfur dioxide emissions.

EPA administrator William Ruckleshaus argues that the act is concerned with ambient air standards, not with acid rain. He also says that going to court will make a practical solution more difficult to reach. The Reagan administration has indicated that there will be no acid rain initiative before the election. Those suing are New York, Connecticut, Maine, Vermont, Rhode Island, and Massachusetts.

Cache La Poudre



Cache La Poudre River

Colorado may get its first wild and scenic river, thanks to a compromise worked out on the Cache La Poudre River. The river flows eastward out of Rocky Mountain National Park north of Denver and then through the rapidly growing plains town of Fort Collins into the South Platte River, which is tributary to the Missouri.

Under a bill introduced by Congressman Hank Brown (R), 30 miles would be designated "wild," which is the most restrictive category, and 40 miles "recreational." Thirteen miles would be undesignated. The compromise by a 12-person committee advising Brown leaves a dam possible only at the mouth of Poudre Canyon, in the lower end of the river.

"We're pleased," said Chuck Wanner of the Preserve our Poudre group. "We've put in four years of hard work." But he said the battle is far from over. No river in Colorado has received protection under the Wild and Scenic Rivers Act of 1968, and there has been no designation of any river in the country in six years.

The current legislation has local support from the Larimer County Commissioners and the city council of Fort Collins as well as Colorado's congressional delegation. Rep. Brown is now scheduling hearings for the bill in Washington, D.C.

HOTLINE

A dietary crapsboot

A \$2.2 million, three-year study for the National Institute of Environmental Health Sciences has found that thousands of chemicals in products have never been adequately tested for potential health hazards. The thirty researchers found that there is little or no toxicity data available on vast numbers of chemicals used in food, pesticides, drugs, and commercial products and processes. A committee of scientists who analyzed the report for the government concluded in early March that "it is clear that thousands or even tens of thousands of chemicals are legitimate candidates for testing." John Doull, a University of Kansas toxicologist who chaired the committee studying the data, said the report does not prove there is a health hazard. But, he added, "I find the results scary.'

The little oil shale project

Geokinetics, Inc. of Salt Lake City has been awarded \$1.35 million from the U.S. Department of Energy for the last installment of an eight-year program to develop an underground oil shale extraction process. Specifically, the money will be used to complete testing of two commercial-scale retorts in Uintah County, Utah.

The program, which began in 1976 and has garnered \$14.8 million from the federal government, has centered on developing a less-costly method of oil shale extraction. Recently, the U.S. Synthetic Fuels Corporation sent a letter of intent to Geokinetics for loan and price guarantees of up to \$45 million for the construction and operation of a 1000-barrel per day oil shale operation.

BARBS

The only good predator is a dead...

Thad Box, dean of the College of Natural Resources at Utah State University, told ranchers at a conference in Bozeman, Montana that "It's the pest species that cause controversy. There are just some animals that need killing. Predators like eagles, hawks, coyotes, snakes and grizzlies just need killing."

The occasion was a conference sponsored by the Political Economy Research Center, which would like to see public lands under private management.

Let's talk turkey.

Wyoming Congressman Dick Cheney (R) recently went to bat on behalf of the MX missile by hitting some long, familiar balls: Its future, he said, "hangs by a thread" in the U.S. House of Representatives. The debate has to cease and the nation has "to get off the pot." The request for more time to study the MX Environmental Impact Statement is "basically a smokescreen."

Do tractors float?

Jim Hightower, the Texas Commissioner of Agriculture, disagrees with President Ronald Reagan's economic prediction that "a rising tide lifts all boats." Hightower, talking about farmers, said, "not all of us have boats." Hightower also had unkind words for the Farmers Home Administration, which is rural America's lender of last resort. "This administration will give cash to every right-wing Latin American dictator who can afford a pair of sunglasses, but all they give farmers is paper," he said, referring to a new, longer FmHA loan form.

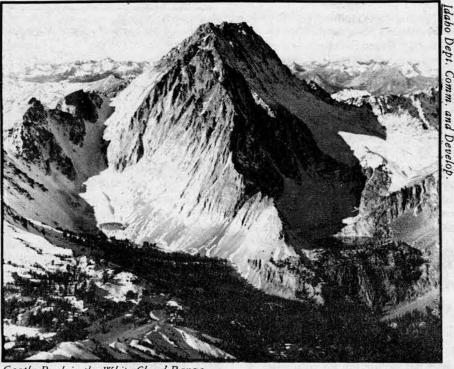
Idaho's wilderness bill comes in very low

Conservationists were expecting a low acreage wilderness bill from Sen. James McClure (R) and the rest of the Idaho delegation -- perhaps 700,000 to 800,000 acres out of 8.1 million roadless Forest Service acres. But they were stunned March 16 when the delegation released a bill establishing nine new wilderness areas totalling 527,064 acres -- less than the timber industry's wilderness proposal.

The bill simultaneously opens the remaining 7 million acres to development, with later wilderness consideration delayed until after the year 2000. In addition, McClure is threatening to tie this bill to state wilderness bills for Washington, Oregon, Utah and California. McClure's press secretary, Bill Livingstone, said such a multi-state bill would "expedite the process." But conservationists fear the real purpose would be to pass a weak Idaho wilderness bill with the stronger wilderness bills in other states.

The McClure bill, supported by the entire Idaho delegation -- Sen. Steve Symms, Rep. Larry Craig and Rep. George Hansen, all Republicans -follows a year of lobbying, public hearings and anticipation. McClure announced plans early in 1983 to write a state-wide wilderness bill to resolve conflicts over RARE II -- the Forest Service's second roadless area review and evaluation, which was rapidly heading toward RARE III. Several organizations and government bodies came forth with their wilderness proposals. Gov. John Evans, D-Idaho, called for nine wilderness areas totalling 1.04 million acres; the timber industry proposed 13 areas totalling 590,154 acres; the Wildlands Coalition, a coalition of conservation groups, proposed 31 new areas totalling 2.9 million acres (with other areas in further study); and the Forest Service had recommended 17 areas totalling 1.03 million acres in its RARE II report.

Livingstone acknowledged that the McClure bill "is only a starting position... All the pressures will be to



Castle Peak in the White Cloud Range

increase acreage." But Idaho Conservation League Director Pat Ford said, "Even if we doubled the acreage -- and that would be hard to do -- it would still be a bad bill."

The wilderness areas included in the Idaho delegation bill are: Salmo-Priest, 14,678 acres; Selkirk-Canyons, 33,678; Scotchman Peaks, 10,986; Mallard-Larkins, 30,500; Kelly Creek, 124,500; Lick Creek, 109,000; Borah Peak, 41,000; Worm Creek, 15,770; and White Clouds, 145,970.

While conservationists condemn the small acreage, the *inclusion* of one area -- the White Clouds-- has further angered the environmental community. "We got doublecrossed on the White Clouds by Senator McClure," charges Ford. He said McClure told conservation leaders that he preferred to deal with the White Clouds separately. As a result, Ford said, the Wildlands Coalition did not include the popular central Idaho mountain area in its wilderness proposal. The conservationists, however, have a standing White Clouds wilderness

proposal of 450,000 acres, with a mining ban clause added to eliminate the threat of an ASARCO molybdenum mine at the base of Castle Peak. Ford noted the McClure bill would not prohibit the proposed mine.

Livingstone said the White Clouds were included because "Everyone realized they had a special scenic value."

Robinson offered a different explanation: "It's a freebie. It's the most popular area in Idaho, so why not eat up acreage in the wilderness proposal by including the White Clouds?"

With the entire Idaho delegation lined up in favor of the bill, conservationists are expecting a tough fight to defeat the bill. That fight could grow tougher, according to Robinson, if McClure is successful in tying the bill to wilderness bills hammered out in other states. McClure has said he would push for a multi-state wilderness bill even over the objections of the other state's delegations.

--Glen Oakley

Utilities may have to pay WPPSS bonds

In a unanimous decision, the Oregon Supreme Court has ruled that 11 Oregon utilities had the authority to enter into "take-or-pay" contracts with the Washington Public Power Supply System for two abandoned nuclear power plants. The decision reverses a lower court which found violations of the public utilities' charters and the state constitution in the signing of the contracts. It also paves the way for additional complicated legal maneuvering to determine who must pay for the abandoned nuclear plants.

Take-or-pay contracts obligate a utility to pay a generating plant for electricity whether the utility uses the electricity or net. The contracts are a common method for assuring financing for new power plants -- in this case to be built by WPPSS.

WPPSS is a consortium of '88 utilities that formed in 1976 to build five nuclear power plants in Washington. The system has since defaulted on \$2.25 billion in bonds and has a debt of over \$7 billion for plants that will probably never produce any power. Two of the five plants have been abandoned and a third has been postponed indefinitely. The default was the largest in U.S. history.

The opinion conflicts with one issued by the Washington and Idaho state supreme courts, which let utilities in those states off the hook by ruling they had no authority to enter into the WPPSS contracts in the first place. The Washington court is currently reviewing that opinion.

The Oregon decision, however, does not necessarily mean that state ratepayers will be forced to pick up their share of the bill for the abandoned plants. The Court did not rule on the validity of the individual contracts, but on the question of whether state utilities have the authority to enter into such contracts. The ruling resulted in a lawsuit filed by Peter DeFazio of Springfield, Oregon, and 25 other ratepayers of the Springfield Utility Board, one of the WPPSS participants. DeFazio, now a county commissioner, told local newspapers, "The Oregon Supreme Court has decided that any time a municipal utility wants to obligate their ratepayers to open-ended debt, it's fine with them."

Mary Ann Hodes, spokeswoman for the Springfield Utility Board, says that, for a number of reasons, "We don't believe we'll have to pay. We have been removed from obligation by the findings of courts in Washington and Idaho. The contracts have been frustrated and we don't have any further obligation under them.'' When the Idaho and Washington courts removed the contractual obligations from the utilities in their states, that left only a handful of utilities, mostly in Oregon, bearing almost the entire cost of the plants. Some cooperatives took this issue to court, saying it was onerous, and the court agreed with them.

Hodes said that the Oregon Supreme Court decision actually places the Oregon utilities in a stronger position in the WPPSS legal battle. Many of the bondholders have filed suit against the utilities participating in WPPSS on the basis that the utilities lied to bond purchasers by claiming to have authority to issue the bonds, when in fact they did not.

The decision is by no means the last word in the continuing WPPSS legal tangle. Said Hodes, "We're not out of the woods yet. This will be going on for a long time yet."

of the year of their sections.

-- Dan Whipple

BULLETIN BOARD

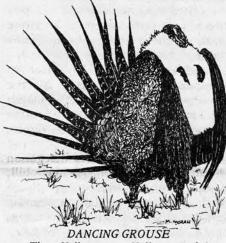
WALK FOR THE EARTH

Billed as a cross-country grassroots campaign, "Walk for the Earth 1984" is a 3800-mile trek that started out April 1 from Point Reyes National Seashore and will end in Washington, D.C. on October 27, a few days before the U.S. national elections. Press conferences and gatherings in Indian reservations, parks and cities along the planned route will focus on issues including public lands management, Native American rights and the nuclear arms race.

Walkers will average 18 miles per day. They may join the walk for any amount of time: a single day, a two-week summer vacation or the entire seven months. To contribute, participate in, or learn more about the walk, contact Doug Alderson, Native Culture and Ecology Research Foundation, Inc., 2311 Mavis Circle, Tallahassee, FL 32301.

GRAND CANYON CAMPING PERMITS

Better plan soon if you want to visit the Grand Canyon this summer. Camping permits are required for overnight camping anywhere within Grand Canyon National Park's backcountry and are already limited for much of this spring. Information about the backcountry can be obtained from a special phone line open weekdays from 11 A.M. to 5 P.M. (602/638-2474) or at the Backcountry Reservations Office, Grand Canyon National Park, P.O. Box 129, Grand Canyon, AZ 86023. Reservations must be made in person or by mail.



The Yellowstone Valley Audubon Society in Billings, Montana plans a field trip to a grouse dancing grounds Saturday, April 7. For more information, call 259-3753.

A WAY TO HELP

Game species and endangered species seem to grab all the attention and money from state and federal governments while non-game species get short shrift. To combat this situation, 31 states, including Colorado, Idaho, Montana, Utah, and New Mexico, have enacted non-game check-offs on their state income tax forms to provide funding for non-game research and educational projects. Tax forms in these states have a line item which can be checked indicating a contribution to their non-game program; taxpayers can contribute a portion of their refund or add to their total tax bill.

RARE TOAD HOPS ABOARD

ENDANGERED LIST

For two years the Wyoming toad had not been seen, wart nor leg. Then last June, the Wyoming Game and Fish Department, the University of Wyoming and the U.S. Fish and Wildlife Service combined efforts in a search which uncovered two of the rare amphibians in Albany County. As a result, the two-inch Wyoming toad was recently listed on the Federal Register as an endangered species. Both of the toads discovered last June were immature, indicating the species was still reproducing last year.

OLD FAITHFUL CONVERSION PLAN

The comment period is open for a proposed plan for improvements in the Old Faithful developed area of Yellowstone National Park. The Old Faithful Draft Development Concept Plan is part of the 1974 Master Plan for Yellowstone National Park, which calls for gradual conversion of the Old Faithful area from an overnight lodging area to a scenic day-use area. To submit comments or obtain a copy of the proposed plan, contact Yellowstone National Park, P.O. Box 168, Yellowstone N.P., WY 82190 (307/344-7381, ext. 2303). Written comments must be in by April 16.

POWDER RIVER COAL MEETING

The Powder River Regional Coal Team will meet in an open session with the public on April 10 in Sheridan, Wyoming. Topics under discussion will include findings and issues identified in the Draft Powder River Regional EIS; review of alternatives and selection of the preferred alternative; re-evaluation of coal tract ranking; regional coal team guidance to the EIS team for the preparation of the final EIS; and the pending preference right lease application EIS. Members of the coal team include BLM officials and governors' representatives from Wyoming and Montana. The meeting will begin at 9 A.M. at Sheridan's Holiday

A PATH TO WILDLIFE

The Wildlife Management Institute has published a 16-page booklet entitled, "Improving Public Access to Private Land: A Path to Wildlife," based on communications with state wildlife agencies, industrial landowners and prominent researchers in the field. The booklet examines the growing problem of diminishing access to private land for wildlife-related recreation, such as hunting and fishing, and discusses the issues of trespass and liability. It also outlines successful solutions to access problems that have been used by a number of states. A copy is one dollar from the Wildlife Management Institute, 1101 Fourteenth Street, NW, Suite 725, Washington, D.C. 20005.

140-MILE PIPELINE PLANNED

Pre-Environmental Impact Statement scoping is underway for a 140-mile CO2 pipeline in western Colorado and eastern Utah. The Valle Grande Pipeline would connect the McElmo Dome CO2 well field near Cortez, Colorado with Chevron's Rangely Unit oil field near Rangely, Colorado.

Written comments on issues that need to be addressed in the project's upcoming EIS must be submitted to the BLM by April 30. At least one scoping meeting will be held in Moab, Utah at a yet undetermined date. The BLM plans to publish the Draft EIS in December 1984, and the Final EIS in March, 1985.

NATIONAL PARKS' WISH LISTS

Rocky Mountain National Park has followed Grand Canyon National Park's lead in releasing a wish book for prospective donors to the parks. The catalogs are designed to attract donations from the private sector for specific items out of reach of the current parks' budgets. The priced items range from fire-fighting equipment and hay for patrol horses to a new visitor center auditorium for Rocky Mountain National Park. To obtain catalogs, contact Rocky Mountain National Park, Estes Park, CO 80517 (303/586-2371) or Grand Canyon National Park, P.O. Box 129, Grand Canyon, AZ 86023.

INTERNATIONAL COAL SHOW

The premier show in coal mining is coming up at the end of this month in Chicago. The American Mining Congress International Coal Show will feature a mammoth exhibition of coal mining equipment and services as well as technical sessions on such subjects as coal transportation, reclamation, waste disposal, and management. The dates are April 29-May 3; advance registration is \$50 and must be in by April 13. Speakers, government employees, and mining students get in free. To find out more or to register, write to the American Mining Congress, Suite 300, 1920 N Street NW. Washington, D.C. 20036. (202/861-2800).

REGULATING FOREST GUIDES

The Forest Service has announced new regulations governing professional guides and outfitters. First, a new evaluation system will rate the performance of guides and outfitters, and those who fail to meet basic requirements may have their permits denied. Second, when a permitted guide/outfitting business changes ownership, the new operator must qualify for and obtain a new permit in order to continue that business. And third, the old fee system of 25¢ per user day will be replaced by a revised fee system that requires the outfitter or guide to pay a daily-use fee based on the amount customers are charged each day. In addition, annual fees for seasonal use of campsites will be increased to about \$100 per campsite.



SMOKEY'S DAY

Capitan, New Mexico (pop.762) will celebrate their most famous native's 40th birthday this August 9 with first-day issue ceremonies for a commemorative Smokey Bear stamp. The cartoon guardian of our forests and woodlands is actually the birthday bear. It wasn't until May of 1950 that the first live Smokey was rescued, scorched and whimpering, from a forest fire in the Capitan Mountains of south-central New Mexico. Over the years the fame of the fire-prevention bear has spread to Canada, Japan and Mexico, where he is called Simon del Oso. Smokey is identified by 98 percent of U.S. school children, dwarfing the recognition of U.S. presidential candidates.

GROUNDWATER HANDBOOK
The Natural Resources Defense
Council has prepared a citizen's
handbook to groundwater contamination.
The book provides a description of
groundwater, an overview of the relevant
laws, and strategies for citizen involvement in this threat to drinking water,
health and the environment. To obtain a
copy contact Wendy Gordon, NRDC, 122
East 42nd Street, New York, NY 10168.

CABINET MOUNTAINS WILDERNESS
PLAN

The Forest Service has identified some issues to be covered in a draft wilderness management plan for the Cabinet Mountains Wilderness of the Kootenai National Forest, Montana. The list includes the kinds and numbers of facilities needed, such as fire rings and hitch rails; present and future demands for various types of permits; and where there may be problems among visitors, such as noisy dogs, firearms, and space for hikers and horseback riders. Questions and additional issue suggestions must be mailed by May 1 to Gary Hathaway, Kootenai National Forest, West Highway 2, Libby, MT 59923 (406/293-6211).

DECOMMISSIONING RULES

The Nuclear Regulatory Commission will release the first of two proposed rules on nuclear power plant decommissioning this month. The first rule will require utilities to develop decommissioning plans and to set aside funds for decommissioning. The rule will affect the safety and economics of the decommissioning process and prevent giant rate shocks to utility users. A second proposed rule should be out in July and will establish residual radioactivity levels at plants. A 60-90 day comment period will follow the release of each proposed rule with final regulations scheduled for completion in 1985.

To get your free copy of rule number one, call 800/638-8282 after mid-April. To find out more or to submit comments, contact Carl Feldman, Chemical Engineering Branch, Division of Engineering Technology, Office of Nuclear Regulatory Research, U.S. NRC, Washington, D.C.

20555 (202/443-7910).

Western issues aren't always pretty



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The splash and play of populus tremuloides tie together the Rockies



_by George Sibley

If I were to try to pick out one aspect of the southern Rockies that seemed to most appropriately summarize and symbolize the unique qualities of the region, I would probably settle on the aspen trees. There is an expansive sense of light, space and solidness, the product of broad valleys, altitude, and large mountains still rugged but starting to show their age in a kind of dry dignified repose. But it is the aspens, the splash and play of aspens over whole mountainsides that pull those qualities together, the way a good pipe organ pulls together a great cathedral.

Historically the aspen has been regarded, narrowly, as a relatively useless tree. It is a hardwood in a world whose appetite is for softwoods -- and it is not a very high quality hardwood either: generally too small for good conventional lumber, and too fast growing to develop the tight hard grain desired for most hardwood products like furniture. Because of the natural whiteness of its wood, paper-makers like to mix it with the longer, more workable softwood fibers for fine grades of paper. But the short hard fibers of the hardwoods do not weave together for strength in pulp products the way the softwood fibers do. As firewood, it burns with a clean flame that leaves no gunk in your chimney, but it has about a fifth less BTUs than the softwoods.

Of course, worse things could happen to a tree than being regarded as useless by the forest-products industry. And being a tree that needs cleared land for its best development, the aspen might be one of the few trees that has benefitted from its relationship with man, for we have certainly provided it with forest clearings in which to develop.

And over the years, as the aspens and human society -- Populus tremuloides and Populus humanoides, you might say, the popple and the people -- have grown up together in a common environment, we have come to "use" the aspens as trees, not wood-fiber: they provide excellent wildlife habitat; they come in fast to bind together mountain slopes against erosion; they are much more compatible with grazing than other mountain forest covers; and, above all, they add a quality of beauty to life in the mountains. We think automatically of the obvious autumn colors -- but who knows a more beautiful color, or one more. welcome, than that first incredibly delicate and translucent green that drifts like smoke through the aspen stands in early May?

Now, however, with the announcement of plans by Louisiana-Pacific to build two plants in western Colorado for the processing of aspens into a flakeboard construction material, our longstanding relationship with the aspens of the southern Rockies is probably going to be undergoing a radical change (HCN, 2/6/84). This is not just a local event; a major part of the evolving 21st-century national strategy for meeting our wood demands requires the heavy utilization of "low-grade hardwoods" like the aspen to ease the

pressure on a deteriorating softwood supply. The Forest Service and other forest managers have little choice: at this point, about a fifth of the total volume of growing stock in the forests of the United States is hardwoods too small for efficient utilization in the sawmills, and with only a limited application in the pulp-and-paper mills. As a cheap and effective substitute for plywood (which requires high-quality softwood logs), the hardwood flakeboards are probably an important part of the future. In appearance -- looking exactly like what it is -- L-P's "Waferwood" even seems to symbolize the future: formerly useless bits and pieces pressed into service, heatedly and under pressure.

Trying to follow the emerging debate about intensive aspen management, however, I found that despite twenty years of cohabitation with the tree, I didn't really know very much. So I did some reading, and I went to visit a man who has been studying aspens in Colorado and Wyoming for most of the past decade. "The more I hear and read," I told him, "the more I seem to just expand the boundaries of my ignorance."

"Yes," he said, "that's about where we all

are."

P. tremuloides, the quaking aspen, has the greatest range of any tree in North America. All the way across the northern third of the continent, clear up to the cold edge of the arctic tundra in the far north, and fingering south along the slopes of all the mountain ranges in the United States - practically everywhere that trees grow at all in that vast north temperate region, the aspen is at home. This is also true of Europe and Asia. If the nights are cool, the ground reasonably moist, and winter the major underlying reality, then it is aspen country.

Where in that huge range you might actually find aspens growing, however, depends on another factor: the amount of open ground or cleared land available. The aspen is what foresters call an "intolerant" or "seral" (sun-loving) species: it cannot grow in the shade of any other tree. Accordingly, it depends on the cyclic or irregular catastrophes that befall mature forests: wildfire, blowdowns, insects and loggers.

Because all the trees in a stand of aspen usually start at about the same time, stands of aspen tend to be mostly even-aged, at least in their earlier years. As they mature, the stand might expand into new territory if conditions are favorable, with younger trees on the outside; and once they are fully mature and starting toward deterioration, small disasters might create small openings in which new trees can start. But there is almost invariably a gap of 25 to 50 years between older trees and younger in an uneven-aged stand; and usually the age of the older trees in a stand is given as the age of the stand itself.

Compared to other trees in or near its environment, the aspen is a relatively fast-growing but small and short-lived tree. Over most of its

range the life span of the aspen is actually similar to man's: 50-60 years being the average, 80 being pretty old -- although aspens are occasionally found that are more than 150 years old. In size, most aspens are 50 feet tall or less.

The only really notable exception to those figures is in the southern Rockies. In the lower parts of its 7,000-11,500 foot altitude zone, aspens in western Colorado and Utah frequently reach 100 feet, with trunk diameters up to three feet. In addition, the aspens live considerably longer almost everywhere in their southern Rockies range; the average age of mature aspen stands here is 80-100 years.

That was the first thing Wayne Shepperd mentioned when I went to talk to him at the Forest Service's Rocky Mountain Forest and Range Research Station in Fort Collins, Colorado. Shepperd is a lean, rangy Colorado native who, as a research forester for the Forest Service, makes a living doing what he used to do for fun as a kid, exploring the forests.

For the past six years he has been studying aspen stands in Colorado and southern Wyoming. He works out of a typical research cubicle overlooking a parking lot, in a typical office-type facility; but covering most of one wall in his cubicle is a map spattered with red dots that show the location and general dimension of his real laboratory: each dot is a stand of aspen he is keeping tabs on. An aspen-watcher.

He said no one knows for sure why the aspen does so well in the southern Rockies, but theorized that it has something to do with the drier climate. One of the great scourges of the aspen is "heart rot" -- decay in the heartwood. Only about 20 percent of the stems in the stands of the southern Rockies are affected, compared to much higher percentages elsewhere.

The most interesting and unique aspect of the aspen tree is the way it reproduces itself -- or rather, the two ways.

Aspens produce seeds, like most other trees -millions of very tiny seeds from a single tree. A
large number of seeds is necessary for the aspen,
because the odds against germination and growth
of a seedling are large. The aspen seed can't win if
there is competition from any other plant life for
either light or water. In the aspen's climate, those
circumstances are usually found only in the ashy
aftermath of an intense forest fire. Even then, the
seed that manages to sprout goes through at least
two seasons of agonizingly slow growth, only
beginning to live up to its "fast-growing"
reputation in the third growing season.

How did a tree whose rooting is so precarious become the most widely distributed species in North America? By learning how to reproduce without seeds -- by "cloning" itself. In addition to its downward-reaching roots, the aspen sends out a great web of roots just below the surface. Where those roots undulate nearest the surface, shoots called "suckers" sprout up from the root in the springtime. If the suckers are so fortunate as to sprout in an unshaded area (and they have been found as much as eighty feet from the nearest

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tree), then they will grow rapidly into saplings, forming a group of genetically identical trees called a "clone." As each member of the clone grows, it begins to put out its own roots (which also sprout genetically identical suckers in time), and after about 20 years becomes physiologically

independent of the rest of the clone.

The size of the clone, Shepperd said, can be from a few trees up to the largest one he has found, which is a single clone sprawling over several hundred acres in southern Wyoming. The average size is one to ten acres. He mentioned some of the tree-traits that get passed along by the parent seedling to all the trees in the clone: straight or crooked trunks, extreme branchiness, self-pruning of dead limbs, slight color variations in bark and leaves, different timing on the color change or accision of dead leaves. Even a lay person walking through the aspen woods can usually distinguish clonal boundaries.

The clone continues to send up a few suckers every year, just checking out the cover, as it were. But if the stand is visited by a fire, bad wind, or loggers, then suckers spring up by the thousands -- 30,000 to the acre -- probably triggered by the breakdown in the root-to-leaves-back-to-root food

cycle.

Most places where the aspen grows, however, there are other more shade-tolerant trees that begin to grow up as an understory beneath the aspens. And as the aspens age and die, these tolerant species take over since the aspens are unable to regenerate under them. In some places the aspen is succeeded by other, longer-lived hardwoods. But usually the successor forest is some variation of the great spruce-fir taiga that covers so much of the north temperate zone: in the southern Rockies, it is the alpine version of the spruce-fir forest that succeeds the aspens. Most varieties of spruce and fir, in fact, need the shade of aspens or of their own kind in order to get established.

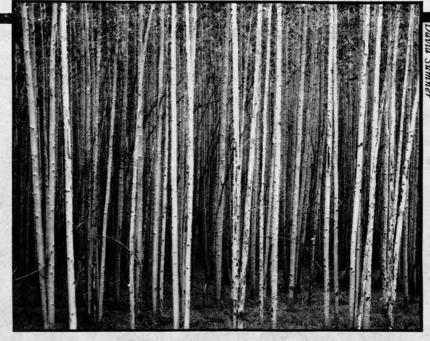
What happens to the aspen clone then? Somehow, it manages to stay alive for some time, even after the last old grandfather aspen drops its final leaves into the cool twilight under the spruce-fir forest that has dispossessed it. Using reserve stores of energy, it continues to poke up a few suckers here and there, looking for light. If it doesn't find any openings for -- what: ten years? Fifty years? A century? -- then the clone dies, disappears. But should there be a blowdown in the spruce-fir forest, or a fire or man-made clearing in the area still underlaid by the old clone, then the clone will pour its last remaining energies into suckers to fill the clearing, starting trees whose roots will rebuild the clonal network and keep it alive for yet another generation.

Loggers and farmers in the Lake States marvelled 80 or 100 years ago at how, in a recently cleared area with no aspen "seed trees" anywhere in sight, there would suddenly be thousands upon thousands of fast-growing "seedlings." The people thought the popple regenerated itself out of something in the air. But they weren't "seedlings" at all in most cases; they were suckers from clones that had been biding their time underground till their turn came around again. One long-time aspen-watcher has suggested the possibility -- as yet unprovable -that somewhere there might be an aspen clone that would qualify as the oldest living thing on

Whether true or not, the story of the aspen clones leaves me with a subtly different feeling about trees in general -- that somehow the real life and reason-for-being of the tree might be down in the roots, and the visible part of the tree just something the roots stick up in the air the way a man sticks a shovel or a plow into the earth, in search of raw materials for mysterious purposes.

The Forest Service, in meetings and news releases to acquaint us occasionally restless natives with Louisiana-Pacific and the aspen-harvest proposals, has claimed that if the aspen aren't harvested -- and fairly soon -- they might all but disappear from the southern Rockies due to encroachment by the conifers. Other people have pooh-poohed that, claiming the aspen is not in the same tree zone with conifers that might encroach.

According to Shepperd, and other aspenwatchers, truth lies on both sides. It ought to be fairly obvious to anyone who has spent time out and about in the southern Rockies that, for most of its 7,000-11,500 foot altitude range, the Forest



An aspen clone might be the oldest living thing on earth

Service is probably right: eventually most of the existing aspen stands are infiltrated by dark patches of spruce and fir. On the other hand, there are places where the opposite has happened: I hiked to the site of a forest fire I helped fight a decade ago, near the Black Canyon in Colorado and found a stand of aspen growing up among the burnt conifer stems, along with a verdant profusion of grasses and flowers and little bushes. It seems to be an incredibly dynamic world where there is never just one thing going on.

And there do seem to be places where the aspen seems to have no coniferous competition. The critical factor, according to Shepperd, is the absence of a seed source for the conifers. But other aspen-watchers believe there is an irregular sliding zone, bounded by the lower limit of the spruce-fir zone and the upper limit of the ponderosa-lodgepole zone, in which the aspen is without competition. As the ponderosa and lodgepole pines are occasionally found above 8000 feet, and the spruce occasionally drops below 8000 feet, you can imagine the rough and erratic configurations of such a zone.

Shepperd says that no one really knows why the 7000-8000 foot zone is divided as it is among aspens, ponderosa and lodgepole pines. All three are basically intolerant pioneer species; but the two pines are able to form an understory among the aspens, which would lead one to wonder why there are any aspen at all left in the zone where they overlap with the pines. But they are there, and they seem solidly established in certain

I asked if it might be soil differences; Shepperd allowed the possibility, but cautioned that it is a chicken-or-egg question. There are different soils under aspens and lodgepoles, but this is at least partially due to the fact that "the aspen is a soil-improving tree." It cycles nutrients to the surface through putting down its layer of leaves every fall; it permits and encourages a larger variety of plant and animal life at the ground level. "So do the soils determine what different trees will grow, or do the trees that grow determine the different soils?"

While Shepperd is hardly convinced that "the aspen will disappear if they aren't harvested now," he does favor development of a regular harvesting cycle. Something that concerns him, both as scientist and forester, is the fact that the majority of the stands he has found in the southern Rockies are about the same age: 80 to 100 years old, and moving into a period of deterioration due to old age. This could be a consequence of the great burst of logging and burning that accompanied the mining booms of the late 19th century, followed by what has been essentially three-quarters of a century of laid-back recession. (My theory, not Shepperd's.)

As a scientist, Shepperd finds the lack of variety frustrating because it is hard to study the development of aspen stands. As a forester, he is disturbed about the vulnerability of a species that has most of its eggs in one age basket. He favors a harvesting program that would result in aspen stands spread evenly throughout an eighty- or

hundred-year cycle.

At the same time, he knows the tree well enough -- and knows too the existing limits on knowledge about the tree -- to hope for a fairly conservative approach to aspen-harvesting. He foresees some situations that will make the regeneration of aspen stands "not as sweet and nice and straightforward as people think it will

Aspen suckers are as vulnerable as they are vigorous for the first few years. Snow creep and the settlement of snow crusts are hard on young aspen stems in mountain country. There is the usual variety of creeping, crawling, flying, moulding and eating things that plague all life.

There are also problems that are growing worse, due to the growing density of life on the land, human and animal. Most of the aspen's range in the Rockies is prime cattle-grazing land, and cattle damage sucker stands. Even worse is the growing density of deer and elk on a diminishing winter range -- which is also some of the best aspen land. An overpopulation of ungulates will not only devour a crop of suckers; it will chew the bark off the older trees

One of the more mysterious problems of the species in the Rockies today has to do with the inexplicable deterioration of numerous aspen stands in the lower part of their range (7,000 to 8,000 feet). Some believe this might indicate a retreat of the species, with climate change being the most likely cause.

A similar retreat has been noticed in the lake states and northeast, where more accurate records show a gradual increase in average surface temperatures this century. Similar increases are expected during at least the first half of the 21st century, due to a man-induced enhancing of the greenhouse effect in the atmosphere.

In the Rocky Mountains, temperatures drop about 3 degrees F. with each 1,000-foot elevation increase. Thus, a 3 degree increase lops 1,000 feet off of the aspen's best range, making it a poor competitor with lower altitude grasses, shrubs and trees. That seems to be happening. Moreover, the temperature rise may not create new habitat at higher elevations, despite the new warmth, because of rugged, rocky terrain.

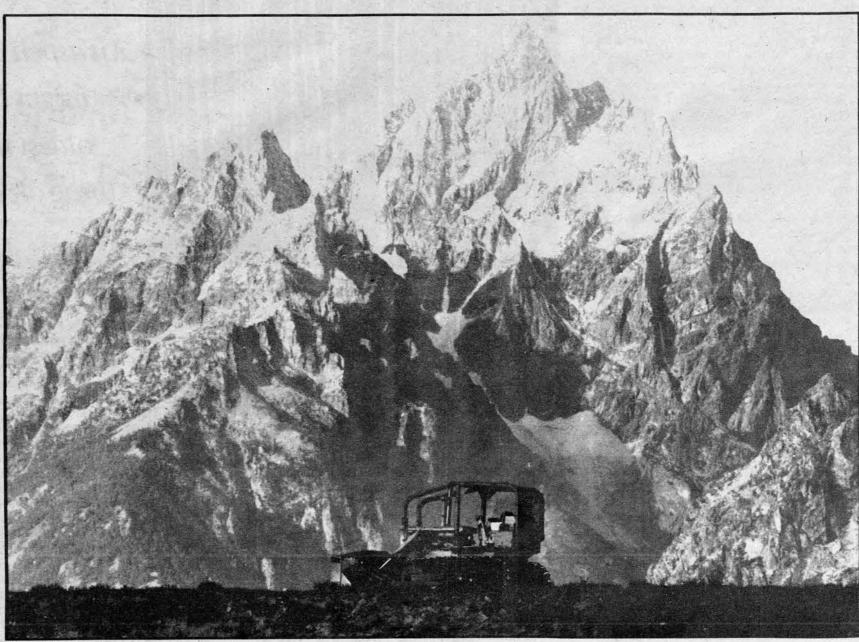
There are many other things about the regeneration from clones that are not understood. Shepperd mentioned one young stand down in the San Juans they are watching: the aspens that were formerly on the land were straight and tall, but the suckers growing up on the land are noticeably crooked, even though they are genetically th same tree. It does seem clear, however, that sucker growth after a clear-cutting of mature aspen is better than when the trees are only partially cleared -- or worse, where the trees just deteriorate slowly, "as nature intended." Stands that are allowed to go to a natural death have fewer and crookeder suckers.

In sum, it seems that both the aspens themselves and the American wood supply would benefit from a regular and intelligent harvesting cycle. But there is much to make one wonder about the best way to do it intelligently, especially in a region where the aspen has become something more than just "biomass."

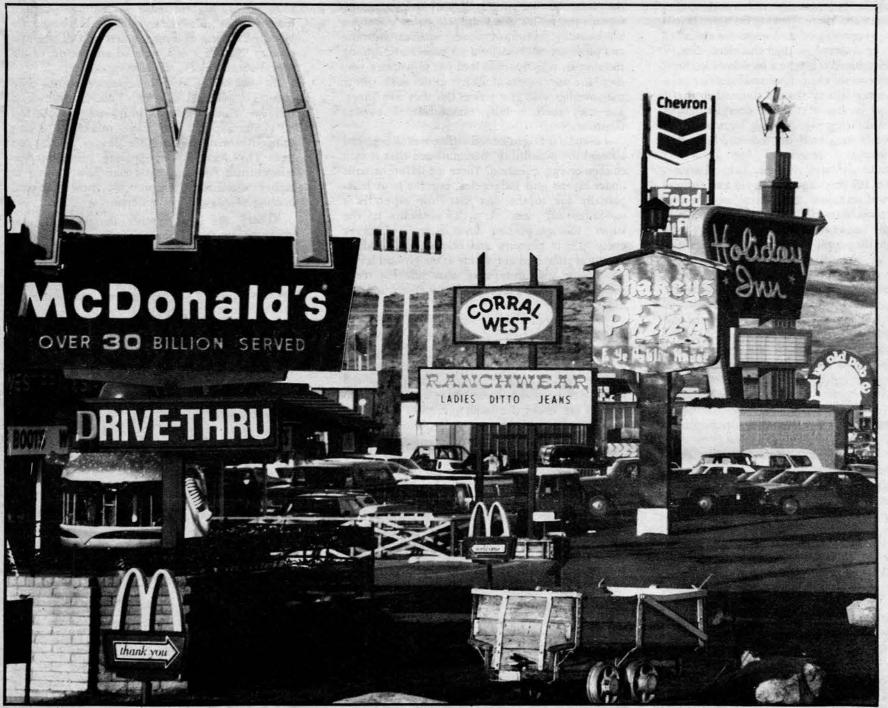
Tayne Shepperd has no illusions about the difficulty of mapping out management alternatives for what are often "diametrically opposed uses." But he manifests a certain pleasure at being in on the effort.

"The Rockies are an exciting place for a forester today. We're right out on the cutting edge (an unintended pun, I think), working out procedures that are by no means set yet. The only thing is -- there's a great responsibility, because in forestry, mistakes last a long time."

George Sibley lives in Fort Collins, Colorado, where he is finishing a book about trees.



Caterpiller and Grand Teton



Rock Springs

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Wyc

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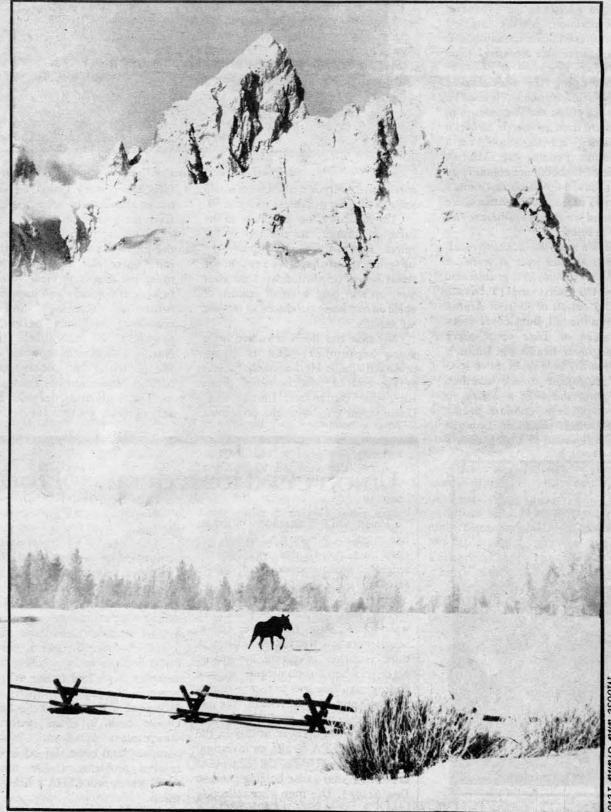


Yellow Creek Estates

Images of Wyoming

photos by

Mike McClure



d Grand Tetor

_by Ed Marston

Red Hartley is a proud, hard-driving oil company chief executive officer who doesn't understand why he or Union Oil should have to explain a damn thing to the media or the public.

Hartley stuck to that position from September 1983 to March 1984 despite great curiosity about the \$650 million Union oil shale complex that wouldn't work. But local reporters, frustrated at 'no comments' from Union's Parachute, Colorado and Los Angeles executives, began to look for Deep Throats. Whether they found them remains to be seen. But a series of seemingly disconnected stories, all attributed to unnamed Union workers, appeared through the winter in the Rifle papers, the Grand Junction Daily Sentinel and the Denver dailies.

On February 9 those stories were woven together into a plausible scenario by Kevin Markey, Friends of the Earth representative for Colorado. In a letter to the Synthetic Fuels Corporation, Markey argued that the stories indicate fundamental, possibly uncorrectable problems. (See accompanying story.)

Ackowledging the speculative nature of his information -- ''It may be easier for the public to divine events in the Kremlin than to pierce Union's gag of secrecy'' -- Markey called for a full SFC audit. Pending that, Markey wrote, the SFC should not commit, as it now intends, \$4.9 billion to Union's phase II and to Cathedral Bluffs since both depend on the yet-to-be-proved Unishale B retort.

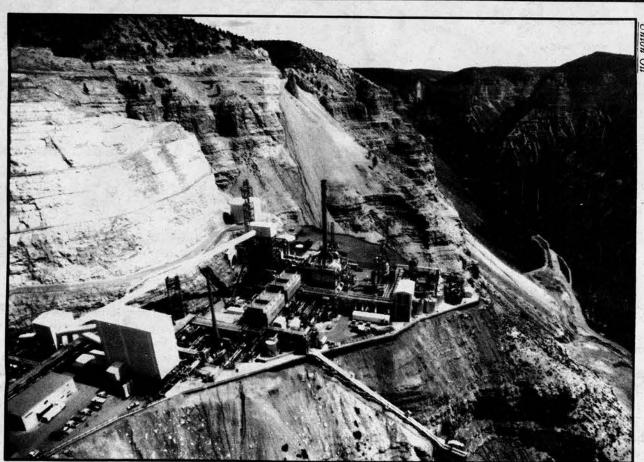
The SFC's reply was noncommital. But there is another force at work. A bill halting additional SFC grants and loans has 170 House and 15 Senate sponsors. A cut-off of oil from Arabia would doom the bill. But a cover story in Newsweek or Time or a Sixty Minute segment headlining Union's \$650 million dry hole could move it.

It is impossible to tell whether pressure from the SFC, a desire to stop the rumors in the Colorado press, or some other situation brought Hartley to Glenwood Springs March 8



Fred Hartley

Union Oil's Fred Hartley fights Wall Street vultures and conservationists



A 5-acre bench 1,000 feet above Parachute Creek is the site of Union Oil's

oil shale retort. The pipeline will move raw shale oil to an upgrading plant.

to reassure everyone that Union would soon be turning worthless rock into oil.

The difficulty, he said, was in the rake, or scraper, at the top of the retort. It wasn't pushing away the upwelling spent shale. As a result, the retort had to be shut down soon after start up and only a small amount of shale oil had been produced in the last six months.

The rake has been reworked twice since September, and is being reworked again. He hoped that a test at the end of March would prove successful. But if not, Hartley said, Union would stay with the project as long as necessary. Union, he said, had never abandoned a project it had built from the ground up.

"We are confident we can solve the problem and soon bring the plant into successful operation... Union takes the long-term view. We expect to stay in Colorado and expand in the future as technology and future economic conditions permit." The problem is solvable. "Mother Nature understands how to do this. We're trying to understand what Mother Nature already knows."

That's about as deep as Hartley, an engineer, got into the technology.

He turned aside a specific question about FOE's speculations. "If you want to use that (Markey's letter) as a source of information, be my guest. It is difficult to be constructive and creative. It is easy to be critical." FOE's Western Colorado representative, Connie Albrecht, who told Union she was there to cover the press conference for the group's Not Man Apart newspaper, was kept out of the press conference.

Hartley did talk at length, and very articulately, about the context within which Union approached oil shale. "We happen to be a breed of people who believe in being creative in our lifetimes -- in creating wealth."

Ranged against Union, he said, are carping environmentalists who increase costs to no purpose and -- potentially -- "Wall Street vultures" who would drain the life blood out of companies like Union in mergers that rearrange the corporate landscape in destructive

Hartley was forceful but generally even-tempered despite provocative questions. Michael Moss of the *Daily Sentinel*, for example, asked if he were going to fire his oil shale executives for having messed up the project. No, said Hartley. "Will your editor dismiss you" for the inaccurate things reporters have written?

When asked if Union had set a date by which they would abandon the project, Hartley said he did not see that possibility. "There are no deadlines. Our people already have

Union cited for federal violations

Union Oil's Parachute oil shale operation in Western Colorado was cited last month for violations of federal environmental and health standards.

The EPA issued two violations to Union for illegally discharging wastewater into Parachute Creek, which flows into the Colorado River. A third violation involving air quality occurred when Union illegally allowed hydrogen sulfide gas to escape from a holding pond, the EPA said. The gas was formed when employees added chemicals to neutralize acidity in the wastewater. EPA began its investigation after two Union Oil employees drowned in that same holding pond on Dec. 6, 1983. The men were collecting

water samples when they slipped into the pond.

The deaths of the men also prompted an investigation by the Occupational Health and Safety Administration. Last month OSHA said the company had violated three safety regulations and was liable-for \$2,160 in fines. Union was cited for failing to fence the pond, failing to build a platform for workers to take samples from, and failing to provide protective equipment such as life jackets or life lines. After the accident, Union built a fence around the wastewater pond and said the company had corrected other safetyrelated problems. Union has until April 3 to appeal OSHA's fines or pay



Allen Randle, the man directly in charge of the Union project, sends out a signal during the press conference.

put an enormous amount of pressure on themselves." He said it is not a time to create turmoil in the company. "I used to be on the firing line myself. I understand that. We don't get vindictive."

Hartley displayed anger only once -- when asked if the "Wall Street Vultures" who create mergers aren't doing a useful job -- shaking undervalued oil reserves loose from weak companies and transferring them to stronger hands. The man who provoked the Gulf-Chevron merger, T. Boone Pickens, Jr., has said repeatedly that many oil companies are incompetently run, and as a result Wall Street values their stock well below the value of the oil reserves they own.

The day before the press conference, the Wall Street Journal ran a list of "takeover targets." Union was on it. The value of its stock would more than double (from \$35 to \$80) if its oil reserves were valued the same as Gulf's were at the time of its merger into Chevron.

Hartley's response was to interrupt, and then to say: "Everyone in this room is worth more dead than alive." Mergers, he said, "produce a one-shot institutional pouring out of wealth." By comparison, a live Union is a continuing source of wealth. "We're 94 years old," and produced 100 million barrels of oil last year.

The company is also creative, Hartley said. "Union pioneered geothermal. We supply all the electric power for Oakland and San Francisco. The biggies in our industry used to say: Hartley doesn't know how to drill for oil so he drills for hot water." Even now, he said, Wall Street doesn't understand that Union owns the equivalent of 300 million barrels of oil in the form of geothermal energy.

Hartley called on Congress to stop mergers to save independent companies. "The more centers of creativity, the better off we are." He said mergers produce financial instability. "They require monstrous debts with interest payments up to \$100 million a month. They extract equity to pay debt. That's the way they run foreign countries."

The result, he said, is that "these debt machines become unstable." By comparison, Union "is only 20 percent debt. Our interest payments are covered seven times." If income falls, he said, stock dividends can be cut without danger to the firm.

The high equity, he continued, is related to Union's ability to pioneer oil shale. "Our company is strong -- we haven't gone out and spent \$12 billion to buy some other company. It takes a company with Union's staying power to do something like this."

The \$650 million Union has spent on the oil shale project is substantial. The total value of Union's stock in the market is about \$6 billion. So the \$650 million represents 10 percent of the value Wall Street puts on the firm. Union hasn't "bet the company," as the saying goes, but if it doesn't work, the stock price could drop, making Union more susceptible to a merger.

Hartley emphasized that Union is out there alone. "There is no federal risk or subsidy. If we stop operations, which we have no intention of doing, it will be our bucket of bolts." He chided reporters for referring to Union's \$400 million in price guarantees as a subsidy. "Union's agreement with the SFC is either not understood or is not wanted to be understood."

The Synfuels Corporation has guaranteed Union a per barrel price of \$45.50, about \$15 a barrel above today's market price, up to a total of \$400 million. But if they don't produce shale oil, they don't get the price guarantees.

Hartley said the \$45.50 is a "premium price" the government agreed "to reward risk

takers." The difference between it and a subsidy, he said, is substantial. "If our plant was financed by the taxpayers, we could be of light heart and walk away from it."

Although at times he jabbed with the press, he also held out olive branches. "We look forward in the future to better relations with the media. I'm not blaming you, but we concentrated on solving the problems" rather than on chatting with the press. In Hartley's view, until the retort works, there is no news.

He also said, "I hope to excite you with the idea that this is a creative thing -- not a tinkertoy. We're at the physical limits of fabrication... It's a great learning process. No other machine comes close to this." Nobody has ever before built a counter current flow process -- solids against liquids.

In addition to the natural limits, "Environmental controls have pushed up costs -- complete sulfur recovery, complete ammonia recovery, holding down dust. Friends of the Earth should spend their time to improve the Glenwood Springs street sweeper," which produces a great deal of dust. "I was impressed that the pristine

community of Glenwood Springs would allow street sweepers. I'm surprised they allow a horse to gallop."

He said earlier that it's hard to see the need for the quantity of data the federal government requires. "But we have learned to live with the system. If they want a paper a foot high, we'll supply it. If they want it two feet high, we'll supply it."

The goal of the effort and money, he said, is important. In the short term, there is enough oil. But in the long term there will be shortages without new sources such as shale oil. Contrasting America's generous use of oil with China's tiny use, he said:

"Our society has more fun because of energy. Just look at all the happy people on the ski slopes. Pleasure usually consumes energy."

Hartley also told one joke. When asked what would happen to Union if the SFC were abolished, he said the framing of the question reminded him of the old man who married the young woman. A friend gingerly asked the groom if he weren't afraid of death. The groom responded philosophically: "If she goes, she goes."

The clock is ticking on Union's shale project

If the only difference between men and boys is the cost of their toys, then Union Oil Company is a man-sized outfit. The firm's latest plant is a \$650 million oil shale mine and retort located near the small town of Parachute in Western Colorado.

Union's project is next to Exxon's closed Colony Oil Shale Project. Almost exactly two years ago, following Exxon's stunning shutdown of Colony, Union President Fred Hartley danced on the grave: "This tells me they don't know what they're doing," he told the press. He said that Union was going to push ahead because it knows what it's doing.

For the next 18 months, there seemed no danger that Hartley would have to eat his words. Union brought the project in relatively close to budget -- \$650 million instead of the original \$500 million, with construction completed more or less on schedule.

But Union hasn't been able to get the plant to work since first attempting startup on October 22, 1983. And history is against him. Union's Unishale B retort is a pioneer; it's been tested at only a 6 ton a day rate -far below the 15,000 ton rate of the present retort.

Moreover, the plant is processing solids rather than liquids. The handling of liquids is fairly straightforward, technologically, but solids plants often run into problems. A Rand Corp study by Edward Merrow showed that 15 solids plants averaged only 50 percent of capacity. On occasion, pioneer plants don't operate at all.

Only Union knows what is happening in the Parachute Plant. But Friends of the Earth staffers Kevin Markey and Connie Albrecht have spent a fair amount of time trying to decipher hearsay and rumors. In a February 10, 1984 letter to the Synthetic Fuels Corporation, Markey attempted to weave those rumors together.

His letter implies that even if Union gets the plant to operate, it will not run at the 10,000 barrel design capacity. Although the retort is complex, its purpose is simple. Oil shale contains the solid kerogen which, when heated to about 1000 degrees F., turns into liquid oil.

Mining, crushing, and feeding shale into the retort is straightforward. The pioneering part is building a retort that will transform kerogen into oil on a large scale.

Union's solution, after 50 years of work, is the Unishale B retort. Its pioneer feature is a rock pump -- an enormous piston which pushes the raw crushed shale continuously upward. This upwardly mobile shale is heated by hot gas flowing down from the top of the retort.

By the time the shale reaches the top, it should have been heated to 1000 degrees F., and its kerogen have become gaseous oil. The gaseous oil flows downward with the hot gases and condenses into liquid on cool shale closer to the bottom of the retort. The condensed oil then flows out of the retort at a rate of 10,000 barrels per day.

Union admits the retort has not worked, but says it will simply tinker until it does work. FOE's letter suggests that the problems may be fundamental, and that no amount of tinkering will make the thing work.

Union's fixes focus on a rotating scraper, or rake, atop the retort. It is an almost incidental part, designed to shove spent, dry shale off the top of the rising cone into disposal chutes. But the scraper is not doing the job.

Rumor has it that the problem doesn't really lie with the scraper. Rumor says that instead of spent, dry shale, the scraper is up against gummy shale. Markey's letter says, "the scraper, after reinstallation, transferred torque" to the spent shale mass and retort walls."

That implies that the entire mass of shale in the retort is stuck together by incompletely retorted shale. The kerogen may not be turning to liquid oil. It is possibly being partially retorted into an asphalt-like substance that glues the entire mass together.

That could indicate a fundamental problem -- heat is not flowing evenly through the shale, leading to incomplete cooking of the kerogen. Markey reports rumors that Union is attempting to slow down the rock pump, so that the shale moves upward more slowly, presumably allowing better heating.

The situation could also be less serious -- more analogous to starting a cold car. Once the process gets going, it may work well. The need for a strengthened scraper may be to knock gummy start-up material away so the retort will keep working until everything is warm and flowing. With Union mum there is no sure way to tell what the truth is.

However, the most likely outcome probably lies between the retort not working and the retort working at 10,000 barrels per day. If, for example, Union slows the rock pump to improve heating, it will feed less shale in and get less oil out. But interest on the \$650 million investment and wages to the 550 employees will stay the same. So the tenuous economics of shale oil will become worse.

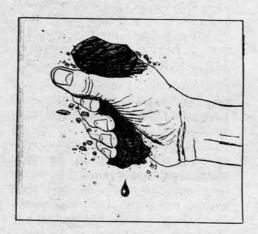
Markey writes that the retort's starts and stops have revealed another problem: difficult maintenance. He says it takes several days to cool down the material in the retort. When cool, it sticks together, and must be jackhammered and hydroblasted out. So "the design of the retort is not conducive to routine or unanticipated maintenance." That could help increase operating costs.

Union has no insurance policy for a malfunctioning plant. It is guaranteed \$45.50 a barrel from the SynFuel's Corporation regardless of its costs. If it can't make oil, it gets nothing.

The point of the FOE letter was to challenge the \$5 billion in loan and price guarantees the Synfuels Corp is about to sign with the C-B project and with Union for a 40,000 barrel per day second phase. Both will use Unishale B technologies.

.-E.М.

When Exxon shut down two years ago Union said, 'They don't know what they're doing.'



Industry and government charge environmentalists with bad faith negotiating

_by Ed Marston

n ambitious attempt to create once-and-for-all comprehensive national oil shale legislation has collapsed amidst bitterness and mistrust.

This story concerns the emotional and procedural aspects of the recently concluded attempt to create national oil shale legislation. The accompanystory on page 14 recounts the substantive issues raised by the Oil Shale Joint Working Group proposal.

The failure of the Oil Shale Joint Working Group could poison unrelated attempts to work out compromises among environmentalists, industry, and local and state governments. The failure is made more spectacular by the high hopes which preceded it. As recently as this fall, the negotiations appeared to hold great promise. And for good reason. The Joint Working Group brought together:

The oil shale states of Colorado, Utah and Wyoming and the three Colorado counties most likely to be affected first by oil shale develop-

ment;

The three major industry groups -the American Petroleum Institute, the Rocky Mountain Oil and Gas Association, and the American Mining Congress; and

Three environmental groups -- the Friends of the Earth, the Sierra Club, and the local Two Rivers (Gunnison and Colorado) Citizens Association.

Although the group was ad hoc, it had a track record even before it sat down together. The three sectors had cooperated two years ago to fight former Interior Secretary James Watt's proposed oil shale leasing regulations.

The Watt regulations provided for quick, liberal leasing, and allowed for little control by states, local government, or private citizens. Although industry appeared to have a great deal to gain, the regulations would almost certainly have led to lawsuits. For that and other reasons, industry joined state and local government and environmental groups in fighting, and defeating, Watt's proposal.

The Joint Working Group came out of that cooperation. Its goal was to fill the vacuum created by the defeat in 1982 of Senator John Warner's comprehensive oil shale bill and of the Watt regulations.

The cooperation was in part based on the relationship which developed among three people involved in the Watt fight: Kevin Markey, the Colorado representative of Friends of the Earth and one of the West's most knowledgeable oil shale people; William Ekstrand, then a Texas-based

Exxon executive and the oil shale

representative for the American

Petroleum Institute; and DeWitt John, an assistant director in the Colorado Department of Natural Resources and Governor Richard Lamm's oil shale man.

They helped form the group, but it grew beyond them. Representatives of two other major industry groups -- the American Mining Congress and the Rocky Mountain Oil and Gas Association, came on board. The states of Wyoming and Utah sent people to join Colorado's DeWitt John. The three Colorado oil shale counties and the city of Grand Junction sent representatives. And the Two Rivers Citizens Association in Western Colorado and the Utah-Chapter of the Sierra Club joined Markey.

ach of the three negotiating sectors had a great deal at stake. For industry, the mainly federally-owned oil shale reserves in the West have as much recoverable oil as the entire Middle East. Although not economic now, industry expects some day to be mining and retorting shale. But it says that existing laws limit oil shale development.

Local government fears it will be locked out of regulating the development of shale. The courts, in the Ventura County, California decision, drastically limited local and state authority over resource development on federal lands.

Environmentalists feel threatened on every side. The retorting, or cooking, of oil shale will affect air and water quality. And the huge open pits present a large reclamation challenge. Because more than a ton of rock must be mined to produce a barrel of oil, oil shale debris will fill valleys and create man-made mountains for even modest development. The need to build cities in the lightly populated West to support the oil shale industry will lead to development of dams, more pressure on wildlife, and the like.

Despite the complexity, the time seemed right for compromise. Each side is strong enough in the Congress to block anyone else's legislative initiative. Moreover, there is no pressure at the moment for Congress to act quickly, giving time for unhurried negotiations.

In addition to the objective situation, the human element was present. The Joint Working Group met in closed session, but by all accounts it became a cohesive group that believed strongly in what it was doing. Such cohesiveness can be a danger: individual representatives may hammer out a compromise which then proves unacceptable to their constituencies. But the group appeared sensitive to that possibility. The representatives met regularly with their constituents, and came back with new negotiating positions.

In addition, when rumblings came out of Washington, D.C. that several

environmental organizations were unhappy, the group arranged to meet in that city. At a September, 1983 meeting, industry representatives of the Joint Working Group met with Washington-based representatives of Friends of the Earth, the National Wildlife Federation, and the Environmental Policy Institute. The Joint Working Group representatives left believing things were on track.

On December 9, 1983, the group issued its 37-page legislative recommendation and mailed it to industry, government, and 21 Western and national environmental groups. It asked the various groups and governments: Is the proposal "an acceptable basis for Congress to use in drafting comprehensive oil shale leasing legislation?"

Local government and the states approved the initiative. Industry was slower. The American Mining Congress rejected it, but it appears that the Rocky Mountain Oil and Gas Association and the American Petroleum Institute will approve it. Two out of three approvals would mean -- under the group's rules -- that industry supports it.

However, the environmental community has apparently rejected it even though only seven of the 21 groups responded to the proposal. A few groups approved it: the Colorado Mountain Club, the Aspen Wilderness Society, and the Colorado and National League of Women Voters. But the Colorado Open Space Council rejected it, as did the Western Organization of Resource Councils, representing groups in Wyoming, Montana and Colorado.

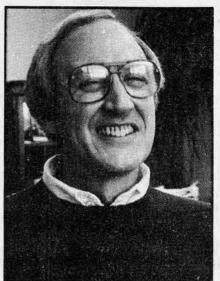
Even more important, three Washington-based groups signalled their opposition: the Friends of the Earth, the National Wildlife Federation, and the Environmental Policy Institute.

Moreover, the environmental community chose not to send a representative to the last meeting of the Joint Working Group, held March 7 in Denver. Even worse, from the viewpoint of industry and government, Friends of the Earth's Washington-based head Rafe Pomerance called the Joint Working Group and said Kevin Markey would no longer be serving on the Joint Working Group. Since the other two environmental representatives, both volunteers, had not attended regularly, that left the group without an environmental representative.

The reaction to the disappearance of Markey was strong. Cindi Coleman of Phillips, representing the Rocky Mountain Oil and Gas Association, said: "My perception is that the environmentalists didn't negotiate in good faith. They repudiated the efforts of their representatives at the 12th hour. I'm angry. I think we've been had.

"We get to our last meeting and

Kevin Markey no longer represents the environmentalists. It doesn't reflect badly on Kevin -- it reflects on Friends of the Earth."



Bill Ekstrand

Bill Ekstrand, who now heads Exxon's Colony Oil Shale project in Western Colorado, is no longer on the Joint Working Group. But he has followed the effort. "The troubling question is: Who does represent the environmental community? There is some indication that western organizations find the package acceptable. The objections seem to come from mainly Washington groups.

"It calls into question whether it's reasonable to include the environmental community in the future on such efforts. If they're that dispersed; if we

can't find a focal point.'

wonder if the environmental community is too fragmented to negotiate with, Jim Evans, representing the three Colorado oil shale counties, believes the problem is a split between Washington-based people and those in the field. Evans and eight Colorado county commissioners met in Washington March 20 with Friends of the Earth's Geoff Webb, Brooks Yeager of the Sierra Club and Carl Gawell of the National Wildlife Federation.

Evans said, "Geoff Webb told us that Kevin Markey had never represented Friends of the Earth on oil shale and that no one in Colorado ever would. If we wanted to talk about legislation, we had to talk with him. That was very discouraging. To wait over a year and then say he never represented them was very hard to take."

Webb said, "I never said that. I said Kevin never had the authority to represent a broad spectrum of organizations. He had the authority to represent Friends of the Earth in a discussion, but not to close a deal. And I never said no one in Colorado would ever represent us. I said I'm the person to deal with on legislation. That's my area. I view Evans'

comments as destructive and grossly inaccurate."

Webb also said that industry representatives should not have left the Washington meeting in September feeling that things were going well. He said they were only able to discuss a few items before the industry people had to leave for another meeting.

Finally, Webb suggested that the Joint Working Group, accidentally or deliberately, was rigged against the environmentalists. Markey, he said, was essentially all alone on the group, up against three industry representatives and three government representatives. "From my own perspective, I feel Kevin may have been manipulated or used."

He also said he doesn't understand the anger. "We were asked for a yes or no. When they found out the answer was no, they said they didn't want the answer."

Cindi Coleman of Phillips said the problem isn't that the environmentalists said no. "A no vote is not bad faith. The bad faith is that they went through the process with someone supposedly representing them and then pulled him out. We get to our last meeting, and Kevin Markey is no longer representing them. But he sat there for a year.'

Carl Gawell of the National Wildlife Federation in Washington, said some responsibility lay with the environmental groups: "We should have jumped in on this earlier." But in part, he indicates, word may not have gotten back to the Joint Working Group about just how unhappy the environmental groups were with the proposal as it was shaping up. "In August, I told Kevin Markey it was a terrible document. I wouldn't even submit it to anyone.'

But, he also said, in general the environmentalists weren't paying a lot

of attention. All of the Washington groups were deeply involved through the summer and fall in the coal battle with James Watt, and then with lobbying the Linowes Commission on coal leasing. "This (oil shale) was not a top priority for us.

"So we were faced in January with the final proposal... There was political pressure to sign off on it. We knew there was a tremendous amount of energy invested in the proposal. And it wasn't all bad. But the Joint Working Group had asked us a yes or no question. And they threatened -industry and local government -- to go to Congress with the proposal by

'So there was a tremendous push on us to buy off on it. We knew we would face a tremendous negative reaction. But it was a bad proposal. We can't say yes just because it was a

good process.' Gawell said he suggested that the proposal be used as a starting point for discussion rather than legislation. "The rule of thumb here in Washington is that it takes seven years to pass a law. They're writing a major law affecting three states and everybody downstream and down-

e said that a fair amount had been achieved, including the Ldiscovery of the major players and the major issues. And industry and government, he said, have learned that the environmental movement is diverse, and that there are a variety of concerns.

"If they could step back from their own emotional investment, they'd realize they've made progress. You can judge yourself a failure or success based on expectations. They had tremendous expectations. But now they have to look at how problems like this get resolved. Even another year would be a tremendous success."

But Ekstrand of Exxon believes the blocks to progress go beyond a need for patience and more talking. He said that some of the letters which came back from the environmental community want to start the negotiations from the zero point. "They say we shouldn't have comprehensive legislation because we don't have experience yet with the prototype oil shale leases." Ekstrand said there can't be any progress toward comprehensive legislation if everything must wait on the prototype lease development.

"We met for a year in good faith. We found out that one constituency gives the impression as an overall entity that it was not representing itself in the best of faith."

The local government's Jim Evans is of two minds on where to go from here. He said he was encouraged at the March Washington meeting that Brooks Yeager of the Sierra Club and Gawell of the National Wildlife Federation gave him names of Western residents who could participate in a revived negotiating effort. But FOE's Webb would not do so. And he said his board of directors, made up of local elected officials, may decide to forward the draft proposal to the U.S. Congress for drafting into a bill. "Then we can get down to specifics."

But, he said, there will be a lot of residual feelings blocking future negotiations. "For them to allow Kevin Markey to attend monthly meetings for a year and then" pull him off the group "was just infuriating to us. We think Kevin did an excellent job of negotiating for them, but I think they've wrecked his credibility.'

Markey, who asked Friends of the Earth to take him off the Joint Working Group when lack of support for the proposal became clear, would not comment on the dispute.

One government official said that both industry and the environmental groups faced problems with their Washington-based people, who feel that if something doesn't "happen within the Beltway, it doesn't count."

There is a disagreement in Colorado over whether the Washington-based groups exercised too much influence over the proposal. Patrick Sweeney of the Western Organization of Resource Councils, a Montana-Wyoming-Colorado consortium based in Montrose, Colorado, and Mark Welsh of the Colorado Open Space Council in Denver both said their organizations rejected the proposal because it was a poor one, and that Washington did not influence their decision.

But Reed Kelly of the Colorado Wildlife Federation criticized both his organization's inattention to the negotiations -- "Groups like us depended on Kevin; we didn't have the time" -- and the action of the Washington groups. Overall, he said, "We're concerned that there was a major effort and trust among three major entities -- and concerned that it was undercut largely by people not on

Carolyn Johnson with the Natural Resources Defense Council in Denver, said, "The environmental groups here started having problems as early as June 1983 with preliminary drafts. Those were very clearly voiced at that time to Kevin (Markey) and DeWitt (John). But a number of the concerns were not taken up or were dismissed out of hand."

'The Washington groups came in fairly late. But they were voicing concerns already on the ground here. They didn't go off half-cocked."

Kevin Markey argues: now is the time to make a deal

It is no exaggeration to say that Kevin Markey is Mr. Oil Shale to environmental groups in the West.

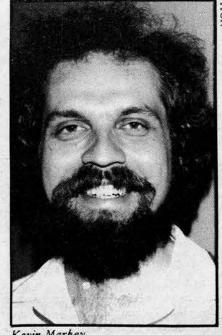
He has come by that position the hard way. He started out driving a taxicab in Denver in 1974 while working for Richard Lamm's gubernatorial campaign and doing volunteer work for Friends of the Earth. In 1975, he got a promotion -- he was made volunteer FOE representative, with \$75 a month in expenses.

He remembers, "I kept driving a cab and I kept going into debt. I found I couldn't work 40 to 60 hours a week for FOE and 40 hours a week driving a cab." In 1976, Markey got another promotion -- "Based on work I'd done on underground nuclear explosions, Rocky Flats, and a little oil shale, I was appointed full-time FOE representative."

The position paid better than \$75 a month, but -- like most environmental field jobs -- it didn't pay a whole lot better than minimum wage, given the hours worked and personal expenses involved.

At this point, Markey was concentrating more and more on oil shale, working with Carolyn Johnson, then with the Colorado Open Space Council, Kim Wright of Audubon, and Kathy Fletcher, who was to win fame as author of President Carter's water project Hit List.

Markey testified at his first congressional hearing in 1975, and from 1977 to 1981 testified yearly. He found himself becoming the expert in oil shale. "I was surprised that nobody



Kevin Markey

else wanted to concentrate on it. It seemed interesting to me."

A turning point came in 1978, when a lawsuit he had spent a lot of time on -- suing Interior on allegedly defective plans for prototype lease development -- lost. "I gained a much greater appreciation for how difficult legal action is. I saw political action as more important. And I started organizing groups on the Western Slope" of Colorado, where the oil shale action was.

That political groundwork, he says, came in handy in the battle against the Warner comprehensive oil shale leasing bill in 1982 -- a bill which would have given industry most of what it wanted. The battle, although

the environmentalists won, gave Markey a feeling that time would someday run out.

"The D.C. folks argue that we don't have to go along with this (Joint Working Group) compromise because Congress has lost interest in oil shale. That there won't be a bill. They say: 'We can stop it.' I say maybe today. But not always."

Markey says there will always be erest in oil shale. "So you have to develop rules to give us control of the process." The Joint Working Group proposal, he says, would give that control.

Markey says there will always be interest in the land because of the values of those who work in industry. "When I'd attend technical conferences on oil shale, industry and I would be in agreement on the problems, the economics, and the environmental dangers of oil shale.

"By the end of the conference, I'd have concluded that the problems were so horrendous we should get energy elsewhere." But industry would have concluded it's an exciting area and they want to solve the problems.

So Markey was ready to attempt to negotiate a long-term political solution. The opportunity came when local government, industry, and the environmentalists came together in joint opposition to Watt's proposed regulations.

That helped lead to the Joint Working Group, to a year of negotiation, to the proposal, and finally to today's anger and divisiveness. Given Markey's prominence in oil shale, it is not surprising that they would almost automatically assume he could speak for the environmental community, and not find it strange that he was a lone negotiator -- against teams of industry and government people.

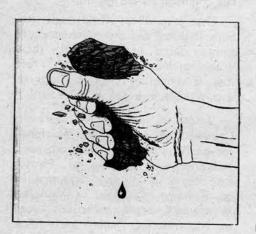
In the environmental community, everyone accepts Markey's expertise and his desire to see oil shale done right. But questions have also been raised about his ability to play the diplomat, the fact that this compromise would cap a long career in a field he may be planning to leave, and the fact that he ended up negotiating alone against three industry and three government reps.

From the other side, questions are raised about the ability of people with expertise in coal and other resources to understand oil shale and about possible jealousy from Washington at the possibility that one lone person out in the field played a key role in writing national legislation.

Of one thing there is no doubt: Markey and the others on the Joint Working Group had an enormous personal investment in the proposal. Markey said in October that it's not only James Watt who tried to remake oil shale. "Every administration thinks they're going to write history." And every administration -- Nixon, Ford, Carter and now Reagan -- has failed.

"I hope the Joint Working Group goes down as a grassroots effort that created history."

-Ed Marston



Sometimes, negotiations do work out

A surprising array of Congressmen is sponsoring legislation that will create 395,000 acres of wilderness just north of the Grand Canyon in the so-called Arizona Strip. The bill's sponsors include such wilderness supporters as Rep. Mo Udall of Arizona and Rep. John Seiberling of

But also on board are Senators Barry Goldwater and Dennis DeConcini of Arizona, Senators Jacob Garn and Orrin Hatch and Rep. James Hansen of Utah, Rep. Don Young of Alaska, and Rep. Bob Stump of Arizona. The latter has voted against all wilderness legislation for his eight years in Congress.

Some of the 395,000 acres are in southern Utah. If the bill sails through Congress as expected, it will double wilderness in Utah. It even has the support of San Juan County, Utah commissioner Cal Black, famous for his opposition to public lands, let alone wilderness.

Michael Scott, Wilderness Society southwest regional representative based in Denver, says the key to the support was a successful negotiating process between environmental groups and Energy Fuels, a company with perhaps 40,000 uranium claims in the Arizona Strip. The negotiations included the Wilderness Society, Sierra Club, the Arizona Wildlife Federation, the National Parks and Conservation Association, and Energy

The environmentalists were generally concerned about safeguarding

the scenic arid land, but also worried about the effect development could have on the Grand Canyon. The Strip borders the Grand Canyon, and many parts of it belong physically in the National Park. But the BLM in a draft EIS had recommended that only 30,000 acres out of the 750,000 acres be designated wilderness. Scott says, "Our goal was to make sense of the northern boundaries of the Grand Canyon."

On the other side, Scott speculates, "Energy Fuels was doing \$10 million a year of exploration. I think they saw that the atrocious recommendations coming out of the BLM would lead to conflict, and conflict leads to delay. They wanted a quick resolution."

So Energy Fuels and the environmental groups sat down in fall 1982 to negotiate. "It was reasonably uncomfortable -- sitting across from mortal enemies. I was thinking: why should I show our concerns with the Arizona Strip?" Energy Fuels, of course, was thinking the same thing.

So groundrules were established to create some trust:

1) No talking to the press;

2) Wilderness Study Areas would be negotiated one by one. But agreements on individual areas weren't final. Everything depended on a final review of the total package; and

3) If final agreement was reached, it would be supported by everyone and communication would continue through the legislative process.

Next, Scott says, the two sides had

to know who to include in the negotiations and who was representing whom. Several companies as well as ranchers and loggers had some interest in the Strip. But it was feared that a large group would lead to posturing. "We decided the ranching and logging interests were relatively small. And Energy Fuels said: 'We'll talk to the other companies.' " The BLM was involved only in providing

Scott says negotiations could proceed because there was only one major company to deal with. "They had, I bet, over 90 percent of the claims in the areas we were interested in. So they could say, OK, maybe we didn't get all we wanted in this area, but we got more over there."

Scott says the same approach runs into difficulty when there's a multitude of interests. "If environmentalists give up something in area A, you can't get it back in area B because another firm is involved there. So it's lose-lose for us. It's just an array of people saying -- we want, we want.'

Another requirement is the proper philosophical attitude." This agreement isn't a trend. But there are companies that realize this is the way you have to do business. Environmental values are here to stay. The American public always says it is willing to sacrifice in order to have environmental values.

"Some companies have come to realize that it's just not the market place that counts. Those who don't



Line Reference Target

Michael Scott

realize it won't survive." But the Energy Fuels of the nation, he says, will save years and millions of dollars on their development projects.

But many firms and interests, he says, come to negotiations throwing their philosophy on the table. "They say: we're against wilderness. It becomes a philosophical joust -- who can denigrate or uphold wilderness. We say wilderness has a right to exist; they say it doesn't."

Scott says word about the Arizona Strip negotiations has gotten around. "When we came last year to the Arizona timber people and said 'We're here to talk to you,' they said, 'Good. We heard about the Arizona Strip.' And we were able to settle our problems with Arizona timber. I have also heard that the Arizona Strip may help in negotiations about El Malpais," a 150,000-acre lava flow wilderness study area in New Mexico.

Scott also hopes the support for wilderness designation in the Strip will encourage the BLM. "In 1976, Congress told the BLM to look at wilderness. The result so far is one small BLM wilderness area in Montana. But this shows BLM wilderness is viable. They have tremendously valuable lands, and industry has recognized it in this case."

-- the staff

Who gave away what at oil shale talks?

The Oil Shale Joint Working Group's suggestions have been almost lost to sight in the controversy over the way they were received by several environmental groups. But those specific suggestions are of interest. A large number of areas are covered, but there are three major points -- three key 'giveaways' to the three parties to the negotiations.

INDUSTRY'S GAIN: Industry gets removal of numerical limits on oil shale development. Each company can now only own one 5,120-acre lease. Moreover, the overburden from an open pit must stay on the tract. In Colorado's Piceance Basin, a 5,120acre tract has commercial quantities of oil shale, but not in Utah or Wyoming. And given the scale of oil shale open pits, off-site dumping is considered economically necessary.

The compromise raises the tract-size limit to 15,360 acres, removes the one lease per company limit, and allows firms to lease nearby land for dumping of spent shale.

STATE AND LOCAL GOVERN-MENT'S GAIN: They get around the Ventura, California court decision which limits state and local government's ability to control development on federal land.

The compromise gives local and state governments the major role in social impact mitigation for development occuring on federal oil shale leases. In addition, the BLM's FLPMA plans must be in step with local and state laws. Finally, the governor of the state must be consulted on leasing and his advice followed if it is reasonable.

ENVIRONMENTALIST'S GAIN: Existing laws control water, air, and other physical impacts. But the laws do not usually address the combined effects of several projects. The fear is that each project may individually be OK, but the total effect will overwhelm the physical and socioeconomic environment.

The compromise creates the concept of a "carrying capacity." The Department of Interior must determine whether proposed leases and other development can be physically accommodated and whether the communities can absorb the growth.

There was another major compromise: an agreement to disagree on several subjects, including the right of citizens to challenge leasing actions, the size royalty, and protection of public health. The Group said it could not agree on these issues, and asked the U.S. Congress to settle them.

Members of the Group were bound to support areas of agreement, but could battle each other on the other issues.

Local and state government have the fewest problems with the proposal. For industry, one trade group has rejected it, and some firms strongly oppose it.

The environmental groups have the most problems with the compromise. Those who oppose it say industry gets everything it will need for the next 100 years -- land to lease, fairly weak diligence, unspecified royalty rates, and off-tract dumping.

But, they say, environmentalists are left with the vaguely defined carrying capacity, no reclamation requirements, no public health safeguards, and no citizen right to sue if they disagree with Interior leasing decisions.

But the rejection by major environmental groups goes beyond the issues. Those close to the negotiating process gained a certain amount of faith that future actions, perhaps even including Interior administrative decisions, might be as negotiable as this first agreement. Those outside the process do not have that faith.

For example, Carl Gawell of the

National Wildlife Federation in Washington, D.C., who has spent the last three years battling James Watt's Interior Department on coal, said the compromise "gives us little recourse" in going to court to fight Interior decisions.

Even worse, he said, the key concept of carrying capacity isn't pinned down -- "the Department of Interior will determine carrying capacity." His experience with Interior does not make him happy about that. Would they, he asked, find that "Manhattan has reached its carrying capacity?"

Others were disturbed that there was no reclamation requirement. Veterans of the fight for coal reclamation said it took ten years to get a surface mining reclamation act despite obvious need. They wondered how long it would take to get oil shale land reclamation.

Reed Kelly of the Colorado Wildlife Federation takes a different approach. Commenting on the detailed letters of objection, he said, 'It sounds like they want perfect legislation. And they are also treating the draft proposals like draft legislation.

'But the same criticism can be made of existing statutes. We're concerned that this may be the best possible package." And that it may be the right time to compromise. "What if a crisis arises -- we'll lose all control."

A writer finds hope in the classroom

by Michael Frome

There may be hope in the classroom yet. Some students actually can spell, even without benefit of a word processor to correct mistakes. To carry things even further, some are curious and concerned about where and how they can play a positive, activist role in natural resource policy and

I can't speak for classrooms in general, but I can cite one in particular with very definite evidence of hope: the class I taught, or led, at the University of Idaho during the semester recently concluded. I feel proud of the eleven students in the course called RcMgt 501, a graduate seminar on current issues offered by the Department of Wildland Recreation Management in the College of Forestry. Though most were recreation management majors, the class was enriched by representation of forest resources, range, and communications.

My theory is that students learn best through doing, that while textbook and classroom may provide valuable guidelines, it takes the pursuit of real issues to comprehend the process of decision making and how to influence it. I've seen students shun the notion; they take shelter in the classroom as a refuge from reality. The students in RcMgt 501, however, were up for it. The papers they produced in fulfillment of their semester projects demonstrated serious effort in a wide range of practical issues, as evidenced by such titles as: Soils as a Resource System, referring specifically to the Palouse dryfarming environment in which the University is located; Acid Rain - A Threat to the Western United States; Small Scale Hydro Power: An Update, focusing on Idaho rivers. Others were Preserving Our Waters; Buffer Zones: Can They Help Our National Parks?; The Long Canyon Issue; Decision Making in the BLM: The Jacks Creek Pipeline; Freedom of the Hills: Is Management Necessary?; Applying a Spectrum Approach to Maintain Wilderness Purity; Sustaining Professionalism; and The New Interior.

The papers were not all outstanding, but some were and went beyond expectation. The New Interior was a view of Yellowstone grizzly management, well researched, but written as a fictional thriller. The story in brief: The park superintendent favors Alternative D, the proposal 'to eliminate grizzly bears from the Yellowstone ecosystem." So does Interior Secretary James G. Watt, but he feels it should wait till after the 1984 election and opts for Alternative A, a continuance of present policy. Watt's successor, William Clark, smitten with Alternative D, decides to make it operational without public notice. This is accomplished by Interior's newest division, the clandestine OCO, the Office of Covert Operations, staffed by ex-CIA agents posing as park rangers. After cleaning out the bears, they find they must now turn to human protestors. "The maneuvers in Yellowstone were not winding down," wrote the author in his chilling conclusion. "The war had only just begun.'

Fanciful and unlikely? Yes, probably so, but this dramatic story stirred me to think. It demonstrated that this student had devoted a lot of himself and his mental energies to his project. Nor was he alone. The entire group wanted to go beyond the academic process of memorization and

'Class discussions allowed me to become more aware of the issues affecting the environment,' wrote one student. "By increasing knowledge and understanding, my interest has grown. I have

ACCESS

become more aware of the importance of keeping up on current events. The day I was most influenced was when Bill Voxman (math professor, community activist and member of city council) came to speak. His lecture on how we can make a difference encouraged me and increased my ambition to actively participate.'

The student researching Long Canyon, a contested national forest roadless area, reported

The people of northern Idaho can be proud. They have found an issue, a far-reaching one. They have done their best through symposiums and newsletters to let the whole state know what's happening. They are an involved community. All sides can be proud because the views of the people will be the critical factor in the final decision, whatever it may be, on the fate of Long Canyon."

I don't ask or expect students to accept my opinions. I like it best when they challenge them. I found the semester heartening. It showed young people alive and thinking, as individuals, each developing his and her own perception, judgment and responsibility extending beyond scholastic attainment and grades. That students in this class responded so well reflects, hopefully, the readiness of their generation, if we are smart enough to give them the chance.

Michael Frome has written many books and articles on wilderness and the environment, including The Forest Service, Battle for the Wilderness, and an award-winning series of articles titled, "The Ungreening of the National

WORK

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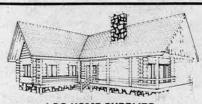
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OFF THE WALL

Here's what happened

One of the really neat things about the Wall Street Journal is the way its editorial page sums up major social transformations for those of us too busy to read history books or take courses. The Journal was at its best on March 20. In an editorial titled School Prayer, it summed up what happened to the U.S. starting in 1965:

"The transformation of U.S. social and sexual mores in this period -- from a fairly straight-laced tradition to one in which almost no behavior is socially proscribed -- is a large and complicated subject. But basically what happened is that the new morality of big cities such as New York, Los

Angeles, and San Francisco was imposed on the rest of the country by movies, TV, magazines, advertising, music, novelists, playwrights and, through default, by organized religion."

As a piddling little backwoods paper, we can only stand in awe of the *Journal*, with its deep understanding of the social and political currents shaping America.

The truth about Hart

Senator Gary Hart dissembling about his age is supposed to hurt him at the polls. In reality, Hart was deliberately clumsy in dropping his age from 47 to 46. He wanted to be found out.

The object, insiders say, is the women's vote. "Women understand and sympathize with people

who wish to be younger. They appreciate that vulnerability. It's sweet. It reminds them of Jack Benny."

At least, that's what Hart pollster Patrick Caddell came up with in a sample of 2,000 women likely to vote. Caddell also found Hart could pick up 85 percent of the toupee-wearing vote if he would shave his head, buy a toupee, and then say he'd been wearing a toupee all along.

Unfortunately, such a move would make him less attractive to the women expected to vote for him because he lowered his age. The Hart team is doing demographic computer runs to find out which approach will garner the most votes on balance. Hart is said to be hoping he won't have to shave his head, but he has not interfered with the analysis.

--Ed Marston

LETTERS

NO HOPE FOR FOREST SERVICE

Dear HCN,

I for one want to compliment you on your excellent opinion article on the Forest Service: Can it be reformed? I worked for them for fifteen years. I started in an organization open to ideas, full of energetic people, willing to try something new. That was in the mid-sixties.

Ranger stations did the work with big full-time field staffs. The supervisor and regional offices were small advisory and assistant offices. But then big government came and the Forest Service fell in line. They become more and more military. Creative people were asked to leave or stuffed into a hold in an office. Initiative was killed. Regional and Supervisor offices became huge and districts small. Districts and forests were combined and power centralized to regional offices to serve big business, politics and special interests, but no longer the American

Today, there are few full-time field workers; they're all summer temporaries. You'll find two or three paper pushers for every worker. Few district staffs have been out in the forest to know the forest.

Loyalty to the "service" is paramount. Resistance, initiative, creativity are met with repression. There is no hope for the Forest Service as is; it is self-consuming. Lawsuits and organized public pressure for every little thing are necessary to make this self-indulging organization respond.

Ron Thompson Aspen, CO

O'TOOLE'S IMPACT

Dear HCN,

It's nice to see HCN devote some copy to forester/economist Randal O'Toole (edition 2/6/84). O'Toole's work has had a profound effect on conservationists in the Pacific Northwest and their efforts to improve management on our public lands. Though his approaches are occasionally as controversial with conservationists as with the timber industry, he has been pivotal in exposing the Forest Service's planning process for what it is -- abysmal. Through O'Toole's encouragement, economic analysis has found its way into the toolbox of many environmental activists interested in natural resource management. Consequently, it is likely that many conservationists in at least Oregon know a hell of a lot more about natural resource economics than the

very agency people they are dealing

I think it would behoove conservationists in the inter-mountain region to delve into some of the approaches spawned by O'Toole and his colleagues in Oregon. For those interested in improving their efforts to effect change with public land managers and also wanting to keep abreast of the issues, a good start would be to plunk out fifteen bucks for Forest Planning magazine. It's available from CHEC, P.O. Box 3479, Eugene, OR. 97403, and features Randal O'Toole as staff forester.

Bruce Farling Missoula, MT

MEDIATORS MET WITH SUCCESS

Dear HCN,

Your thought-provoking opinion column in the March 19th High Country News, "Can the Forest Service be Reformed?", reads more like an obituary at its conclusion than a question open to further discussion. As a practicing mediator of disputes between competing users of natural resources, I cannot afford even the perception of passing judgment on the need for Forest Service reformation. However, I can take issue with your statement that "...The Forest Service wouldn't dream of enlisting civilians in its struggles." Indeed they can and they do with positive results.

The Mediation Institute was "recruited" by Paul Sweetland, then Supervisor of the San Juan National Forest in Durango, to help the Service sort out competing interest problems among and between a host of representative user interests, many of whom were represented by attorney Luke Danielson of Denver. The popular perception of the forest user interests going into mediated negotiations involving the Forest Service was that the Service 1) couldn't be trusted and 2) wouldn't listen to their consensus recommendations assuming they could reach any. They were to discover to their surprise and satisfaction that the Forest Supervisor, while bound to uphold statutory authority, could indeed hear their consensus recommendations re the development of an appropriate forest management system and respond accordingly. This fact was accurately reported under the heading "Forest users edge toward consensus" in November 14, 1983, High Country

Credit for the consensus settlement belongs equally to the folks pressed into service as "negotiators" representing interests as diverse as loggers, grazers, homeowners, environmental groups, businesses, etc. and Forest Service folks who sat, ate, drank, and rode while "bargaininghard" with each other until they had hammered out a settlement that everyone could live with.

What my colleague, mediator Leah Patton, and I brought to their long festering and apparently deadlocked conflict was an alternative tool for settling things. Instead of shouting at each other in public hearings, which encourages the "staking out" of extreme positions in the event differences are eventually "split," the mediation process encourages the rational discussion of real on-theground needs. Instead of escalating arguments preparatory to waging war with "the enemy" in court where a judge declares a "winner" (often basing the declaration on litigable technicalities which are only the whipping boy for the real issues in dispute), the mediation process encourages the negotiators to take their destiny into their own hands. They discover how to search diligently and creatively for the areas of compromise and common ground allowing them to forge a consensus settlement of their own making. Who is better qualified to settle these things than all the folks who must continue to share the resource and live with the outcome for years and decades to come?

Please don't drive the spike into the Forest Service's coffin prematurely. Fundamental change comes slowly to venerable organizations. But there is evidence that they are trying new ways of conducting their affairs. Positive things are happening. Occasionally, read back over your fine editions and reassure yourself.

Orville ''Ty'' Tice Mediator Seattle, WA

HCN BLEW ITS STACK

Dear HCN,

It's good to see normally reasonable HCN blow its editorial stack over the frustrations of Forest Service planning. Each public meeting threatens to become one too many but then look at the alternatives! If someone will send me a list of the accomplishments of Earth First!, I swear I'll pay to join.

In the meantime, forester Randy O'Toole is right -- the alternatives to Forest Service planning might be worse than what we have now. O'Toole has done more than anyone else in the environmental movement to bring rationality to forest planning.

HCN's readers might be interested to know of a new book on its way some time in late 1985 or 1986. Authored by Chris Leman of Resources For the Future, "The Forest Ranger" Revisited will take another look at Kaufman's 1960's classic about the behavior of foresters. Maybe Leman will also tell

us whether O'Toole is right about the dire effects of centralization on forest planning.

One reservation about your tirade -- it may cause some of your readers to overlook the more interesting parts of Louisiana-Pacific's aspen management proposals. O'Toole says that only the Pacific Northwest is really an economically viable timber producing region. That may be correct for sawtimber, but L-P's waferboard may be a product of the future -- a replacement for the large, high-grade peeler logs that now go into plywood. Figure it out: the housing market is in the Rockies and the southwest, and that is where the aspen and lodgepole pine are going to be grist for L-P's mill. Trends like these may prove O'Toole wrong about the economics of Rocky Mountain timber harvest.

> Tom Wolf Fort Collins, CO

SEEKING A MISSION

Dear HCN.

We too have become distressed at the lack of a sense of mission within the Forest Service. As a result, we plan to hold a "Mission Symposium" which will bring the Forest Service and its critics together to try to define a new mission. This Symposium will take place Nov. 12 and 13, right after the next presidential election.

Randal O'Toole Forest Planning Eugene, OR

SNEAKY SLIMEY SKUNK

Dear HCN,

Would you be so good as to send us an extra copy of your Jan. 23rd issue? Some sneaky slimey skunk stole that copy from the library before we all had a chance to see it.

I think you're doing a pretty good job, on the whole. Good luck and carry on.

Edward Abbey Oracle, AZ

AXE THE COMMAS

Dear HCN,

We at the Environmental Defense Fund rely on you to help give us an overview of what's happening throughout the region.

I never cease to be impressed by the quality of your journalism (except you could do well with fewer commas.) Keep up the good work.

> Bob Yuhnke EDF Denver, CO