

GOIN' FISHIN'

High Country News will not be published August 26: the staff is heading for the hills. The next issue will be published September 9.

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Northern Cheyenne tribe wins Class I air quality

The U.S. Environmental Protection Agency has approved the Northern Cheyenne Indian tribe's request for Class I air quality designation for its reservation. The redesignation, preventing significant deterioration of air quality in areas of pristine air, is the first one to take effect under the Clean Air Act.

The redesignation will have a major im-

pact on potential developments in and around the southeast Montana reservation. Montana Power Co. is building the Colstrip 3 and 4 power plants 20 miles north of the reservation. Thus, these 1,400 megawatts of generating capacity could be affected.

However, Montana Power's Robert Amick says, "The redesignation has no im-

pact as far as we are concerned." A recent U.S. District Court decision said that Colstrip had been legally under construction before the significant deterioration regulations went into effect. Thus, the judge said, the power plants are "grandfathered" out of compliance with the law. If the decision is not reversed, it would make the tribe's redesignation a hollow victory, with little

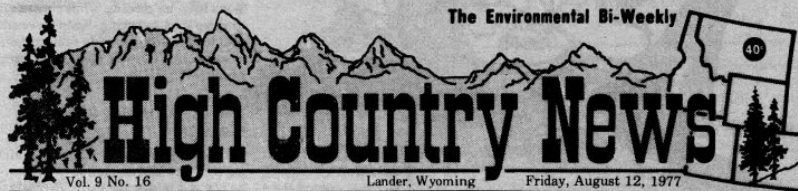
impact on keeping the air clean on tribal land.

EPA and the tribes are appealing the district court decision. Sen. Harry Jackson (D-Wash.) nearly immunized the power company against an appeal by introducing an amendment to the Clean Air Act that would have legislated Montana Power's grandfather status. The amendment was passed by the Senate, but did not survive the conference committee.

Amick says, however, that even if the court decision is reversed, the plants will meet the Class I standard. He says that the company is uncertain whether any additional pollution control equipment is necessary.

Despite Montana Power's assurances, state studies conducted on the potential emissions from the plants indicate that Colstrip 3 and 4 could not meet the Class I (continued on page 16)

The Environmental Bi-Weekly



Vol. 9 No. 16

Lander, Wyoming

Friday, August 12, 1977

John Muir: a cultural hero lost in his mythology

©1977 by Peter Wild

At sunset in the Sierras some hikers chant John Muir's words: "I... am always glad to touch the living rock again and dip my head in high mountain sky." To them

John Muir is a culture hero, the high priest of those who escape to the wilderness.

And well he might be. By tradition Americans long for the freedom of wilderness, a wilderness fast disappearing. Muir said that all he needed to flee was to "throw some tea and bread in an old sack and jump

over the back fence." How can the schedule-bound and traffic-weary commuter not envy the man who, as Yosemite's cliffs collapsed around him, rushed into the night shouting, "A noble earthquake, a noble earthquake!" At times he seems one of the daring Americans who we like to imagine led us West through our short history. We prefer our heroes dressed in a simple guise, but with a vigor and joie de vivre just beyond our ken.

The danger is that Muir tends to become lost in his mythology, some of it of his own making. A closer look shows him a complex man, like the rest of us capable of gloom and hesitation. After years of private struggle and doubt, he beat his conflicting practical and mystical bents into a uniquely consistent and powerful personality. The most dramatic events of his life are indeed telling, though often not fully appreciated.

One of the most famous of these, a catastrophe that ended in a spiritual change,

terms: "Now had I arisen from the grave. The cup is removed, and I am alive!" From then on he would consistently equate God with light.

As likeable and talented as he was, his employers, Osgood & Smith, asked him to stay. A promotion to foreman, a raise, shorter hours, and a future partnership couldn't sway him. Lifting his pack containing a change of underwear and a few favorite books, he was off. His goal was to walk the thousand miles across the South — no mean feat in the bandit-ridden forests after the Civil War — to the tip of Florida, and from there hitch a ride by boat to the Amazon. In the words of his biographer Linnie Wolfe, he was resolved to become "one of God's fools." Yet as dramatic as the file incident might appear, the resulting conversion was neither simple nor complete. The five-month trip provided him with the time and space to mull over conflicts that had troubled him since childhood.

John Muir was born in Dunbar, Scotland, in 1838. Over the years his father's zealotry crossed into a religious fanaticism that the merchant took with him when he settled his family in America. Daniel Muir sat in his homestead reading

"I am always glad to touch the living rock again and dip my head in high mountain sky."
—John Muir

occurred in 1867. While he adjusted a new belt in an Indianapolis carriage factory, a file flew through his hand, blinding his right eye. Soon after the other eye went dark in sympathetic reaction. For weeks he lay in agony: "My days were terrible beyond what I can tell, and my nights were if possible more terrible. Frightful dreams exhausted and terrified me." Muir was 29, an age of trial and decision for many prophets.

Up to this time, chances for a lucrative but unsatisfying career as an inventor contended with his love of extended wanderings through the woods. In his blindness he saw an answer: if his eyes healed he would give up tinkering with man's inventions and devote his life to "the study of the inventions of God." As he tossed in his room, slowly his sight returned. Significantly, he described his deliverance in religious



Drawing by
Hannah Hinchman



**Conservation
pioneer series**

the Bible while his sons labored in the Wisconsin fields. When they returned weary at the end of the day, he beat them for sins they might have committed. To him books, paintings — even an adequate diet —

(continued on page 4)

2-High Country News — Aug. 12, 1977

HIGH COUNTRY

Here on the Tilted Acres, time runs incredibly short. This summer has been especially bad because of the drought. There don't seem to be enough hours to keep everything wet with a little water, to keep the weeds under control, and to keep ahead of the fruit and vegetable crops.

Tommie and the kids and I were in the shade of the big maple, shelling the first new peas, when a recent HCN arrived. So, for a few moments, I had to look it over and skim its pages.

The events described in it and past issues are a virtual kaleidoscope. First, the news of the first High Country News foot-race. I'll just bet that after covering my own Big Hill several times a day, I could have made a creditable showing. Anyway, it sounded like great fun and an occasion I could have greatly enjoyed.

The same issue of the paper noted the fact that HCN was eight years old. It doesn't seem possible! Looking back, some of those early birth pangs were painful, some absorbing and exciting. But most days were the hurried routine of meeting a deadline.

Some of the discouraging times then seem rather laughable now — such as the time we decided it was no use. We were finished — done — it was the end of the line. I took all the paste-up sheets (fairly well filled) and threw them in the trash can in the alley. After several hours and some second thoughts, the sheets were retrieved, and we put the paper out. HCN marched on.

Two battle-scarred veterans of some lively conservation battles have gone to their great rewards. First, it was "Old Brandy" Brandborg and then "Wild Horse Annie" Velma Johnston. Their likes are sorely missed.

Sweetwater Canyon may not be as magnificent or spectacular as some, nor long enough to qualify as a National Wild or Scenic River, but to those who love it, it is worthy. The canyon and adjacent Oregon Trail are treasures out of our historic past. There ought to be a few such places where future generations could go to gain an appreciation for their pioneer forefathers.

President Carter's review of pork-barrel water projects was long overdue. Such projects are part of what James Nathan Miller calls "The Unholy Trinities" that Undermine America." (The Readers Digest, March 1977). The "unholy trinity" is composed of congressional committees looking for fat public projects to be located in their state or district, the bureaucrats bent on empire building (or maintenance) — the Bureau of Reclamation and Corps of Engineers, and the special interests who stand to profit handsomely from such construction projects. Then you can throw into the latter category the Chambers of Commerce and similar myopic tub-thumpers.

The "unholy trinity" has been so successful and effective in the past that it has seemed all but hopeless to get many projects stopped. Now, thanks to President Carter, the uneconomic and environmentally unsound water projects at least got a scrutiny never before accorded such boondoggles. It is about time!

Hang it on the wall!

You can help High Country News find new readers. Hang up the poster-insert found in this issue on a favorite wall or bulletin board. (A poster will be coming in the next issue, too.) Just imagine: HCN posters on 20,000 bulletin boards all over the country! Thank you.



"LET'S SEE, WESTERN WATER POLICY."



HCN Letters

BUNCH OF FANATICS

Dear HCN:

I was really pleased to see your satire edition. I figure that any "cause" that can't laugh at itself and its most precious tenets is full of a bunch of dangerous fanatics that ought to be locked up.

Dave Foreman
Southwest representative
The Wilderness Society
Glenwood N.M.

DON'T GIVE UP

Dear HCN:

This is a belated reply to Mr. Frank Cox, Moab, Utah, who complained of having no congressman in his state who is sympathetic to environmental issues. (HCN, July 1, 1977).

My advice to him is "Don't Give Up!" Keep writing; you have a right to express your views to your senators and your representatives. I myself have a senator highly unsympathetic to environmental issues (Hayakawa, Calif.), but I continue to write to him.

Congressmen often hold the views they do because they believe those views are popular. If enough people can show them a different opinion, they may eventually take notice. Anyway, it's your duty to yourself to fight for what you believe is morally and ethically correct, even when the fight seems to be overwhelming. "Be of Good Cheer."

Clarann Levakis
San Lorenzo, Calif.

WOC NOT ANTI-WILDERNESS

Dear High Country News:

This letter is in regard to your issue of July 15th and the article on constituency building. I very much appreciated the careful articulation of the danger of diluting and weakening one's position by placing too much emphasis on constituency building.

This is a constraint which we must all be very much aware of, while at the same time we must build our organizations sufficiently to be able to affect decision making in this country.

I do not believe the two to be incompatible. We have a whale of a long way to go before we get all of the "good" folks organized.

I must also take serious exception to the paragraph in which it was stated that the Wyoming Outdoor Council refused to endorse a strong pro-wilderness posture for fear that such a position would alienate potential supporters on other issues. The Wyoming Outdoor Council has strongly supported wilderness throughout the course of its 10 year history in Wyoming and continues to do so.

The fact that water and energy issues will receive the bulk of WOC's staff time in the coming months does not indicate any lack of support for wilderness, but rather a realistic assessment of what may be accomplished by limited staff and financial resources. Neither my memory nor the minutes of the annual meeting reveal any such anti-wilderness posture by WOC.

Leslie Petersen
Wyoming Outdoor Council President
Jackson, Wyo.



WHAT'S THE LATEST

Dear HCN:

I have been enjoying very much the biography series by Peter Wild. And the reporting on the controversial development projects is full of substance — good journalism!

What do your latest sources of intelligence tell you about Colorado's Adams Rib Ski Development, and about Steamboat's Lake Catamount Development?

And are there any wolves in Wyoming, grizzlies in Colorado? Will moose survive in Colorado's North Park? I enjoy the animal articles.

Looking forward to next issue!

Tom Sudduth
Steamboat Springs, Colo.

P.S. Yarrow tea tastes terrible.

(Ed. Note: Thanks for outlining the issues that you care about. Such questions help us decide what's worth digging up and printing. Keep on reading and we'll try to provide some answers. Sorry about the tea. Care for a yarrow poultice?)

SAVE THE OAKS

Dear HCN:

I've always been of the opinion if all the experts were laid end to end — that would be the best place for them. Recently I've been aware of a group of "experts" who are sending bulldozing crews onto tracts of state land to bulldoze groves of oaks out and plant pine trees.

Here we are in the middle of a severe drought and some idiot decides to wantonly destroy established groves of brush that are protecting soil, many species of wild fruit, grasses, wildlife, livestock, and water supplies. What of our game animals who depend on oak groves for their habitat?

Oak wood is also one of nature's cleanest, most pleasant fuels.

Pine trees grow exceedingly slowly, but when they do become trees they shade and shelter the ground so nothing grows beneath them. It would make more sense to send crews in to thin the pine groves.

Private lands with homes and buildings close to this senseless destruction could suffer great hardships if these protecting groves were ripped out.

It takes somebody, over-paid, over-educated, and spending someone else's money to come up with such a despicable scheme.

Isn't there something to be done to stop such insane projects?

Gail O'Haver
Sundance, Wyo.



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Editorial

HCN

Snubbed Western governors are blind to crucial water issues

President Jimmy Carter did it again on the water resource policy hearings held around the country recently.

Unwittingly, he managed to offend most Western governors and Congressional delegates. He failed, we are told, to establish close communications with the officials and didn't acknowledge a request by the Western governors to extend the public comment period.

Perhaps Carter's lack of courtesy to these powerful Westerners is a sign of the problems that accompany government

planning at a breakneck pace. Even environmentalists, who basically support the water policy review, were critical of Carter's timetable.

So Carter can be faulted for not taking the time to lay the political groundwork for his water planning effort. But we feel that more serious shortcomings were displayed by our own state officials on the issue. Apparently they could not see beyond the shabby formalities to the substance of the event. While they complained about being snubbed, they ignored or distorted the crucial issues that Carter was raising.

The governors whined that they hadn't been consulted about the federal effort. The truth is that they had not been sent a copy of the option papers any earlier than the rest of the public, but that they were told about the national water policy review at the National Water Conference.

The governors warned of a federal takeover of the state-administered water

allocation system, although none of the options outlined by the Carter Administration even suggested such a usurpation of power. One of four options designed to provide water for "socially desirable or economically productive" uses did propose that the federal government purchase water rights voluntarily or through eminent domain proceedings. But three other options were also described to achieve the same goal, none involving federal control of water. And the Carter Administration did not give its backing to any of the options.



THANKS FOR INDIAN COVERAGE

Dear HCN:

I would like to compliment you on an excellent article on the CERT-OPEC talks. It was very well researched and put together. I appreciate fine articles on events in Indian country.

Mark Trahan, editor
Sho-Ban News
Fort Hall, Idaho

AN INFANTRYMAN

Dear dear HCN,

The wilderness area concept interests me a great deal. I imagine each area is unique. However, one area I am fairly familiar with is the Sycamore Canyon Wilderness Area near Flagstaff, Ariz. My children and I hiked and explored that canyon prior to its conversion to a wilderness area and, of course, continue to do so.

It would be interesting to see an article comparing one of these wilderness areas before and after its conversion to a wilderness area. In the case of Sycamore, its status prior to conversion was that of a primitive area. Although I was, and probably still am, an advocate of wilderness areas, I think in the case of Sycamore, conversion to a wilderness area was damaging to the canyon. Perhaps not in the long run, but...

I tend to take the viewpoint of the infantryman. His major concern was the immediate 50-yard perimeter and to hell with grand strategy.

Personally, I feel that anyone who's exposed to the problems of the environment learns quickly that he cannot concern himself with even a small fraction of the injustice and complex environmental issues that infect our country, much less the earth. And since he cannot help every

cause, he soon becomes indifferent to any cause.

We are assailed by too many appeals, all of them worthy. We are threatened by an avalanche of environmental problems which cry out for solutions. Environmental groups, by and large, are not effective in the long haul because they cannot sustain the interest and power necessary to overcome vested interests. We are part-time people working against full-time monsters. And too often an environmental group that becomes a full-time white knight forgets the serfs who placed him on his horse.

In any event, many of us, in defense of our sanity, isolate ourselves.

Perhaps this attitude comes with age (in my case that is certainly true). I hope that the young people will continue the fight even though I feel they will lose in the end.

James R. Nation
Flagstaff, Ariz.

PIE-IN-THE-SKY POWER

Dear HCN,

You recently published a pathetic and unhappy letter from someone going to jail for picketing a nuclear power plant. Obviously, that individual felt that nuclear power was a very bad thing. I sympathize with the jailer's environmental feelings, but not with his intellectual processes.

Nuclear power is NOT intrinsically bad. Atomic power plants and coal utilization are the only significant near-time term power sources that the country can rely on. I say this only after a careful study



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of the most objective state-of-the-art technical information sources. Solar, wind, geothermal, tidal, fusion satellite power stations and all the rest are still pie-in-the-sky power sources, and that is that!

Everybody has a right to his or her opinion these days regarding the ultimate long-term power sources, but these opinions aren't worth an environmental damn, if personal efforts at power conservation aren't given number one priority! That can mean biking rather than driving around in a "muscle-car," skinny skiing instead of lift-served downhill skiing, shorter showers, keeping domicile temperatures cooler in winter and all the rest. I hope that Seabrook demonstrators waited to the picketing sites. If they arrived in autos, they are, in my view, environmental hypocrites.

Marty Huebner
Idaho Falls, Idaho

What was behind the verbal smokescreen put out by the Western governors? Unfortunately, some questions that our water-short region needs to consider were hidden there. Through the review of water policy Carter is asking:

--how to promote water conservation;
--how to insure minimum flows in streams to protect wildlife;

--how to manage groundwater, for which there is a growing demand but are few established allocation systems.

The Administration deserves respect when it tries to come to grips with important problems that cross state boundaries. Granted, Carter should have sensed the Western states' fears about threats to their power and taken the time to treat them delicately. But Carter's tactical error is no excuse for the governors to cry "states' rights, states' rights" and expect general applause. This time the issues raised by the federal government are too important to ignore.

—JN



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Silk screened by hand to give a quality impression. T-shirts are 100% cotton. Order your exact size; shirts are a little large to allow for shrinkage. (Eagle motif is from an original drawing by Carol Snow) when you buy a HCN T-shirt, you help out the paper financially and you'll help spread the word around too.

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After the race...
Luke Palmerlee, Sheridan
Jason Wilkes, Lander

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SEND ORDERS TO HCN, BOX K

LANDER, WYOMING 82520

4-High Country News — Aug. 12, 1977

John Muir. . .

(continued from page 1)

smacked of the Devil. Precocious John, however, discovered that he could do with only a few hours sleep; in the darkness of early morning he'd crawl down into the cellar to read and whittle a variety of curious clocks.

Though Daniel scowled when he found out about the inventions, neighbors urged his son to exhibit them at the State Agricultural Fair. At the age of 22, suffering

specimens or hanging perilously by his finger tips from some yet unclimbed peak, he recognized that "a heart like our own must be beating in every crystal and cell" of the surrounding wilderness. It was a rare power, this ability to survive, botanize, and philosophize in the wilds.

As his thinking developed he realized that if nature is a holy place, then civilization, with its sheep, axes, and dynamite, is the infidel, the wrecker in the temple. As Thomas Lyon has pointed out, the views represent a reversal of Muir's boyhood Calvinism. God, not the Devil, is to be found in the wilderness. Nature, not man,

Transcendentalism was just what Muir needed to assuage his guilt and justify his wanderings as a spiritual adventure.

his father's parting anger, John shouldered his pack stuffed with strange devices and headed for the state capital. There in the Temple of Art, Madison's citizens marveled at the youth from the backwoods, who had invented an early-rising machine that whirled and creaked to propel the reluctant sleeper out of bed.

But Muir found more than local fame in Madison. Like many an aspiring American youth, he strolled with opening eyes among the buildings of the nearby university, envious of the students who had stepped into a larger world of intellectual opportunity. Sometime later he enrolled with money earned from odd jobs, to spend two and a half pleasant years at the University of Wisconsin. There, after glimpsing the cosmos through his courses, he amused the other students with the devices that clicked and wheezed through bizarre paces in his room at North Hall.

Restlessness overtook him in the spring of 1863, and he wandered through Canada, then back again into the Midwest. He was by now in his mid-20s, a late bloomer tinged with guilt that he hadn't done more with his life. Far from being simply an enjoyable interim, however, the time spent in Madison would change and serve him more profoundly than he realized. In the frontier's atmosphere of intellectual democracy, Muir had made friends. His professors ignored the long hair and careless dress of the country boy and offered him confidence in his eccentric development.

Dr. Ezra Carr and his wife, Jeanne, had graciously opened their Madison house and their private library to Muir. On the scientific side, Professor Carr instilled his students with Louis Agassiz's theory that a great Ice Age had carved out much of the northern hemisphere's topography. The grounding in science would result in Muir's first controversy and fame in California's Sierras. On the philosophical, both Carr and his wife were self-appointed missionaries of Ralph Waldo Emerson's transcendental ideas. They believed that through the oneness of nature a person could arrive intuitively at spiritual truth, if not ecstasy. It was just what Muir needed to assuage his guilt and justify his wanderings as a spiritual adventure.

And so with his boyhood and Madison as backdrops, the dropout sat thinking to his notebook among the palmettos and sand dunes of Florida's west coast, working his philosophical and personal conflicts into a unified view, the basis for future publications. He saw nature as a whole, a unity in flux. Man should stand in nature's temple, witnessing the eternal "morning of reason" occurring all about him.

Emerson would have applauded the imagery, yet Muir went beyond the Concord philosopher. Unlike the flights of the cerebral Emerson, Muir's arose from perceptions grounded in science and elemental experience in nature. Whether collecting

is the center of a timeless universe. With this in mind, Muir set his spiritual sights south on the Amazon basin; there he could glory in a nature steaming and writhing in the speeded-up processes of the jungle. But the semitropical winds already had blown him ill. Wracked by malaria, he turned back at Havana, Cuba, in hopes that the Sierra cold would purge his blood. The retreat made all the difference to a beginning conservation movement that as yet had no heroes.

In the early spring of 1868 the former inventor stepped off the boat in San Francisco. All around him that bustling city of commerce — a commerce based largely on resources hauled out of the interior — displayed "the gobble-gobble school of economics." In a typical Muir scene he told of stopping a carpenter to ask the fastest way out of town. Puzzled, the workman inquired where he wanted to go. Muir replied, "Anywhere that is wild." About the time that John Wesley Powell was bounding through the unknown Grand Canyon in his little boat, Muir began a decade of Sierra exploration.

At first he supported himself by coming down out of the mountains to work on sheep ranches, a job that disgusted him. Eventually he chose Yosemite as a home base. Though accessible only by foot or horse, the striking scenery attracted the more rugged variety of tourist. Muir took a job operating the sawmill for one of the two expanding hotels — with the stipulation that he would work only on wind-downed logs. On the sunny side of the valley the sawyer built a little cabin for himself, complete with a wild fern growing inside and a brook running through it. Except for intermittent concessions to working for a few supplies, he was at peace, free to wander and enjoy the unexplored peaks.

Despite his pleasure in solitude, it should not be supposed that Muir was a cranky malcontent. Though he could chide people with his Scottish humor, he enjoyed company; if he had any social fault beyond his slipshod dress, it was his garrulousness. When in the mood around a camp fire, Muir could hold forth on the glories of the surroundings long after foot-weary companions wished they were in their sleeping bags.

Even before he was stirring up the public in print, with the help of friends he had become something of a celebrity, something of the "John of the Mountains" figure that persists to this day. Professor and Mrs. Carr of Madison days had moved to the University of California. They sent a stream of vacationing writers and scientists — many of them eminent personages from the East — knocking on the Hutchings Hotel door, asking to be shown Yosemite's wonders by the only authority on them, ragtag John Muir. He more than satisfied their expectations of a romantic character of the Wild West.



Photo courtesy of the National Park Service.

VISIT WITH ROOSEVELT. President Theodore Roosevelt said he had a "bully" time on his occasional camping trips with Muir.

As he befriended them, the amateur naturalist made connections that would serve him in future conservation battles. He guided scientific expeditions and showed off the valley to his aging guru, Emerson. Emerson added the young transcendentalist to his list of "My Men," but he seemed a little taken aback by all the wilderness, so much more wild than his modest Massachusetts woods.

Whether intentionally or not, Muir charmed Viscountess Therese Yelverton, victim of a scandalous English divorcee, who viewed him as a transcendental noble savage. She wanted him to run away with her to Hong Kong, but to his credit he let her down easy. However, she continued the romance on a unilateral basis, writing the novel *Zanita*, which featured John Muir as its Pre-Raphaelite hero.

More importantly, in later years he camped out with President Theodore Roosevelt, who happened to be scanning the nation for places to preserve. In his boyish enthusiasm TR declared that he had a "bully" time with Muir — a man who if pressed would admit that in attempting to scale Mount Whitney he had danced the Highland fling all night to keep from freezing.

reluctant author. A scientific wrangle provided the first spark.

California's State Geologist, Josiah D. Whitney, applied the popular cataclysmic theory of geology to Yosemite. Basically, Whitney maintained that in a dramatic shift of the earth's crust, the floor had suddenly fallen out of the valley, creating the present gorge. Schooled in Agassiz's contrary glacier theory and believing in the slow processes of nature espoused by Emerson, Muir viewed Whitney's pronouncement as an affront. By the early 1870s proprietary feelings about the Sierras ran deep in Muir. He, after all, knew his "range of light" far better than any geologist, regardless of his lack of degrees and professional standing. Glaciers grinding over eons had carved out Yosemite, not a super earthquake. As it turned out, Muir happened to be right, though there was at least as much emotion as science on both sides of the debate.

Urged by visiting scientists supporting his minority opinion, he sent off "Yosemite Glaciers." When the *New York Tribune* not only published the article but paid him for the effort, it set the practical side of his Scottish mind to whirling. At the time, journalism offered far more lucrative re-

Muir was a complex man, like the rest of us capable of gloom and hesitation.

ing in the -22 degree cold. Yet California, the bellwether of America, was fast filling with settlers and developers. John Muir's rugged peace could not last long. In one of several striking shifts in his life, he exchanged peace for a public career as a writer and for a reputation that holds to this day as the nation's foremost protector of wilderness.

As a late bloomer, John Muir wrote his first article at the age of 34, his first book at 56. Drawing heavily from the journals kept throughout his adult life, he tended to poeticize the facts. Then, too, his mysticism slowed him down; he found his adventures so spiritually satisfying that writing about them gave only a secondary thrill. "Ink cannot tell the glow that lights me at this moment in turning to the mountains," he explained. On the other hand, his beliefs eventually compelled him to write in defense of nature; and, when the writing fire burned in him, he was far more than the

turns than it does today; writing might be an alternative to his periodical bondage at the sawmill — as well as a vehicle for re-buffing exploiters.

His articles, both celebrating his country and warning the public of its imminent demise, won the praise and concern of readers of the *Overland Monthly*, *Harper's*, and the *National Geographic*. Unlike many of the nature writers of the time, Muir grounded his rhapsody in the details of personal experience. He took readers with him from one detailed Sierra adventure to the next.

Here he is edging along a cliff face to get a grand view of Yosemite Creek: "the slope beside it looked dangerously smooth and steep, and the swift roaring flood beneath, overhead, and beside me was very nerve-racking. I therefore concluded not to venture farther, but did nevertheless. Tufts of artemisia were growing in clefts of the rock near by, and I filled my mouth with the

bitter leaves, hoping they might help to prevent giddiness. Then, with a caution not known in ordinary circumstances, I crept down safely to the little ledge, got my heels well planted on it, then shuffled in a horizontal direction twenty or thirty feet until close to the outplunging current, which, by the time it had descended thus far, was already white. Here I obtained a perfectly free view down into the heart of the snowy, chanting throng of comet-like streamers, into which the body of the fall soon separates."

It is perhaps a bit difficult for an age sated with television spectacles to appreciate the impact of his revelations. Upon considering a new Muir manuscript, one editor declared that he almost felt as if he had found religion. On the mystical side, the poetry of Muir's words had the ecstatic ring of a man who was "on the side of the angels and Thoreau," as Herbert Smith describes him. Muir was having the best of two worlds; the new economic freedom allowed him to garner material for magazines while he enjoyed trips to Utah, Nevada, and Alaska.

Yet there was a hitch; at the age of 40 "John of the Mountains" longed for a home life. Again his friends came into play, this time in match-making. Jeanne Carr introduced Muir to Louie Wanda Strentzel, eligible daughter of a wealthy medical doctor exiled from Poland. The match was not as unlikely as it first sounds. Despite his wanderings, Muir could carry himself like a gentleman; by this time he was a writer of some note; he knew the value of money and had \$1,000 in the bank. It took patience

printed his articles, "Treasures of the Yosemite" and "Features of the Proposed Yosemite National Park."

Telegrams and letters flooded Congressmen's offices; saving Muir's old stomping grounds became a cause célèbre of national proportions. Congress reacted to the outcry for government preservation — a novel idea. Forced by popular pressure to ignore commercial interests opposing the plan, it created Yosemite National Park and provided a cavalry detachment to patrol the area. Muir and Johnson took advantage of the public's ire at its loss of scenic places and its hope for saving what remained of them. Through writing and lobbying, in the same year they compelled a publicity-conscious Congress to add Sequoia and General Grant to the growing list of national parks.

Things were going well for conservation. Supported by a core group of activists, including the young forester Gifford Pinchot in the East, the Enabling Act of 1891 allowed timberlands to be set aside by executive order. Before he left office President Benjamin Harrison created the forerunners of the national forests by designating 13,000,000 acres of public land as forest reserves.

Through these years, editor Johnson continued to be the man behind the somewhat shy John Muir. Individual concerns, however deep, could be effective in the political maelstrom only through united effort, Johnson argued. In 1892 Muir gathered a number of prominent Californians into a San Francisco law office to incorporate the Sierra Club, an organization Muir led until

echoed the fire and brimstone of his childhood.

Readers opening the August 1897 issue of the *Atlantic Monthly* found both their religion and patriotism at the stake: "The forests of America, however slighted by man, must have been a great delight to God; for they were the best he ever planted. The whole continent was a garden, and from the beginning it seemed to be favored above all the other wild parks and gardens of the globe. . . . Everywhere, everywhere over all the blessed continent, there were beauty, and melody, and kindly, wholesome, fruitful abundance."

Muir knew his rhetoric. After presenting an historical survey of America's forests, comparing their abuse with the stewardship of Germany, France, and Switzerland, he concluded with a poetic appeal for firm government action: "Any fool can destroy trees. They cannot run away; and if they could, they would still be destroyed — chased and hunted down as long as fun or a dollar could be got out of their bark hides. . . . Through all the wonderful, eventful centuries since Christ's time — and long before that — God has cared for these trees, saved them from drought, disease, avalanches, and a thousand straining, leveling tempests and floods; but he cannot save them from fools — only Uncle Sam can do that."

Only ignorance and greed could win over Muir's plea. There were further successes, for example, passage of the Lacey Antiquities Act of 1906. Its provisions allowed creation of national monuments by Presidential decree. Because of Muir's urging, Roosevelt set aside Petrified Forest and parts of the Grand Canyon. And Muir, at the age of 74, would fulfill his youthful urge to explore the Amazon. But in the last years John Muir fought his most significant and agonizing battle — and lost.

In 1913, after years of bitter feuding, Congress voted to dam the Hetch Hetchy Valley, 15 miles northwest of Yosemite, in order to provide water and power for San Francisco. Hetch Hetchy proved a miserable, unnecessary boondoggle, a windfall for a few, with the public paying the bills. It hurt Muir that his friend and ally of the past, Forest Service Chief Gifford Pinchot — his eye always on use rather than preservation — joined its loudest promoters. Worse still, the Hetch Hetchy project violated the purpose of a national park. Muir knew that it was a commercial wedge into an ideal, a wedge that since has been sunk into other parks.

Hetch Hetchy, whose beauty once rivaled Yosemite's, became a symbol, part of John Muir's legacy. Stung by its mistake, three years later Congress passed a comprehensive national parks bill. In 1914

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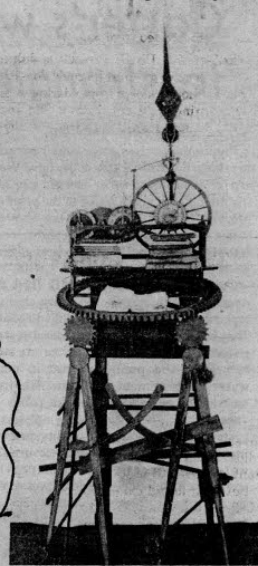


Photo by M. E. Diemer and courtesy of the State Historical Society of Wisconsin.

SCHOOLBOY'S HELPER. John Muir invented this clock and desk to help the schoolboy by opening new books before him at regular intervals.

"John of the Mountains" died, but he had shown the way to Aldo Leopold, Enos Mills, and Stephen Mather — and to thousands of others.

Linnie Marsh Wolfe's *Son of the Wilderness* is the standard Muir biography. A shorter but worthy sketch, which includes a choice selection of photographs, is Harvey Arden's "John Muir's Wild America," in the April 1973 issue of *National Geographic*, pp. 433-461.

More critical studies of a literary bent are John Muir, by Herbert F. Smith, and the shorter John Muir, by Thomas J. Lyon.

Those wishing to taste Muir's adventures directly might turn to *My First Summer in the Sierra*, often mentioned as his most organic and satisfying book. *The Wilderness World of John Muir*, edited by Edwin Way Teale, offers a solid introduction followed by selections from Muir's books.

Muir showed the way to Aldo Leopold, Enos Mills, and Stephen Mather — and to thousands of others.

and subtle urgings on the part of Mrs. Carr, but in the middle of April, 1880, John Muir married Louie Strentzel. The groom's literary abilities lapsed into cliché, however, when he expressed him genuine domestic joy: "I am now the happiest man in the world!"

For a wedding present, Dr. Strentzel gave his new son-in-law an orchard and a house in Martinez, across the bay from San Francisco. Perhaps middle-aged Muir needed a rest from freezing on mountain-tops and eating monk's fare from a bread bag. Whatever the case, his old farming instinct asserted itself. With the exception of significant trips to Alaska, in the next few years he stayed fairly close to home, laboring in the vineyards that provided the modest fortune that would support his final and most important years of activism.

John Muir's grapevines prospered, but his health and writing, cut off from the strength of the Sierras, suffered. In a way that might not be fashionable today, his wife rearranged her life to deal with the problem. Louie insisted that he spend July through October, the slack season for orchardmen in Contra Costa county, trying to regain his vital contact with the mountains. Though she loved music, when he was laboring in his study she kept her piano closed. Editors hadn't forgotten Muir; joined by his wife they convined to get him out into the wilderness and his pen working again.

In time they succeeded in rehabilitating Muir with his old power — redoubled when Robert Underwood Johnson of *Century Magazine* took him on a camping trip to see what unrestrained sheep and lumbermen had done to his beloved Yosemite. The plots of his friends worked just in time; the 1880s and 1890s marked the first cohesion and substantial victories of the conservation movement. Pen in hand and backed by Johnson, the aging mountain man stood on its forefront. In 1890 the Eastern press re-

his death. One of the earliest citizen groups of its kind, the club continues in the tradition of its founder to "explore, enjoy, and preserve" the country's resources. To support the movement Muir was writing, writing — *The Mountains of California* (1894), *Our National Parks* (1901), *My First Summer in the Sierra* (1911); — for a public that looked to the written word as a guide for its judgments.

In the seesaw of politics, for a time it looked as if the new forest reserve system — if not the national parks — might be lost. Those whose livelihoods depended on exploiting the natural heritage were quick to call in political debts and mount an effective counterattack. By then, however, other magazines followed the example of *Century* with strong stands for conservation. And from the end of John Muir's pen came prose with a stentorian thunder that

Key values get emphasis instead

Timber now secondary in forest plan

The National Forest Service has just released area plans for the Rockies and Great Plains that promise more wildlife habitat, more grazing, more water yield, more wilderness, more ski areas, and more timber.

Bart Koehler, Wilderness Society representative for Wyoming and Nebraska and a counselor for the Forest Service on the plans, says they are a "real sleeper. . . . these plans are the least understood and the most far-reaching Forest Service program in this region today." Because hearings on the plans are being held simultaneously with hearings on the new roadless area review in many places, Koehler is afraid not enough attention will be paid to them.

National forests in Colorado, Wyoming,

South Dakota, Nebraska, Kansas, and part of Montana are included in the three preliminary plans, which tell how the agency will allocate resources through the year 2000. They were mandated by Congress under the Resource Planning Act. The "area planning guides" cover the Central Rocky Mountain area, the Southern Rocky Mountain area, and the Great Plains area.

Koehler says there is a new emphasis in the plans on certain key values and a move away from timbering, which he sees as a positive change in the agency's policies in the West. "They're finally saying that there are better, more economical places to produce wood fiber than the Rockies," he says.

In the past, the Forest Service has pushed each district to sell timber to bring

in money, even in regions such as the Rockies where low rainfall, small tree diameters, and steep slopes often make it uneconomical to produce large amounts of wood fiber.

Now the Forest Service is directed to manage the forests to enhance certain "key values" — recreation, wildlife, and scenery.

The plans say, for example, that timber could be cut to increase habitat for elk or to improve the view. Kent Quinkert, one of the authors of the Central Rockies Plan, says small cuts also can affect the water flow out of the forests. He explains that to improve the view, trees along a road or trail might be cut if there is an outstanding view in the background that is blocked.

"This de-emphasis on timber does not (continued on page 6)

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Carter's water politics to strangle the West?

by Bruce Hamilton

Proposals by the Carter Administration to reform national water policy have Western politicians and water user groups fighting mad. Long accustomed to the prior appropriations system of water law, they see water as a private property right, regulated by the state, that the federal government has no business meddling with.

Conservationists generally find the Administration's proposed policy changes too rushed, but a step in the right direction. They believe that either the federal or state government should take appropriate steps to protect the public interest in major water management decisions. Environmentalists anticipate that the policy review will result in increased emphasis on protecting environmental quality, preserving minimum stream flows, encouraging water conservation, and improving economic efficiency in federal water projects.

At a regional hearing held in Denver July 28-29 most of the criticism was leveled at the process of the policy review rather than the content of the Administrative proposals.

Speakers objected to the fact that they had received "option papers" on the proposals only a few days before the hearing. Others noted that the timetable was so condensed that preliminary decisions were originally scheduled to be made before the public comment period was closed. A second set of option papers was made available on the last day of the Denver hearing, making public comment impossible.

This hasty review infuriated the Western governors. They said they were not consulted about the proposed policy changes prior to the hearings, and when they sent President Carter a telegram formally requesting a 60-day extension of the public comment period, they didn't even receive a reply. A week after the Denver hearing, the Administration announced a 90 day extension for public comments.

Colorado Gov. Dick Lamm called the federal review "insulting, insincere, and unacceptable."

Wyoming Gov. Ed Herschler told the federal review panel, "Every governor in the Rocky Mountain area is supposed to be

a member of the same political family as the President, and yet he chooses to ignore us in a matter that could, without sound advice, result in complete strangulation of the Western states." Herschler was referring to the fact that all the governors in the region are Democrats.

ROLE FOR FEDS

The hearings were designed to solicit public input on possible solutions to the major problems facing federal water resource policy-makers. In the July 15 and July 25 *Federal Register*, water problems were identified and policy options were briefly discussed. The questions at issue included:

--Should the federal government use water projects to attempt to develop economically depressed regions?

--Should the government encourage nonstructural water management programs? (For example, the government could encourage flood plain zoning instead of building flood control dams)

--How should water quantity and water quality programs be coordinated?

--What role should the federal government play in protecting minimum stream flows for fish and wildlife?

--Should the beneficiaries of federal water projects be required to repay a greater percentage of the projects' costs?

--Should water from federal reservoirs be auctioned to the highest bidder?

--How can the federal government encourage water conservation?

--How can the benefit-cost economic analysis process be improved to take into account unquantifiable environmental and social costs and benefits?

--How can the federal government encourage better state management of ground water?

Each identified problem was followed by policy options ranging from strong federal control, using sanctions and eminent domain when necessary, to lax federal control that would not guarantee federally-desired results. Most of the furor at the hearings came from states' rights advocates objecting to any proposed federal regulation of state water.

Gov. Herschler stated that the philosophy expressed in the option papers



Photo courtesy of the Wyoming Travel Commission

STRUGGLE FOR WATER. Western governors argued that they didn't want to lose authority over water and risk losing agricultural water. Interior Secretary Cecil Andrus assured them, however, that the Carter Administration did not intend to "preempt or even infringe upon state water rights."

is that "the doctrine of prior appropriations should be replaced by the doctrine of federal appropriation." He took strong exception to options that contemplated federal condemnation of existing water rights for reallocation to energy facilities and minimum stream flows. "These options assume that the only worthwhile value of the

said, "I condemn a farmer like myself who wastes water, just as much as I condemn a city like Denver, Phoenix, or Los Angeles that seemingly has the right to divert water from fragile environmental areas just to keep lawns green in their suburbs."

"Water in a city must be used for basic living and economic pursuits and a farmer must put it to much better and more efficient use in growing a crop. I just wish I was paid a little better for that crop."

On the Congressional level, key western senators and congressmen circulated letters among their colleagues urging a go-slow approach in the policy review and an extension in the public comment period. Sen. Frank Church (D-Idaho) warned the Administration that it was "up to Congress to make federal water policy," not the Administration.

Interior Secretary Cecil Andrus tried to allay the fears of states' rights advocates worried about a federal takeover. "As I have said before, we do not advocate and never have advocated federal water rights that would preempt or even infringe upon state water rights and private water rights." He said much confusion had arisen from "deliberate distortions" of the option papers and called people's attention to "the facts and purposes of the hearings."

Bruce Hamilton is the Northern Plains representative for the Sierra Club.

STILL TIME FOR COMMENTS

The new deadline is October 1 to review the water policy option papers and submit written comments. Those who only reviewed the July 15 *Federal Register* option papers should note that a second set of option papers covering water quality, water research, and federal reserved water rights were printed in the July 25 *Federal Register*.

A separate set of option papers on Indian water rights will be released this fall. The Indian water rights study will be conducted by the new Assistant Secretary of the Interior for Indian Affairs. Indian tribal leaders strongly objected to the original plan of lumping federal reserved water rights and Indian water rights together in the policy review so a separate study was planned.

There will probably be more public hearings on national water policy this fall.

President Carter will announce his new national water policy February 24.

Copies of the option papers are available from the Water Resources Council, 2120 L Street, N.W., Washington, D.C. 20037 or call (202) 254-6453.

Forest plans. . .

(continued from page 5)

signal the end of the small timber mills or forage production," Koehler says. In fact, all three plans call for an increase in timber production. But since big mills operate on volume, they might not be interested in these small cuts, he theorizes. Consequently, the new program should be to the advantage of the small operators.

While Koehler questions whether cutting should be used to improve views or to increase water yields, he thinks the Forest Service is finally ready to "give more than just lip service to multiple use for the forests."

He also applauds the additional acreage allotted to wilderness although he doesn't think it is enough. Compared with conservationists' proposals for wilderness additions, he says that the Central Rockies area guide projection is short by 1.1 million acres, the Great Plains area by at least 100,000 acres, and the Southern Rockies by

about 800,000 acres.

Koehler says the major problem with the plans is that they don't deal with energy development on Forest Service lands as a significant planning issue. In fact, all three plans say they will encourage energy exploration.

There is so much coal, oil, uranium, and other mineral potential on Forest Service land that the agency must consider them carefully in its planning, Koehler says. Koehler thinks the plans are unrealistic in projecting increases for all uses of the national forests. "The Forest Service can't offer everything to everybody," he says. "It must recognize the natural constraints of its resources."

The deadline for comments on the three plans is September 15. Koehler says everyone interested in the future of the forests should get a copy from the local Forest Service office.

West is an energy park and recreation area to be utilized by other parts of the country," he said.

Gov. Lamm was critical of the proposal to sell water to the highest bidder, fearing that agriculture would lose out to industry in an open auction. "We do not wish to see stable agricultural economies sacrificed on a proposed national altar of economic efficiency, which will accelerate the rate at which Colorado waters flow uphill toward those with the most money," he said.

Lamm's one good word for the Administrations efforts came when he saluted the President on his attitudes towards water and energy conservation. But Lamm warned about over-simplification of the water conservation issue. "Water conservation is not like energy conservation," he said. "Wasted energy is gone forever. 'Wasted' water may simply return to the hydrologic system for reuse at another point and another time."

Environmentalists called the policy review long overdue and backed proposals to guarantee minimum stream flows, improve ground water management, reduce water waste, require consideration of nonstructural water management systems, improve water quality and discourage the construction of environmentally-destructive dams and irrigation projects.

"Water laws and management policies that served us well in the early part of this century -- when less people and less development existed -- are no longer viable," said Environmental Defense Fund staff scientist Mohammed El-Ashry.

Bob Warrick, a farmer from Meadow Grove, Neb., and chairman of the Nebraska Sierra Club, commended the Administration's proposals to conserve water. "We in the West have been using water as if there were no tomorrow," he

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Indian farmers dive into Arizona water battle

by Gary Nabhan

When it comes to the battle between agriculture and the cities for Arizona's water, Anglo-American agriculturists typically assert, "We farmers were here first, and we grow the food they eat in the cities. We deserve the first crack at the water..."

Until recently, the legitimate "first farmers" of Arizona -- American Indians -- have had their earlier rights for water overlooked. In early May, leaders of five Arizona Indian reservations went to Washington, D.C., seeking increased allocations of Central Arizona Project (CAP) water for their people. For several months, the tribes have been negotiating with both Congress and the Interior Department for the water. The tribes are from the Gila River, Salt River, Fort McDowell, Papago, and Ak-Chin Reservations.

They claim that "most of the water does not reach the reservations because it is being used by those whose rights are junior and inferior to the rights of the Indians." Arizona, like most Western states, grants water to whomever puts it to use first.

CAP was originally proposed to pump water uphill through a 300 mile canal from the Colorado River into the interior of Arizona, at an estimated construction cost of over \$2 billion.

Some of CAP's proponents want the reservations to get only 8 1/2% of the CAP water. As it stands today, the federal government has allotted the reservations about 10% -- or about 98,000 acre-feet a year.

According to a native American news-

Gila Valley farms are currently receiving only 10-20% of their usual water supply because of drought conditions. President Jimmy Carter's recent elimination of the Charleston, Hooker, and Orme reservoirs from the CAP plan limits the potential for additional surface water diversion to the area in the future.

The potential for additional groundwater is also unlikely. Water is now being pumped out for irrigation faster than it is being replenished. This has already turned central Arizona into a critical dry area: water levels have been dropping 5-10 feet a year.

In addition, farmers are faced with skyrocketing costs for pumping water: for 600-foot deep wells, pumping costs as much as \$48 an acre-foot. This is making it uneconomical to grow water-consuming crops such as cotton and alfalfa, which are now very common. As a result more than 10% of the farms in rural central Arizona have gone out of business since the 1973 fuel crisis.

SAME PROBLEMS

Even if the reservations are granted more water supplies, they face many of the same problems as off-reservation farmers. The CAP water will not arrive for another decade, and water prices are expected to increase dramatically during that time. In recent years, the Indians have been investing in high-input cash crops like their neighbors do, rather than in their traditional subsistence farming, so energy and machinery expenditures will likely continue to increase. Making the matter more

less water and energy conservation become realities, the experts say.

Recognizing the critical water shortage, many Arizona politicians have supported water manipulation schemes such as importing icebergs, diverting the Columbia River, desalinizing the lower Colorado River, damming wild and scenic rivers, and controlling water-thirsty trees. Yet the Arizona lawmakers have not supported legislation that would force water conservation. Agriculture consumes 89% of Arizona's water supplies. Over half of the state's supplies go for water-consuming feed and forage crops.

Irrigation projects in the state are notoriously inefficient. Agriculture exten-

efficiency, meaning crop plants take in only half the total amount of water entering the field. In contrast, Israeli agriculturists, for example, operate at 90% water use efficiency. City dwellers must then subsidize this inefficient use of water through taxes and higher water price rates.

ANOTHER WAY

Indian agriculturists now have a choice. They can take the route that non-Indian counterparts have forged, seeking more water without attempting to better utilize that which they already have. Or they can combine some of their traditional knowledge of water conservation with new skills

The real problem, which neither the Anglo nor the Indian agricultural developers care to admit, is that farmers must eventually learn to live with limited water in the desert.

paper, Akwesasne Notes, the Indians calculate they have a right to receive 445,000 acre-feet of CAP water a year.

The tribes have bitter memories of their water being usurped by Anglo-American immigrants. By the 1880's, the once-great agricultural economy of the Gila Pima Indians had crumbled after their irrigation water was diverted away from them by white farmers upstream.

If the Department of Interior agrees to protect the Indians' water rights, farms near the five central Arizona reservations would be in trouble. Water supplies for the area's agriculturists are already pinched;

complex, many of the reservations' irrigated lands are leased to agribusiness. More than a third of the Gila River Indian Reservation land that is part of the San Carlos Irrigation Project is farmed by non-Indian interests.

Water use experts suggest that the real problem, which neither the Anglo nor the Indian agricultural developers care to admit, is that farmers must eventually learn to live with limited water in the desert. Is modern, irrigated agriculture in arid lands worth its costs? If the current economic trends are any indication, Arizona agriculture has a grim future un-



Photo by Helga Teiwes and courtesy of the Arizona State Museum.

IRRIGATING COTTON FIELDS in the arid Southwest requires lots of water and lots of capital. Here siphon tubes are prepared on the Gila River Tribal Farm in Arizona.

sion agent Len Dawson notes that an estimated 68% of the water passing beyond Coolidge Dam is lost through seepage, evaporation, or the pumping of mud out of canals -- before it reaches the Gila River Indian Reservation where it is to be used. Arizona farmers attain only 50% irrigation

to create a viable agriculture adapted to arid lands.

For instance, the Pima and Papago Indians have long been experts at a kind of floodwater farming in arroyos which they term Ak-Chin. Hydrologists project that with improved water harvesting techniques, floodwater farming could again become economic. Additionally, native desert cultures have, over centuries, developed some of the most drought-hardy and water-efficient crops in the world: varieties of legumes, maize, squashes, oilseeds, and small grains.

If the tribes would make a major shift to these crops, they would have to redevelop markets for them. They could also consider growing new arid land industrial crops such as jojoba, buffalogourd and guayule.

Leaders of the tribes call for recognition of the fact that they were Arizona's first farmers. Some water conservationists say that by choosing less water-consuming farming methods, the native desert peoples can make certain that they don't become Arizona's last farmers.

This article was paid for in part by tax-deductible donations by HCN friends and readers to the HCN Research Fund.

Tribe: legal rights are the issue

The Salt River Reservation tribes grow primarily cotton as well as some watermelons and lettuce. Frank Mertley, community manager for the tribe, says they have considered crops that consume less water, and they do grow wheat and maize.

"But that's only half of the issue," he says. He says his tribe and the other four "dry tribes" in central Arizona recognize there is a serious water situation in the state. "But we think we should be granted our legal entitlement of water," he says.

Indian tribes are entitled to as much water as they need to irrigate all the "practically irrigable acreage" on their reservations, according to Indian water right case law. Mertley says 30,500

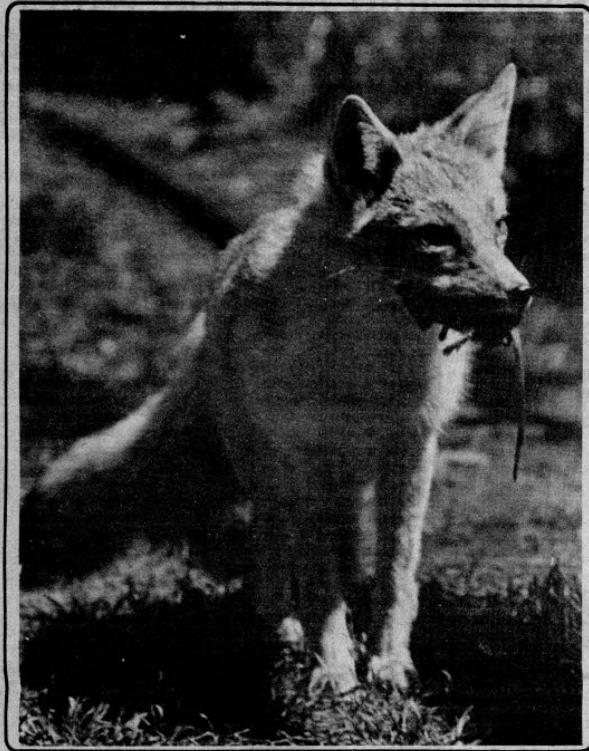
acres of the reservation could be farmed, but because of the lack of water, only half of it is now being farmed.

"We're only asking for what we reasonably think we could put to use at one time," he says. He points out that before the government came in and imposed the two rivers flowing by the reservation, the Salt River and the Verde River, there was enough free-flowing water to irrigate the entire 30,500 acres. Now, the water is going to water users whose priority rights are much later than -- and thus inferior to -- the Indians'.

As the National Water Commission said in its report in 1973, "The nation is confronted in the decade of the 1970s -- 100 --

more years after most Indian reservations were established -- with this dilemma: in the water-short West, billions of dollars have been invested, much of it by the federal government, in water resource projects benefiting non-Indians but using water in which the Indians have a priority right."

Last year a bill was introduced in the U.S. Senate to get extra Central Arizona Project (CAP) water for the five tribes, but it died. This year Sen. Ted Kennedy (D-Mass.) and Sen. Lee Metcalf (D-Mont.) have introduced the same bill (S.905) for the tribes. However, Mertley says he is "not too optimistic" about the prospects of the bill since the state of Arizona is still opposing it.



MOUSE-EATER. Insects, mice, and other small rodents are the main items in the diet of the swift fox.

It is reported that the swift fox is able to keep up with and even outdistance the pronghorn, which holds the American wildlife land speed record for the first 100 yards.

by John H. Tobias

The ground squirrel had become so engrossed in devouring fresh quail eggs that it forgot its natural caution. The squirrel was completely unaware of the pair of sharp, amber eyes that were watching it from the concealment of a small clump of grass. Silently, the hunter slipped from behind its cover and stalked the small rodent. With a quick, sure pounce and a fatal bite the hunter ended the squirrel's egg-robbing days.

The hunter was the smallest of wild canines in North America — the swift fox, also known as the northern kit fox. It weighs about five pounds when fully grown and is seldom more than 18 inches long and 12 inches tall.

The swift fox is a subject of controversy among wildlife authorities. Some consider it a subspecies of the southern kit fox, some say the two are the same animal, and some say they are closely related but separate species.

There are several visible differences in the two animals. The kit fox, which is adapted to the arid West, has larger ears and is slightly heavier and longer than the

Swift fox

The smallest ca



SMALLEST. The swift fox is the smallest of North America's wild canines. An adult weighs only five pounds.



CLOSE BOND. Adult swift foxes mate for life.

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swift fox. The eyes of the swift fox are amber, while those of the kit are black. The swift fox is the faster of the two. It is reported that the swift fox is able to keep up and even outdistance the pronghorn, which holds the American wildlife land speed record for the first 100 yards.

TERRITORIAL

Swift foxes are territorial animals. When a male and a female pair off it is normally until death separates them. Both animals are devoted parents, mutually sharing the duties of raising their young. The female or vixen will remain with the pups for the first few weeks while the male brings food to her. When the pups are older, she will leave the den to hunt on her own.

The young are born any time from late February until early June. The vixens' first litter usually consists of two cubs. Succeeding litters will be twice that big.

Immature foxes start to hunt with their parents when they are about five weeks old. By the end of their first summer, they have learned to hunt on their own. When the young foxes have developed their hunting and survival skills, they are driven out of their parents' territory to establish territories of their own.

Because of their size, swift foxes are preyed on by many larger predators. Their speed and agility enable them to avoid most land predators. Hawks, eagles, and owls take their toll, however, especially of inexperienced young, old, or sick foxes.

Swift foxes themselves are avid hunters of small rodents and insects, which annually cause high dollar losses to farmers. Despite this service to agriculture, the foxes have suffered greatly because of predator control programs, both those aimed



CAPTIVE. The swift fox adjusts well to captivity. This trait eases the job of the North American Wildlife Center, which is re-introducing them to their former range.

canine is making a comeback

The swift fox has been accused of being a stock killer, although it is hard to imagine a five-pound fox attacking and killing a steer 100 times its size.

at the fox population itself and at the larger predators, such as the coyote and the wolf. The swift fox has even been accused of being a stock killer, although it is hard to imagine a five-pound fox attacking and killing a steer 100 times its size.

One trait that has hastened the decline of the swift fox is its curiosity, which draws the otherwise cautious creatures to traps and snares. They also can be easily lured by hunters using predator calls.

SHRUNKEN RANGE

Before the encroachment of European-style civilization the swift fox could be found from the plains of southern Alberta

in Canada south to what was to become the states of Colorado, Oklahoma, and Texas. Its range spread from the Rocky Mountains eastward across the Great Plains. But by the 1920s the swift fox was scarce, if not absent, in all of its range, except for a narrow strip of eastern Colorado and western Kansas.

The swift fox is not on the federal government endangered species list. Protection for it varies according to the state laws. When asked why the foxes were not protected in his state, one wildlife official said, "There are so few taken each year that it's not worth the trouble to put them on a protected list."

The North American Wildlife Center, near Golden, Colo., has been working to help the foxes survive. For nearly a decade the center has been re-introducing swift foxes to their former range. Recent reports seem to indicate that the offspring of the released foxes are spreading south from the release point in Canada, an encouraging sign for those in the struggle to preserve this smallest of America's wild canines.

Photos by John Tobias of the North American Wildlife Center

10-High Country News — Aug. 12, 1977

Oil shale resurgence: lots of hype and little hope

by Dan Whipple

Since federal oil shale leases were originally sold in 1974, the industry has been in various stages of death throes. Poor economics and environmental constraints have operated together to hold back development of the resource. Despite several company requests, the government has consistently refused to step in and guarantee financial assistance to the emerging industry, pushing the date of commercial production of oil from shale further and further into the future.

Now, suddenly, Occidental Petroleum Co. and Ashland Oil Co. have announced that they will spend \$443 million of their own money to develop a commercial oil shale venture on federal land in the next five years. And, Gulf Oil and Standard Oil of Indiana are planning to spend \$93 million in the next two years to develop their lease, in a project known as the Rio Blanco Oil Shale Project. Both of these announcements come at a time when prospects for government intervention look bleak.

Last September, the oil shale lessees asked the Interior Department to suspend their leases. Without the suspension, the companies would have been forced to pay their fourth of five bonus payment installments or forfeit their leases. The government suspended the payment requirement, allowing the companies to hold the lease without meeting its terms. The suspensions are due to expire in September 1977.

John Krautkraemer of the Environmental Defense Fund in Denver says, "Before the suspension of the leases, oil shale seemed dead. The suspension gave it a breath of life."

The recent flurry of activity on the shale front would lead one to believe that there has been a major breakthrough in the economics of the product. The companies involved have had a year to consider their courses of action. An examination of the situation shows that the problems are the same, however; only the motives behind the investment seem to have changed.

When the government issued the leases

to companies three years ago, they stipulated that only the first three bonus payments had to be made directly to the government. The latter two must either be made to the government, or invested in the development of the oil shale tracts. Any invested money would be credited to the amount due on the lease payment. Harry Pforzheimer, project manager for the Paraho Oil Shale Demonstration Project near Rangely, Colo., says, "Occidental and Rio Blanco are in a unique situation. No matter how imprudent their expenditures may be, it is better than giving it to the government."

Rio Blanco has asked for a continuation of their lease suspension. Most observers believe that this will not be granted, so the company announced its plans for the \$93 million expenditure. Occidental says that it will go ahead regardless of the lease suspension.

MODIFIED IN SITU PROCESSING

One of the things that is giving the companies some hope is a new technique known as "modified in situ processing." This would allow retorting of the oil shale — the extraction of the oil-like substance, kerogen, from the rock — partially underground and partially above ground. This would, theoretically, reduce some of the problems with surface disturbance for mining and waste disposal, issues that have presented major environmental difficulties.

In May of 1976, The Oil Shale Corporation (TOSCO) estimated that in order for a company to have a "highly competitive" rate of return — 15% — on its investment, buyers of shale oil would have to be willing to pay \$21.50 per barrel. Matching the current prevailing price of natural crude oil — \$13.50 to \$14.00 per barrel — would only allow for a 10% return, which TOSCO judged to be too low to be competitive.

PARAHO

Paraho believes that the cost outlook for shale oil has improved. Pforzheimer says, "We think we can produce shale oil for \$11.50 per barrel in a large commercial plant." Paraho is a consortium of 16 companies that are engaged in an experimental shale program at Anvil Points, Colo. The company processes shale for the Navy, and wants the government to support a full-scale plant with the companies. They use an above-ground retorting method.

The Paraho process would provide only a low-grade crude shale oil, not a high nitrogen, low sulfur synthetic crude. The processing of this crude shale oil would require significant changes at the refinery to up-

grade the shale oil to useable fuel. The synthetic crude could be produced for \$17.50 per barrel, still \$3 to \$4 above the world oil price.

The U.S. Energy Research and Development Administration (ERDA) says that a modified in situ process would cost \$8 to \$11 in production costs and \$3.50 to \$5 in operating costs. Surface retorting and

deposit averaging 30 gallons per ton requires the mining of a minimum of 70,000 tons of oil shale per day. Mined shale expands in volume from its original size and, even allowing for recovery of the oil and additional minerals, the volume of the waste to be disposed of is much greater than the original amount mined. To illus-

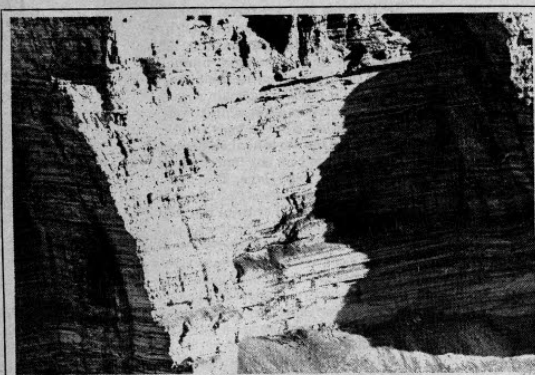


Photo courtesy of Occidental Petroleum.

OIL SHALE, long the subject of heated debate about its economic feasibility and environmental acceptance, is enjoying a revival in the West. Two leaseholders say that they will build commercial plants with or without government assistance.

multi-mineral extraction — in which other minerals are recovered as a by-product of the shale retort — are higher in cost. Thus, it appears that oil from shale could not compete favorably with oil, even imported oil.

Carolyn Johnson of the Colorado Open Space Council's Mining Workshop doesn't believe that oil shale is economical yet. "There hasn't been a change in the economics. The problems are in the nature of the resource. It's low-grade and you have to invest so many other resources in it."

MINING, DISPOSAL PROBLEMS

The problem of mining the rock and disposing of the spent shale is also still a massive one. According to a study done by Equity Oil Company, "To produce 50,000 barrels a day of shale oil from an oil shale

mine this would be, the report says that the largest underground mine in the world — in Sweden — 56,500 tons of rock per day are mined.

The traditional industry answer to the disposal problem is to fill up canyons with spent shale. Paraho's Pforzheimer says, "We have thousands of canyons here. At the end, you've created a meadow in an area that was a canyon."

This solution is unacceptable to many people, both for esthetic and environmental reasons. The spent shale will increase salinity in the already salty waters on Colorado's western slope.

COSC's Johnson explains, "One of the main problems with any type of surface disposal is the increased salinity from water seepage through the shale and the perforation of underground aquifers in (continued on page 16)

However, the Powder River Basin Resource Council of Sheridan, Wyo., said, "The Federal Strip Mine Bill will ensure that adequate reclamation takes place throughout the country and makes it national policy that all strip mined land be reclaimed. . . . We think the provisions of the bill are fair and will help protect Wyoming from many of the problems that have plagued Appalachia."

U.S. MILITARY NEEDS PLUTONIUM. The Washington Post reports that the Pentagon plans to build so many new strategic and tactical nuclear weapons for the 1980s that the U.S. will have to increase its production of weapons grade plutonium. President Carter has called on other nations to reduce their production of plutonium and has withdrawn his own support for the U.S. development of the breeder reactor, which produces the deadly explosive. The weapons systems were developed during the Nixon-Ford years, the Post says, but the question of plutonium production increases will be up to Carter.

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energy news from across the country

AT LONG LAST, LEGISLATION. President Jimmy Carter has signed into law the long-awaited strip mine bill. According to United Press International Carter said, "I'm not completely satisfied with this legislation. I would prefer to have a stricter strip mining bill. I'm concerned about some of the features that have been watered down. Among the watered down sections were provisions allowing mining in alluvial valley floors in some cases, giving a two year exemption from compliance with the bill to operators producing less than 100,000 tons of coal annually, and allowing, in some instances, the leaving of high-walls in mountainous areas."



EXXON ABANDONS GRAND CANYON URANIUM. Exxon Corporation has told the Arizona state office of the Bureau of Land Management that the company is abandoning its search for uranium in the Lake Mead National Recreation Area within the Grand Canyon. Exxon decided to drop the leases because exploration work in geologic areas outside of the Lake Mead area had proven fruitless. Exxon's leases had been suspended by former Interior Secretary Thomas Kleppe in June of 1976 because no environmental assessment had been prepared. The National Park Service had prepared the statement and was ready to release it when the company announced its change of plans.

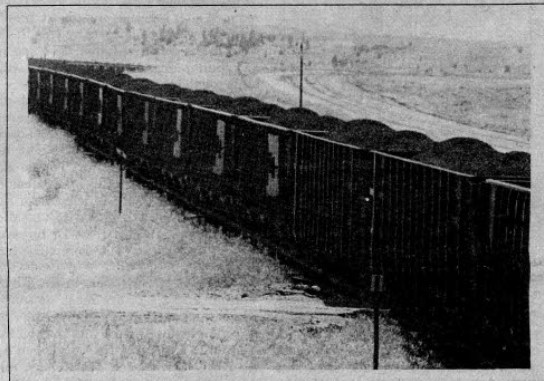
PP&L SEEKS WATER. Pacific Power and Light Company is trying to lease 35,000 acre-feet of water from Wyoming's Fontenelle Reservoir. The company will use the water for a coal-fired power plant, for which a site is yet to be determined. PP&L is considering two sites -- one near the reservoir in Creston Junction, Wyo., and another near Sheridan, Wyo. The Wyoming Outdoor Council (WOC) is urging that an environmental study be made of a proposal to lease the water.

MINING PLAN APPROVALS. Coal Week says that the U.S. Interior Department will soon approve seven mining plans in rapid succession in the largest action of its kind ever. Three of the plans -- Colowyo's, Energy Fuels', and Peabody's -- are included within the Bureau of Land Management's Northwest Colorado environmental impact statement, which is one volume short of completion. BLM says the mining plan approvals can go ahead on the basis of completed site-specific impact

statements. Brad Klafehn of the Colorado Open Space Council Mining Workshop objects, saying "no action should be taken until the region-wide statement is adequate."

Approval of the mining plans will allow Interior to skirt the difficult question of whether or not to revoke Colowyo's one-year permit to mine in Northwest Colorado, which Interior says was "improperly" issued. The 30-year Colowyo plan to be approved includes the work proposed in the one-year plan (See HCN 7-29-77).

RAIL OVER SLURRY. A Department of Transportation official on a tour of the Powder River Basin in Wyoming said that coal slurry pipelines are not a viable coal transportation alternative to railroads where the rail lines already exist. Jack Sullivan, federal railroad administrator, said, "Where there are existing railroad facilities, the coal slurry pipeline is not too much of an alternative if you build it from scratch. There are the problems with the water supply." He also said that the slurry pipeline would put the railroads in "dire financial straits."



EXISTING RAILROADS should be used for hauling coal instead of building new coal slurry pipelines, according to a U.S. Department of Transportation official.

Clean air bill easy on autos, good for national parks

As the result of a House-Senate conference committee compromise on auto emissions standards, the Clean Air Act amendments were sent to President Jimmy Carter and signed. The bill contains some amendments that will discourage the use of Western coal in Eastern power plants and make it harder to site power plants near national parks and monuments.

The schedule for abatement of auto emissions was substantially relaxed, giving manufacturers until 1981 to achieve standards that were originally required by 1975 for hydrocarbons and carbon monoxide. It will also increase the allowable levels of emissions of nitrogen oxides in 1981 model cars and thereafter.

The Sierra Club National News Report says these pollutants are most dangerous to health and says the allowable levels under the new amendments are two and a half times the level allowed under current law. The auto industry said the extensions were necessary to allow them to begin building 1978 model cars. The companies had threatened a shutdown of auto plants around the country if a timely compromise had not been reached.

New stationary sources of pollution -- like power plants -- will be required to have the best available pollution control technology, regardless of the type of coal burned in their boilers. Many analysts be-

lieve that this will reduce at least one of the advantages that Western coal enjoys over higher sulfur Eastern coals. Many utilities had switched to low sulfur Western coal to avoid installation of scrubbers.

Reinforcing this bias away from the West is the "local coal" amendment, which will allow the President to require existing coal-burning units to use "locally or regionally available coal." This requirement would be waived for new coal-fired plants, if burning of local coal would violate emission standards.

Existing national parks and wilderness areas will be automatically designated as Class I air quality areas, preventing any significant deterioration of air quality.

The controversial Breaux Amendment, which would have allowed 18 days of pollution over federal standards, was all but

eliminated by the conference committee. Variances can still be granted but only by the Secretary of Interior. If the Secretary says the variances won't be allowed, only the President can overrule him.

This defeat of the Breaux Amendment will have a significant impact on the proposed Intermountain Power Project (IPP) near Capitol Reef National Monument. Interior Secretary Cecil Andrus has ordered the Bureau of Land Management to start environmental studies of alternative sites for the plant. The action indicated that Andrus isn't likely to issue a variance for the IPP project, according to the *Deseret News*.

Rep. Orrin Hatch (R-Utah) says that the defeat of the amendment will also prevent Utah Power and Light from building plants in Axtell, Emery, and Nephi, Utah.

Aug. 12, 1977 — High Country News-11

Interior scraps EMARS

The U.S. Interior Department is conceding the necessity for another moratorium of federal coal leasing, according to McGraw-Hill's *Coal Week*. The newsletter says that Interior will scrap the Energy Minerals Activity Recommendation System (EMARS) and establish new "policies and procedures" for a new leasing program.

Interior's new approach is the result of the Natural Resources Defense Council (NRDC) v. Hughes lawsuit, challenging the coal programmatic environmental impact statement and EMARS. At a recent hearing on the case, Judge John Pratt of the U.S. District Court in Washington, D.C., indicated that the government should meet the objections raised by NRDC. Observers estimate that anywhere from a two to six year delay will result from the decision.

Under the new moratorium, short-term leases will be subject to more stringent criteria for approval. If NRDC goes along

with Interior's proposed revamp of the short-term lease system, mine expansions will not be allowed unless operators can assure the government that the reserves won't be mined for longer than eight years and that no "major" new transportation systems will be built.

Coal Week says that an NRDC attorney is still of the opinion that "there's quite a distance between our proposals and the government's, but that 'this administration is far more concerned with the environment than the (Republican) one that established the leasing program.'"

Interior is also conceding that another programmatic impact statement will be necessary before any leasing can take place.

New TVA board member doesn't want West's coal

President Jimmy Carter's new appointment to the Tennessee Valley Authority (TVA) board takes a dim view of the agency purchasing coal in the West, according to the *Louisville Courier-Journal*.

S. David Freeman is filling a two-year vacancy on the board. The agency is the nation's largest user of coal and the world's largest public utility. Recently, TVA has been exploring for its own coal and uranium in the West.

During his confirmation hearings, Freeman said he thinks TVA, which is near the Appalachian coal fields, has a special responsibility to encourage and to respond to the small operators who have long contended that TVA policies discriminate against them.

"It is going to take a lot of persuading and new numbers and hard data to persuade me that it is cheaper to haul coal from Montana and Wyoming," he said.

Freeman agrees with Carter's suggestion that the TVA could become a model laboratory for demonstrating solutions to the national energy problem. For example, he favors redesigning the electricity rate systems to "bring social equity into pricing." To implement such policy changes, Freeman will have to convince one of the other two board members to vote with him.

Freeman is a former director of the Ford Foundation Energy Policy Project and a co-author of *A Time to Choose*, a highly respected text on the potential for energy conservation. He also has worked for TVA as an engineer and an attorney.

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12-High Country News — Aug. 12, 1977

Critics of Wyoming plan say:

Proposed herbicide program may backfire on state

by Heather McGregor

Drawings by Hannah Hinchman

The Jim Bridger Council of Scouts hopes planting seedlings along the Big Sandy River in Wyoming will improve wildlife habitat. But an herbicide program aimed at weed control could possibly wipe out their efforts and eliminate what little food and shelter there is for wildlife now.

The Weed and Pest Division of the Wyoming Department of Agriculture is proposing the program along the river in southwestern Wyoming to control giant whitetop (*Lepidium latifolium*) and Canadian thistle (*Cirsium arvense*). The herbicide program is being proposed for several drainages across Wyoming. By spraying, the agriculture department hopes to increase the availability of grasses for livestock grazing on both public and private lands.

Weed and Pest's preliminary plans are to use 2, 4-D, Tordon 22K, and Tordon beads for five years in early spring and late summer. These herbicides are used by farmers and ranchers throughout the West for weed control, according to George Hittel, Weed and Pest director.

The poisons attack broadleaved plants much like a hormone. They stimulate growth at an intense rate until the plant "grows itself to death." While Weed and Pest hopes to rid the area of the noxious weed growth, many of the seedlings planted by the scout troops will have the same fatal reaction, according to Dick

The poisons stimulate growth until the plant "grows itself to death."

Randall, north-central representative of the Defenders of Wildlife.

Similar programs in Wyoming yielded unfavorable results. Noel Rosetta cited several instances in *Montana Outdoors*, February 1977. "In the Bighorn Basin, 2, 4-D was sprayed on halogeton, an annual poisonous plant. It killed both the halogeton and salt sage, forage for sheep. Halogeton came in more thickly than ever the following year, after the salt sage competition was eliminated."

Erosion will result, according to critics of the program, unless an intensive reseeding effort goes hand-in-hand with the spraying. The state does not plan on reseeding, according to their five-year plan.

About half of the proposed spraying will be on lands managed by the Bureau of Land Management (BLM). The federal government has allotted \$13,000 for the spraying program, but some BLM officials have reservations about the agriculture department's approach to the spraying. Since no final decision has yet been made, the BLM opinions still carry weight.

"We not only want to control the weed problem; we want to achieve something that will last. We don't want to see our resources wasted by denuding the area," says Jerry Ostrom, BLM assistant district manager.

LIVESTOCK CAN CAUSE EROSION

The Boy and Girl Scouts are tackling the existing erosion problem by planting seedlings and constructing cross-fences to keep livestock from trampling the loose soil. These cross-fences run up the banks, perpendicular to the river, and discourage livestock from grazing only along the river bank.

Randall agrees that the area could be-

come denuded after the spraying project. "In these drought conditions, it is unreasonable to expect grass coverage to return to the area to prevent erosion. With cattle and sheep grazing the area, they will quickly eat all the tender grass shoots, while eroding the river bottom with the continual tracking of their hooves," he says.

BLM guidelines suggest that grazing "be stopped when spraying begins, and further livestock use deferred until after seed-ripe time of the second growing season." But agriculture department officials have decided to ignore the suggestion, saying in



their Environmental Assessment Review that it is "only a guideline."

Larry Mitich, weed specialist at North Dakota State University, says grazing is possible after herbicide spraying, since since the poisons are non-toxic to livestock and to wildlife if properly used. Problems evolve when animals drink herbicide-contaminated water because the herbicides do not break down in water. Mitich also warns that dairy cows should be kept

off treated areas for a week since traces of the herbicide have shown up in the milk of cows that have consumed treated grasses.

Jim Magagna, area rancher, says the weed problem does exist, but that it should be taken care of in moderation. "The livestock won't eat the weeds, so maybe the benefits would be worth the costs, even if grazing had to be deferred for a little while on part of a rancher's land." Many ranchers are not aware of the proposed program, and few farmers away from the river have these weed problems.

Magagna says the only other plant threatened by the poisons are the willows growing along the banks. "I don't want to see those go," he says.

EFFECTS ON WILDLIFE

According to Randall, area wildlife, unlike cattle, feed on broad-leaved plants, so he expects their forage would be severely reduced after herbicide treatment. Mostly antelope would be affected by this. If the trees in the area were killed, then nesting and shelter areas for gamebirds and songbirds would also be limited.

Tordon 22K is extremely toxic to cutthroat and other trout species at a concentration of 250 parts per million (ppm), according to the Wyoming Department of Agriculture. The report notes, "Tordon 22K will be applied at the rate of approximately 350 times less than the maximum safe limit," which is 100 ppm. It didn't mention the application rate for 2, 4-D, however, which the report says is more toxic than Tordon 22K.

The Phenoxy herbicides, which include Tordon and 2, 4-D, are most poisonous when applied to plant leaves, but the poisons eventually leach into the soil. According to a report by the Council on Agricultural Science and Technology, microorganisms in the soil cause decomposition of the chemical in one to four weeks.

If a rain falls following treatment, the poisons may be washed off into gullies and

streams. The poisons are held suspended in the water, since chemical and solar decomposition act more slowly in water than in soil.

BLM's management framework plan suggests that there be no "chemical treatment within 300 meters of a live stream." Hittel says this not a mandatory requirement. He says, "We'll spray as far as the high water line, but not any closer to the water. Only trained persons applying the poisons by hand will be working in these areas."

Hittel also listed the precautions the workers will take with both hand-held and truck sprayers. Wind gauges to determine wind velocity will be used with a downwind drift chart. Hand-held spraying will take place only when the wind is blowing less than seven miles per hour (mph), truck



spraying only when the wind velocity is less than five mph.

Daily weather checks will be made if rainfall is likely, and water samples will be taken each day to monitor the poison concentrations in the stream. Hittel said the toxic concentrations could occur only if the poisons were spilled. He added that there have been no plans to remedy such an accident except allowing the river to dilute the poisons. The daily water samples will be sent to the state agriculture office and the U.S. Geological Survey in Denver for testing.

Hittel says the herbicide program along the Big Sandy and various tributaries was initiated after an aerial survey of the area in 1975. At that time the agriculture department decided that spot treatment of nearly 250,000 acres would be necessary. The staff targeted 1,405 acres, about half private and half BLM lands, with 85 acres of state lands included.

While government funding is available for public lands, area ranchers are aided by county funds for spraying on private lands.

The final EAR is expected by the end of 1977, Hittel says. Spraying could begin next spring. The agriculture department plans no public hearings on the issue.

Randall views the spraying with grim apprehension. He believes the weeds are the best ground cover for the area now, and supports the scout troops' work towards repair. "They are promoting growth by planting, and attacking erosion by building up delta areas and preparing them for vegetation. The spraying is totally unnecessary. The area can be improved for livestock and wildlife by increased livestock management and replanting, and the scouts are doing some of that right now."



photo by Dick Randall, Defenders of Wildlife

JIM BRIDGER BOY SCOUTS are constructing a cross-fence along the Big Sandy River in Wyoming to interrupt livestock grazing along the river bottom. Areas between the fences were planted with trees and willows to stabilize eroding banks and provide habitat and forage for wildlife.



Western Roundup

HCN

Group would give public land to state

The federal government is blocking the development of the Western states, a group of miners and prospectors say.

The group has proposed that a coalition of public land users in the Western states be formed to seek repeal of the Organic Act of 1976. Ultimately the group hopes to put public lands under state supervision. The Organic Act is the Bureau of Land Management's mandate from Congress to

retain public lands and manage them for the public good.

N.E. Wilson, a leader of the coalition movement, hopes to spark an all-out effort to do away with the Bureau of Land Management and other federal agencies. He says these agencies have perpetrated stringent environmental regulations that are adversely affecting all Americans.

Irrigation shrinks Idaho power output

The hydroelectric power generating system on the Snake River in Idaho is being destroyed by desert land developers, says former state Sen. John Peavey of Rupert, Idaho. Allowing irrigators to take more water from the river is akin to eliminating existing dams, Peavey says.

"We are paying for dams we are not being allowed to use fully, and being asked to pay for much more expensive coal plants

to replace the lost power output," he said in an article in *The Idaho Citizen*.

Peavey, Boise attorney Matt Mullaney, and 30 farmers, ranchers and residential consumers say that the Public Utilities Commission should reduce Idaho Power's rate base whenever it allows additional pumping of water from the river. The rate base is used to calculate electrical rates.

Energy development impacts wildlife

Rapid growth is taking its toll on wildlife, according to an article in the August issue of *Wyoming Wildlife*, a Wyoming Game and Fish Department publication.

"Thrill-seekers" who kill big game and leave the carcasses to rot and vehicle-animal collisions are both results of the influx in population, Chuck Repsis, enforcement specialist for the department says.

"The sight of a bloated, bullet-riddled carcass is almost commonplace anymore, and the incidence of these 'thrill killings' is highest around our impacted areas," he says. He cites one case that he investigated where two does and five fawns were shot, and then "the perpetrators drove a four

wheel drive pickup over the carcasses... crushing bodies, heads, and breaking legs." Three suspects were finally prosecuted, all of them nonresident construction workers employed for a short time.

Trying to explain such incidents, Repsis says the violators are frequently people who have few ties to bind them to Wyoming and no commitment to protect and preserve the wildlife resource. While the department's budget is limited, more enforcement specialists are being hired in Gillette, Douglas, Rawlins, and Wheatland — all energy boom areas. Another enforcement specialist is being assigned to Jackson, where the impact is caused by tourists rather than energy development.

Wyoming water rights hearing date set

The U.S. Government has not thrown in the towel in its battle with the state of Wyoming to get an Indian water rights case into the federal courts instead of the state courts. The state began legal action against the tribes of the Wind River Reservation last January. The federal government responded that the case should be considered in federal court, but a U.S. District Court judge ruled in favor of Wyoming in June, saying that a state court could rule over the Indian water rights.

The case could not be appealed to a higher court, but now the U.S. government is going to try the same argument before a state court judge in the Washakie County District Court in September, according to Jack Palma, assistant attorney general for Wyoming. He says the outcome of the hearing in September will determine the next step for the parties to the suit.

The federal government has consistently

argued that Indian water rights are not subject to state law and therefore cannot be quantified in state court. The state of Wyoming filed the case against all the water users in the Bighorn River Basin, including the Indians, saying the state court was the proper forum.

Concern over the case is growing as the state sends more letters notifying individuals that their water rights are being studied in the proceedings. Palma says that about half of the 20,000 people involved have been served with legal papers. He says that most of those who have responded by letter or by phone call have seemed to understand the general intent of the suit but have been confused about what they should do. Some are worried about getting new water permits while the suit is pending. Palma says all applications will be processed as usual.



THREATENED OR ENDANGERED? The U.S. Fish and Wildlife Service is reviewing the status of the river otter to see if it should be listed as a threatened or endangered species. The study is being conducted at the request of a conservation group called the Fund for Animals. The river otter (*Lutra canadensis*) originally occurred throughout the United States and Canada. Today, because of habitat loss and excessive hunting and trapping its population has dwindled. Anyone having information that may help the agency determine the status of the river otter should write to Director (OES), U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240. All comments received by Nov. 25 will be considered.

New bill would protect Oregon Trail

Between 1845 and 1847 thousands of people started over what has become known as one of the greatest overland migration routes in history: The Oregon Trail.

A bill recently introduced in Congress, backed by the U.S. Department of Interior, would designate the Oregon Trail as a National Historic Trail and part of the National Trails System. The trail passes

through Missouri, Kansas, Nebraska, Wyoming, Idaho, Oregon, and Washington.

The Oregon National Historic Trail Act would commemorate the entire 2,000 mile length of the trail and give federal agencies authority to protect and preserve those parts of the trail that are on public lands.

Utah governor supports preservation

In a state in which officials have traditionally been opposed to wilderness designation, Utah Gov. Scott Matheson (D) has spoken out in favor of preservation of two Utah areas.

Last week he told his Executive Policy Committee that he supports wilderness designation for the Lone Peak area near Salt Lake City. Lone Peak is among the areas included in the Endangered American Wilderness bill before Congress. Matheson also supports the withdrawal of the Deep Creek Mountains in western Juab County from mining.

Earlier, Matheson had objected to the

Bureau of Land Management's use of its emergency withdrawal powers in the Deep Creeks, because the federal agency did not consult with state authorities. After a tour of the area, however, Matheson agreed that the withdrawal was justified. The withdrawal will prevent all new mining in the area for three years while it is studied.

Matheson said that he was surprised to learn the Deep Creek Mountains have one peak over 12,000 feet covered with aspen, pines, and meadows. "I thought everything to the west was strictly desert," he said in a *Deseret News* story.

Public range land still going downhill

The quality of public range land in the U.S. is continuing to deteriorate, according to a July 5 General Accounting Office report. The report says the problem is "principally poorly managed livestock grazing."

The GAO, Congress's investigating arm, says that the Bureau of Land Management (BLM) has received little support for its range management operations. In fiscal years 1976 through 1978, BLM asked for funds to support 360 new range managers. The Interior Department cut that request to 148 positions and later the Office of Management and Budget reduced it to zero.

The report also says that field managers

have been afraid to stop destructive continuous grazing for fear of harming the livestock industry financially.

According to *Public Lands News*, the report gives a detailed legislative and judicial history of the grazing controversy and offers a number of recommendations. It is available for \$1 from: U.S. General Accounting Office, Distribution Section, P.O. Box 1020, Washington, D.C. 20013. Ask for report CED-77-88.

A BLM report in 1974 publicized the need for improvement of the public range. At that time the agency rated about 80% of the range in fair to bad condition and only 20% in good to excellent condition.

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In The Old Railway Yard

14-High Country News — Aug. 12, 1977

DISTAFF CORNER

THE GREAT "WOLF ROUNDUP"

by Myra Connell

A never-ceasing war has been fought between sheepmen and coyotes ever since the time long ago when a coyote first tasted mutton. One battle of this war was in August 1917.

The sheepmen organized their campaign with military precision. The coyotes, of course, were unaware that the battle was

about to take place.

Prominent ranchers and businessmen were chosen as captains of 17 companies of 40 men each. The organizers then advertised for 600 volunteer riders, who were induced to sign up by promises of big returns from stock in a moving picture that was to be made of the action.

A circle about 125 miles around was mapped in the southeastern part of the huge county, its center a place called Buck

Camp, headquarters for a large sheep outfit.

To make the affair more enticing, the leaders called it a "wolf roundup" although wolves were extinct in that area. The real object was to exterminate coyotes.

Riders were stationed at designated points on the circle, and at dawn of a cer-

The effort got off to a brave start soon after daylight on the appointed day, but some unexpected things happened. Most of the men tried seriously to follow instructions not to break the line. Others, inexperienced and out for adventure, could not resist giving chase when a coyote was flushed from his lair. The precisely laid plan was thrown into chaos. The animals outsmarted the men, dodged between riders, hid out in gulches, brush, or elsewhere in the rough terrain.

More than 600 coyotes ran ahead of the men at one time, the stories say. As the size of the circle decreased, the riders closed in saddle-to-saddle, but most of the frantic animals escaped.

Reports vary as to the number of coyotes corralled. Some old timers who took part say three; others declare only one!

Other drives were planned, shorter and with more experienced riders, but as far as I know, none ever took place. There were those who claimed trapping and poisoning were more effective. Both methods have been tried, of course, in the intervening 60 years.

In the January 1977 Audubon magazine, Bill Gilbert summarizes the results in an article called "Uncle Sam Says Scram". "For . . . fifty years wildlife managers . . . have tried to control coyote populations. In some places at some times coyotes have become less numerous . . . but because of this pressure . . . have increased their range . . . and produced a super-coyote . . . able to resist wildlife managers."

So far as I know one method has never been tried — keeping hands off the coyotes' natural food — rabbits, prairie dogs and the like — while it recovers from effects of hunting, poisoning, and overgrazing.

The "Great Wolf Roundup" produced no wolves, living or dead.

The best-laid schemes o'mice and men gang aft a-gley," and so it was with the grandly conceived scheme to rid the range of coyotes.



To dramatize the coyote chase and attract more hunters, they called it the "Great Wolf Hunt." Photo by Tom Baugh.

tain day, all rode simultaneously toward Buck Camp, driving all the wildlife that they scared up before them. They aimed to force coyotes, antelope, wild horses, or any other startled creatures into a 10-acre corral at the central point. There the "guilty" predators were to be slaughtered for the entertainment of several thousand spectators. The organizers expected to capture thousands of coyotes plus numerous other animals.

Classifieds

"CANYON COUNTRY HIKING AND NATURAL HISTORY." Barnes, 176 pages, illustrated, \$3.95ppd. Hiking trails and routes in southeastern Utah. F. A. Barnes, Box 963, Moab, Utah 84532.

LOBBYIST POSITION OPEN. Applicants are now being sought for the position of lobbyist for the Colorado Open Space Council. Persons with experience in legislative politics, organizing volunteers and citizen groups, fund raising and writing are particularly encouraged to apply. \$600 per month. Persons who wish to apply should send their resumes to COSC, 1325 Delaware Street, Denver, CO 80204, by July 15, 1977. For further information, call COSC at 573-9241, or Mary Taylor at 442-5662.

JOB OPENINGS: The Environmental Information Center (EIC) has an opening for a person to coordinate work on the migrant recently received from the Department of Health, Education and Welfare. The grant is entitled: "Developing Effective Citizen Participation in the Environmental Review Process of MEPA and NEPA."

With assistance from other EIC staff, the migrant coordinator will be responsible for designing and conducting citizen participation workshops in at least two Montana communities. He or she will also help produce a booklet on the topic for distribution across Montana.

The project begins on September 1, 1977.

and runs to March 31, 1978.

Experience in any of the following areas is helpful: community organizing; both the Montana and the National Environmental Policy Acts; public speaking; Montana resource issues; and writing.

It is also extremely helpful for the applicant to have access to an automobile. Salary is \$600 per month; health insurance provided.

Interested persons should send a resume to Robert Kiesling, Staff Coordinator, Environmental Information Center, Box 12, Helena, MT 59601.

EIC has more job openings, one for an energy conservation specialist and the other for a subdivision information specialist. For more information contact the center at the address given above.

EIC is an equal opportunity employer.

THE COLORADO CONSERVATION FUND, a newly established non-profit organization, seeks a full-time executive director to be responsible for the development and implementation of fund raising programs for a wide variety of environmental concerns. Applicants must demonstrate a degree of experience in the development and implementation of such programs, a high degree of initiative, judgment and imagination, skill and interpersonal relations, and commitment to environmental activities. Salary: \$12,000 to \$15,000. Submit application letter, resume, and references to: Colorado Conservation Fund, 2239 East Colfax, Denver, CO 80206.

Facility & Licensing Project Professionals

The California State Energy Resources Conservation and Development Commission has immediate openings for experienced professionals to manage and conduct analysis regarding the thermal power plant licensing activities of the Commission. Opportunities exist at all professional levels. Annual salaries range from \$15,528 to \$32,844, depending on experience and qualifications.

A limited number of top level positions are available for individuals who have demonstrated project management experience and are knowledgeable of thermal power plant location; design; operation; socioeconomic, public health and safety and environmental impacts; and federal/state regulatory environment.

Positions are available for highly qualified technical experts who have supervised or participated in project teams, possess appropriate academic backgrounds and possess experience in some of the following areas concerning thermal electric power generating facilities and transmission lines:

- Planning the location of facilities.
- Studying the public health, safety, socio-economic, environmental or other impacts of facilities.
- Designing, constructing or operating facilities.
- System planning or reliability studies.
- Facility inspection, monitoring or quality assurance.

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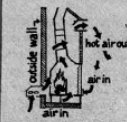
Please send your resumes to: **Chris Green, California State Energy Commission, 1111 Howe Avenue, Room 517, PSP II, Sacramento, CA 95825.**

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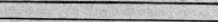
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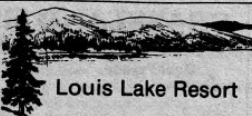
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STATE OF WYOMING PUBLIC NOTICE

PURPOSE OF THIS PUBLIC NOTICE IS TO STATE THE STATE OF WYOMING'S INTENTION TO ISSUE WASTEWATER DISCHARGE PERMITS UNDER THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 (FWPCA), P.L. 92-500 AND THE WYOMING ENVIRONMENTAL QUALITY ACT 05-602 et. seq., WYOMING STATUTES 1957, CUMULATIVE SUPPLEMENT 1973).

IT IS THE STATE OF WYOMING'S INTENTION TO ISSUE WASTEWATER DISCHARGE PERMITS TO (1) ONE INDUSTRIAL DISCHARGER, (2) ONE FEEDLOT DISCHARGER AND (18) EIGHTEEN OIL TREATER DISCHARGERS TO RENEW (1) ONE COMMERCIAL, (2) TWO MUNICIPAL AND (1) ONE OIL TREATER DISCHARGE PERMITS AND TO MODIFY (1) ONE OIL TREATER DISCHARGE PERMIT WITHIN THE STATE OF WYOMING.

APPLICANT INFORMATION

(1) APPLICANT NAME: CITY OF CHEYENNE
MAILING ADDRESS: CITY SHOP
CITY-COUNTY BUILDING
190 & CAREY AVENUE
CHEYENNE, WYOMING 82001
WY-0027219

Street cleaning equipment serving the City of Cheyenne is periodically washed at the City Shop located on 16th Street just north of Crow Creek. The wash water is discharged to a storm sewer which in turn discharges to Crow Creek (unclassified stream).

Proposed permit requires the City to provide best practicable treatment for the discharge on or before January 1, 1979. In addition, the City is required to monitor the quality of the discharge on a monthly basis and is required to report the results of the monitoring on a quarterly basis. Within ninety days of permit issuance the City must provide a schedule of compliance indicating when and how the permit requirements will be met.

(2) APPLICANT NAME: C.A. LEWIS TRUST
MAILING ADDRESS: WHISTLE CREEK LAMING PENS
P.O. BOX 36
COWLEY, WYOMING 82420
FACILITY LOCATION: SOUTHWEST OF BYRON, WYOMING,
ON STATE HWY 32
APPLICATION NUMBER: WY-0026961

The C.A. Lewis Trust operates a facility known as the Whistle Creek Lambing Pens, located on the banks of Whistle Creek, southwest of Byron, Wyoming, on State Highway 32. The facility periodically holds up to 4,000 sheep and covers an area of approximately 10 surface acres.

The proposed permit will require that all uncontrolled runoff (except that resulting from a precipitation event exceeding the 25 year - 24 hour maximum) be completely contained by October 1, 1978. In addition, the proposed permit requires elimination of all water gaps and pens built out into the creek, and implementation of a dead animal removal program by October 1, 1978.

(3) APPLICANT NAME: ATLANTIC RICHFIELD COMPANY
MAILING ADDRESS: 1600 LINCOLN STREET, SUITE 801
DENVER, COLORADO 80203
FACILITY LOCATION: FORD CHEYENNE WELL 1 NE, NW, SE,
SECTION 31, T8N, R6W, NODABA COUNTY, WYOMING
APPLICATION NUMBER: WY-0027294

(10) APPLICANT NAME: UNION OIL COMPANY
MAILING ADDRESS: P.O. BOX 79
WORLD, WYOMING 82401
FACILITY LOCATION: JAYSON UNIT WELL NO. 1-2
SW, SECTION 31, T4N, R7W,
CAMPBELL COUNTY, WYOMING
WY-0027130

(4) APPLICANT NAME: BANTA & HAIGH
MAILING ADDRESS: 100 MCCLAY-ADAMS COMPANY
100 NORTH DUBBIN, ROOM 103
CASPER, WYOMING 82401
FACILITY LOCATION: 8200-NORTH FORK STATE NO. 1,
SW, NW, SECTION 6, T54N, R7W,
CAMPBELL COUNTY, WYOMING
APPLICATION NUMBER: WY-0027275

(11) APPLICANT NAME: JAYSON UNIT WELL NO. 1-4
SW, SECTION 31, T4N, R7W,
CAMPBELL COUNTY, WYOMING
APPLICATION NUMBER: WY-0027138

(5) APPLICANT NAME: DIAMOND SHAMROCK COMPANY
MAILING ADDRESS: 5730 WEST YELLOWSTONE
CASPER, WYOMING 82401
FACILITY LOCATION: MARTIN SPRING FEDERAL NO. 13-21
SW, SECTION 21, T36N, R14W,
CONVERSE COUNTY, WYOMING
APPLICATION NUMBER: WY-0027281

(12) APPLICANT NAME: JAYSON UNIT WELL NO. 3-1
SEN, SECTION 25, T4N, R7W,
CAMPBELL COUNTY, WYOMING
APPLICATION NUMBER: WY-0027146

(6) APPLICANT NAME: EXETER EXPLORATION COMPANY
MAILING ADDRESS: 1600 LINCOLN STREET
DENVER, COLORADO 80204
FACILITY LOCATION: DENVER, COLORADO 4-5 SW,
SECTION 4, T36N, R14W,
NATRONA COUNTY, WYOMING
APPLICATION NUMBER: WY-0027111

(13) APPLICANT NAME: JAYSON UNIT WELL NO. 4-6
NW, SECTION 28, T4N, R7W,
CAMPBELL COUNTY, WYOMING
APPLICATION NUMBER: WY-0027142

(7) APPLICANT NAME: EXXON CORPORATION
MAILING ADDRESS: 2000 CLASSEN CENTER-EAST
OKLAHOMA CITY, OKLAHOMA 73106
FACILITY LOCATION: FRENCHIE DRAW UNIT NO. 3,
NE, SECTION 21, T37N, R8W,
NATRONA COUNTY, WYOMING
APPLICATION NUMBER: WY-0027227

(14) APPLICANT NAME: JAYSON UNIT WELL NO. 4-9
NW, SECTION 27, T4N, R7W,
CAMPBELL COUNTY, WYOMING
APPLICATION NUMBER: WY-0027149

(8) APPLICANT NAME: FRENCHIE DRAW UNIT NO. 7
NE, SECTION 15, T37N, R8W,
NATRONA COUNTY, WYOMING
APPLICATION NUMBER: WY-0027253

(15) APPLICANT NAME: GERALD VAN NORMAN
P.O. BOX 48
THERMOPOLIS, WYOMING 82443
FACILITY LOCATION: KIRBY CREEK OIL FIELD GUN BARREL,
SW, SECTION 21, T4N, R8W,
HOT SPRINGS COUNTY, WYOMING
WY-0027308

(9) APPLICANT NAME: FRENCHIE DRAW UNIT NO. 16
NE, SECTION 25, T37N, R8W,
NATRONA COUNTY, WYOMING
APPLICATION NUMBER: WY-0027243

(16) APPLICANT NAME: GARY OPERATING COMPANY
FOUR HUNDRED COURT EAST
ENGLEWOOD, COLORADO 80110
FACILITY LOCATION: SOUTH BAGGS FIELD NO. 3-12 GOVERN
CLARK LEASE, SW, SECTION 4, T2N,
R3W, CARBON COUNTY, WYOMING
WY-0024548

(10) APPLICANT NAME: MARATHON OIL COMPANY
MAILING ADDRESS: P.O. BOX 120
CASPER, WYOMING 82401
FACILITY LOCATION: OREGON BASIN FIELD, SIDNEY BATTERY,
LOCATION NW, SECTION 4, T3N,
R10W - DISCHARGE POINT LOCATION -
SW, SECTION 32, T32N, R10W,
PARK COUNTY, WYOMING
APPLICATION NUMBER: WY-0027197

(17) APPLICANT NAME: E.C. YEGEN
c/o D.M. MADSEN
MINERALS MANAGEMENT
2900 RIDGECREST
CASPER, WYOMING 82401
FACILITY LOCATION: TRUE HILL ROTATED BATTERY
SW, NE, SECTION 17, T41N, R7W,
JOHNSON COUNTY, WYOMING
WY-0027279

(11) APPLICANT NAME: SIMASKO PRODUCTION COMPANY
MAILING ADDRESS: 401 DENVER CENTER BUILDING
1776 LINCOLN STREET
DENVER, COLORADO 80203
FACILITY LOCATION: LEASE W-2664, TANK BATTERY 48 &
49, NE, SE, SECTION 36, T32N, R4W,
NODABA COUNTY, WYOMING
APPLICATION NUMBER: WY-0027296

Facilities are typical oil production units in which the produced water is separated from the petroleum product through the use of heater treaters and skim ponds. All discharges are to Class III waters of the State, with the exception of the Banta & Haigh discharge which is to an unnamed tributary of the Little Powder River (Class I warm water stream).

All facilities must meet Wyoming's Produced Water Criteria effective immediately upon discharge with the exception of the Arco, Exxon Gary, Simasko, and E.C. Yegen facilities. Letters of beneficial use have been received concerning all of these facilities, therefore, the limitations on the chemical parameters have been waived with the exception of oil and grease (10 mg-1) and pH (6.5-8.5). Semi-annual self-monitoring is

required for all parameters, however, with the exception of oil and grease, which is required quarterly. The expiration dates of the permits correspond to the expiration dates of other oil treater facilities in the same area.

(14) PERMIT NAME: JACKSON SKI CORPORATION
MAILING ADDRESS: JACKSON HOLE SKI CORPORATION
TETON VILLAGE, WYOMING 83025
WY-0020087
PERMIT NUMBER:

Wastewater treatment facilities at Teton Village consist of an activated sludge package plant followed by chlorination facilities and a polishing pond. The discharge is to Fish Creek (Class I stream) which is a tributary of the Snake River.

Proposed permit requires compliance with National Secondary Treatment Standards effective immediately. In addition, the maximum allowable concentration of total residual chlorine is set at .05 mg-1, based upon an estimated seven consecutive day - ten year low flow in Fish Creek of 2.75 MGD, maximum waste flow of .175 MGD and a maximum allowable instream level of total residual chlorine of .002 mg-1. The proposed limitation on fecal coliform bacteria of 16,000-100 mls is based upon the above flow volumes and an in-stream water quality standard of 1,000 fecal coliform-100mcs.

The self-monitoring requirements of the permit have been expanded to require more frequent monitoring (weekly vs. monthly), more frequent reporting of results (monthly vs. quarterly) and monitoring of ammonia and temperature, which were not required previously.

Due to the fact that the Teton County 208 planning agency may include specific recommendations concerning this facility in its final report a short-term (one year) permit is proposed.

(15) PERMIT NAME: TOWN OF BUFFALO, WYOMING
MAILING ADDRESS: P.O. BOX 430
BUFFALO, WYOMING 82404
WY-0021094
PERMIT NUMBER:

Existing wastewater treatment for the Town of Buffalo consists of a single cell lagoon. There are two outfall points from the lagoon; 001, which lies near the southeast corner of the lagoon, and 002, which lies near the northeast corner of the lagoon. Discharge from either point would be to an unnamed tributary of Clear Creek (Class I stream).

The town has received Federal planning monies to upgrade its existing facilities to meet National Secondary Treatment Standards. Unfortunately, due to a reduction in the Federal funding, the Town will not be able to meet the legal deadline of July 1, 1977 for meeting the national goal. Therefore, in addition to the permit the Town will be issued a letter informing the Town of its legal requirements but also indicating that as long as the promised Federal funding is not available the regulatory agencies will not proceed with formal enforcement action.

In addition to the National Secondary Treatment requirements, the permit contains limitations on fecal coliform bacteria and total residual chlorine which were calculated on the basis of the State's in-stream water quality standards, a maximum design flow of wastewater of 2.75 MGD and a seven consecutive day - ten year low flow in Clear Creek of 1.9 MGD. The permit also contains a requirement that the permittee analyze the quality of its effluent on a regular basis and it must submit the results of these analyses to the regulatory agencies on a quarterly basis.

Because the 208 water quality plan for Johnson, Sheridan and Campbell counties will soon be completed and because this plan may make specific recommendations for modification of the permit, a short-term (one year) permit is proposed.

(16) PERMIT NAME: TOWN OF JACKSON, WYOMING
MAILING ADDRESS: P.O. BOX 1807
JACKSON, WYOMING 83001
WY-0021454
PERMIT NUMBER:

The existing wastewater treatment facility serving the Town of Jackson, Wyoming, is an activated sludge plant which discharges to Flat Creek (Class I stream). Problems associated with the plant include extreme volume fluctuations due to tourist influx, sludge handling and high volumes of septic tank and vault toilet wastes discharged to the plant.

The Town has been notified that Federal grant funds to upgrade its existing wastewater treatment plant or to build an entirely new plant are available. However, due to the considerable amount of planning now taking place in Teton County it is still uncertain as to what form the improved treatment system will take.

The plans which must be coordinated include:
1. The "208" water quality management plan for Teton County.
2. The Teton County land use plan.
3. The Environmental Impact Statement on improved wastewater treatment for the Town of Jackson; and
4. The "Step I" facilities plan which is part of the construction grant.

Because of the difficulties in coordinating these plans it now appears certain that no construction can be completed within the next year, therefore, the proposed permit has a short term (one year) and contains interim effluent limitations which the existing plant, if operated correctly, can meet.

1. Modified language concerning the attainment of secondary treatment which is required to make the permit valid under Federal law.
2. Expanded self-monitoring requirements including a requirement for monitoring of ammonia;
3. A requirement that the permittee submit a plan for the handling of septic tank and vault wastes; and
4. Future limitations on fecal coliform bacteria and total residual chlorine based on the State's water quality standards, a maximum weekly average effluent flow of 1.32 MGD and a minimum flow in Flat Creek (from the Environmental Impact Statement) of 32.3 MGD.

STATE-EPA TENTATIVE DETERMINATIONS

Tentative determinations have been made by the State of Wyoming in cooperation with the EPA staff relative to effluent limitations and conditions to be imposed on the permits. These limitations and conditions will assure that State water quality standards and applicable provisions of the FWPCA will be protected.

PUBLIC COMMENTS

Public comments are invited any time prior to September 19, 1977. Comments may be directed to the Wyoming Department of Environmental Quality, Water Quality Division, Permit Section, Hathaway Building, Cheyenne, Wyoming 82002, or the U.S. Environmental Protection Agency, Region VIII, 1600 Lincoln Street, Denver, Colorado 80203. All comments received prior to September 19, 1977 will be considered in the formulation of final determinations to be imposed on the permits.

ADDITIONAL INFORMATION

Additional information may be obtained upon request by calling the State of Wyoming (307) 777-7781, or EPA, (303) 327-3874, or by writing to the aforementioned addresses.

The complete applications, draft permits, and related documents are available for review and reproduction at the aforementioned addresses.

Public Notice No. WY-77-01

30 Photographs

Donations to the High Country News Research Fund go a long way. A \$100 contribution could pay for 30-40 photographs or a week's worth of research. In this issue of HCN the articles on Indian irrigation in Arizona and the oil

shale revival were paid for with Research Fund monies.

Please make out checks to Wyoming Environmental Institute - HCN Research Fund, and send to: WEI, P.O. Box 2497, Jackson, Wyo. 83001. Thank you.



HCM Bulletin Board



LOONEY LIMERICKS by Zane E. Cology

There once was a tribe that was seekin'
Big sky with clear air that's not reekin'
It got EPA

To ban' air that's gray.
It's safe unless Colstrip can sneak in.

INDUSTRY GUIDE TO PUBLIC

For insights on the timber industry, try a book about industry strategies for dealing with the public: **Handle with Care: Citizens Involved! A Forest Industry Guide to Working with the Public.** The book is available from Jean Hage, Timber Press, P.O. Box 92, Forest Grove, Ore. 97116.

MEDIATOR NEEDED

Applications are due Oct. 15 for a job opening at the Office of Environmental Mediation at the University of Washington in Seattle. The office needs a person with a working knowledge of economic and environmental issues and an ability to get along with the various groups involved in environmental conflict. Contact Leah K. Patton, Office of Environmental Mediation, Institute for Environmental Studies, FM-12, University of Washington, Seattle, Wash. 98195.

IDAHO JOBS

The Idaho Conservation League is looking for a field organizer in northern Idaho and a community educator in southcentral Idaho. To apply, send a resume with references and writing samples to ICL, Box 844, Boise, Idaho 83701 (208)345-6933. Applications are due by Sept. 7.

MAKING YOURSELF HEARD

Effective public relations is a powerful tool. Dr. Peter Sandman of the University of Michigan offers a short course in PR for citizens groups, "Making Yourself Heard", in the May 7 issue of **Environmental Action**, 1346 Connecticut Ave., N.W. Washington, D.C., 20036. A year's subscription is \$15. The article was reprinted in the June-July issue of **The Workbook**, Southwest Research and Information Center, P.O. Box 4524, Albuquerque, N.M. 87106, \$1 per issue.

AUDUBON IN ALASKA

A National Audubon Society office in Alaska has just opened "to protect Alaska's scenic splendors, its breeding grounds for tremendous numbers of migratory birds, its grizzly and polar bears, and its once seemingly endless herds of caribou." The office, located in Juneau, will be headed by



ENDANGERED SPECIES puppets are part of the Tinker Truck's bag of tricks.

David R. Cline. Cline is a wildlife biologist who has worked for both the state of Alaska and the U.S. Fish and Wildlife Service.

ENERGY INFORMATION

A Regional Energy-Environment Information Center has been established in Denver, Colo., to serve Arizona, Colorado, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Utah, and Wyoming. The federally-funded center at the Denver Public Library is designed to be a clearinghouse for environmental and energy information. For more information about the center's specific services phone (303)837-5994. Collect calls will be accepted.

COMMUNITY WORKBOOK

When a development such as a subdivision or a hardrock mine is proposed for your area, do you know where to go for information? The Environmental Information Center in Helena, Mont., has published the

Community Workbook, designed to serve citizens in such situations. The workbook consists of a series of specific questions that apply either to hard rock mining or to subdivisions. No answers are provided -- just the name of the state or local agency that can provide the answers. The booklet is available from the Environmental Information Center, Box 12, Helena, Mont. 59601.

TINKER TRUCK

The Tinker Truck, loaded with three teachers, takes environmental art workshops to elementary school children in rural Nevada. The program is a pilot project of Foresta Institute for Ocean and Mountain Studies, 6205 Franktown Road, Carson City, Nev. 89701. The group is looking for funding for workshops in Nevada or other states. For more information write the Tinker Truck Project, State Rt. 1, Box 624, Carson City, Nev. 89701.

N. Cheyenne win clean air...

(continued from page 1)

standards, even with the best available pollution control technology. In fact, the first two Colstrip units, which total only 700 megawatts and have been operating at less than full capacity, have already caused measurable amounts of air pollution on the reservation. Since any further degradation would be prohibited under the redesignation, it would be very difficult for Units 3 and 4 to meet the standards, according to state officials.

A second result of the redesignation could be the impact on the neighboring Crow reservation. Former Crow tribal chairman Patrick Stands Over Bill had asked, and been granted, two 30-day extensions on EPA's decision, saying that the Cheyenne's redesignation could jeopardize future development on Crow tribal lands, which abut the Cheyenne reservation. The Crow tribe is considering a large amount of coal development and is rumored to be con-

sidering a coal gasification plant on its land. The latter project would be affected by the Cheyenne's Class I designation, which, in fact, might make it impossible.

EPA says that the redesignation will prohibit only certain kinds of development on and near the reservation. Butch Rachal, of EPA's Denver office, told the **Billings Gazette** the Class I standard would not affect small polluters like teepee burners for lumber mills, gravel crushers, or coal mines. Rachal said, "The regulation doesn't keep anything from being built. If a company gets a permit, it has to stay within the emissions we (EPA) set when the permit was granted."

Despite the uncertainties that remain, the tribe is pleased with the outcome. Northern Cheyenne Tribal Councilman Herman Bear Comes Out told the **Gazette**, "Now we stand a better chance to continue living on land where you can still see the sky and smell the sage and pine."

Oil shale hype and hope...

(continued from page 10)

mining. Even if they dispose of the shale underground, it may not reduce the salinity problem."

Another problem is air quality. In Rangely, Colo., near the "C-a" federal oil shale lease held by Rio Blanco and near the Anvil Points plant, air quality is already in violation of federal air standards. The companies say that the high levels of hydrocarbons in the air are the result of natural conditions, emissions from green plants growing in the area. A recent Environmental Protection Agency report says, however, that a nearby oil and gas field is giving off large amounts of hydrocarbons. Regardless of the source, Paraho says that air quality standards "must be modified or waived before development can occur."

Since all of the problems that faced oil shale development three years ago still remain, why does there seem to be a sudden

upsurge in interest? Johnson says that actually, "The interest this time around is nothing like it was in the past." And, the companies are faced with either paying up or losing their tracts, after making three substantial bonus payments and investing thousands in development.

But EDF's Krautkraemer says there may be another motive behind the companies' renewed interest. "The lessees are sucking in the public and the government. The more money they commit to it, the stronger a position they will be in to argue for economic incentives and looser environmental safeguards."

There are a lot of unanswered questions. But, if they go ahead and develop, bring a lot of money and a lot of people to the area, they can say, "What will happen to the economy of the area if this project folds?" They'll be able to bring tremendous pressure to bear on the government for help.

Dear Friends,

Occasionally, we forget how important some of the people here are to the production of **High Country News**. Days go by and we take for granted the contribution of some of our most valued staff members. Then, with the force of a blind-side tackle, some event puts things back in their proper perspective.

It happened this week, when Mary Margaret Davis, our office manager and typesetter, went on vacation two weeks before the rest of us. The paper, of course, had to go on. But alas, all was chaos. Without Mary Margaret to decipher our prose, we have fallen farther and farther behind.

Fortunately, we have a capable replacement -- Molly Novotny. Molly's time was limited, and our production system is a labyrinth but her patience and ability have gotten us through. Our gratitude for Molly's assistance and Mary Margaret's return will last, hopefully beyond the next issue.



On other important matters, this is the last issue of **High Country News** until September 9. The staff is going on vacation. So, gentle reader, you will have to wait an extra two weeks to learn what destruction and deterioration await the Western states. We

hope you have time to enjoy some of the high country this summer, too.
--the editors

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