

The Environmental Bi-Weekly

High Country News

Vol. 7 No. 6 35¢

Lander, Wyoming

Friday, March 14, 1975

Habitat destruction threatens wildlife

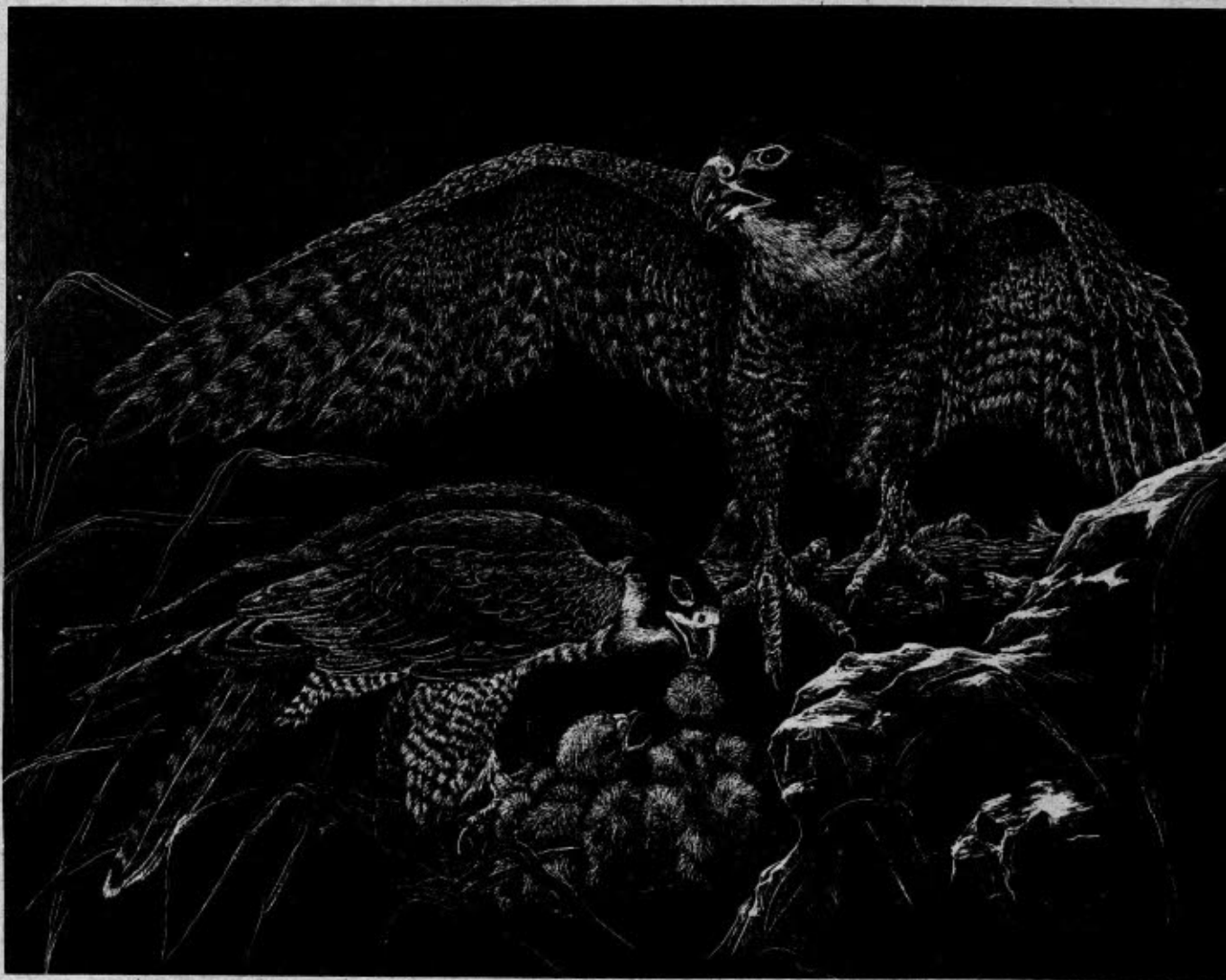
The theme of this year's National Wildlife Week is "We Care About Wildlife Habitat," and one of the animals that has had the greatest assaults on its habitat is the American peregrine falcon. The peregrine's habitat has been so diminished and polluted that this bird now balances precariously on the verge of extinction and is classified as rare and endangered.

Currently the peregrine is "wiped out" east of the Rocky Mountains in the United States, in Ontario, southern Quebec, and the Maritimes says the U.S. Fish and Wildlife Service. "Local declines have also been reported from the western United States, the Yukon Territory, and interior Alaska."

The number of known peregrine nests with adults present is currently estimated at no more than 50 in the United States south of Canada. A few hundred pairs of the Arctic subspecies still breed in northern Alaska and the moist subarctic forests of Canada and Greenland, according to the Fish and Wildlife Service.

The primary reason for the peregrine's decline is the toxic pesticide DDT. Falcon eggshell thickness has been reduced 15-20% since 1947. DDT and its derivative DDE has also increased adult mortality and affected the peregrine's reproductive mechanisms, according to the Fish and Wildlife Service. This DDT problem is the direct result of pollution of the peregrine's habitat — the build-up of toxic poisons in the falcon's food supply. DDT concentrates or "biologically magnifies" as one animal eats another. Since the peregrine is on the top of the food chain, it gets an extremely high dosage of the poison.

Habitat destruction and other human disturbances have also been factors in the bird's decline. The birds need isolated areas to breed, and much of the traditional nesting habitat has been encroached upon by civilization.



Natural habitat alteration has also contributed to the peregrine's decline. Morlan Nelson, a noted birds of prey authority, has been studying why the peregrine left many areas of the West even before the extensive use of DDT. Nelson believes that changes in the earth's climate have been a major factor.

Looking at the depth of the Great Salt Lake, Nelson says that over the years its level has dropped as much as 20 feet. The same climatic forces that lowered the lake have dried up land-locked lakes and potholes that serve as important habitat for the peregrine. The peregrine, also known as the duck hawk, feeds on waterfowl and is replaced by the prairie falcon and the golden eagle in drier areas.

But there is hope. Nelson says the earth is now experiencing a cooling trend, and water levels in the Great Salt Lake and surrounding bodies of water are rising. Nelson sees the possibility of the peregrine's return to rejuvenated lakes in the Intermountain West because of this change in climate.

Cornell University has been involved in a captive breeding program and plans to reintroduce the falcons into the wild. Since the ban on the use of DDT, the peregrine's habitat in the East has substantially improved, and Cornell researchers plan to reintroduce peregrines in New England, New York state,

and in the Chesapeake Bay area this spring.

A western breeding facility, similar to the one at Cornell in Ithaca, N.Y., has also been established under the direction of Cornell researchers in Colorado. This western breeding program is conducted in cooperation with the Colorado Division of Wildlife and the North American Peregrine Foundation of Durango, Colo. Young peregrines raised in Colorado will hopefully be returned to western wild lands in the near future if the eastern experiments are successful.

This scratchboard drawing of the peregrine falcon is done by Holly Merrifield of Thornton, Colo. She has donated this depiction to the Colorado Wildlife Federation which is selling prints of the original to further CWF conservation programs. The first signed print will be presented to Colorado Gov. Dick Lamm during Wildlife Week, March 16-22. Signed, 16 by 20 inch prints, set in a walnut-stained frame with non-glare glass may be purchased for \$45. Signed prints of the same size without the frame are \$25. Orders should be sent to Staff Secretary, Colorado Wildlife Federation, P.O. Box 347, Boulder, Colo. 80302. More of Merrifield's wildlife art can be seen in this issue's centerspread.



High Country News
Friday, Mar. 14, 1975

HIGH COUNTRY

By Jane Bell

"We Care About Wildlife Habitat" is the timely theme of National Wildlife Week, March 16-22, this year. The special week is part of the on-going program of the National Wildlife Federation and its state affiliates to call attention to a national heritage. It is a time to truly show we do care.

Times change but the problems of wildlife habitat change but little. Mostly it is a chronicle of man's selfish interests taking precedence over the natural resources that sustain him — spiritually, materially, and economically.

Conservationists have preached the finiteness of Spaceship Earth for years. Few would listen. It took an Arab oil embargo to reveal what was meant. Now, it is slowly sinking in, although there are many who still scoff and insist that we can and must go on as before.

But we cannot go on as before, and therein lies the hope for our fellow creatures. Wildlife may benefit substantially from growing energy and materials shortages. And more people are growing more aware of what this may mean in their lives. As former Oregon Gov. Tom McCall recently said in a column on red tape and the environment, there is "an awakening by the public to a fresh set of alternatives. This new alertness to the preciousness of what we have left is animating decisions everywhere."

Before me is a publication I have had for years. It is **Good Land Management Supports Wildlife**, published by the Washington State Game Department and the Washington Agricultural Experiment Stations in 1957. The first article in that publication is on "Proper Land Use Increases Wildlife." Nearly 20 years later there is animated discussion on land use planning. Such planning is generally not done specifically to benefit wildlife. But when it is done it will surely be of benefit to wildlife.

The full extent of the energy shortage is yet to be revealed to us. When it is, we will probably find some unexpected benefits to wildlife. As the availability of gasoline is limited through economics alone, there will be less intrusion into wildlife habitat by off-road or all-terrain vehicles. The expense of buying and owning such vehicles will also be a factor in their use.

The price and availability of gasoline is also going to dampen the rush to second-home developments and the year-round residence far from the madding crowd. Such developments are nearly always made at the expense of wildlife habitat. Good land use planning and the reality of economics will do much to preserve once-threatened wildlife habitat.

Since World War II American farming has been revolutionized by cheap energy and the by-products of cheap and seemingly inexhaustible petroleum resources. Farming to the fence line and the complete eradication of all weeds became the fetish of the efficient farmer. Through the use of completely mechanized equipment and powerful weed killers, farmers eliminated untold amounts of prime wildlife habitat. And chemical fertilizers seemed to end the need for green manures.

The reversion of the American farming system to more traditional methods will undoubtedly bring a return of brushy hedgerows, flourishing weed patches on marginal lands, and other practices that will benefit wildlife. Already the pendulum is beginning to swing away from complete dependence on chemical pesticides to the more natural biological controls. The beneficial insects and birds may once again have their place in a well balanced landscape.

As man continues to foul his own environment he needs to ponder the words from the poster on National Wildlife Week: "Every living thing on earth needs good habitat. If we are to have wild animals roaming free, they have to have wild places to live and raise young. Everybody who cares about wildlife must care about wildlife habitat."



"NO, THEY USED UP THE WATER. THIS TIME IT'S TO BE BY SEWAGE."

Letters

THE NEED FOR GOOD PRESS

Dear HCN:

It was good to see the word of praise in your paper for Dale Burk (Jan. 3, 1975). I know him as a friend and Bitter Root Valley neighbor as well as one who is a constant advocate of environmentally sound land practices, resource use, and defender of the Good Earth at all times.

The task of getting any conservation movement off the ground without good press is like trying to push a boxcar over a mountain single-handed; it can't be done! Dale has been ever with us in Montana Wilderness Association wilderness preservation projects, subdivision conflicts, and forest management hassles. Your words of recognition of Dale's work were timely and very much appreciated.

Sincerely,
Doris Milner, President
Montana Wilderness Association
Hamilton, Mont.

WANTS BAD NEWS TOO

Dear High Country News,

It's a great paper and I wouldn't want to miss an issue of it. I haven't found a better way to keep informed on what's happening to our state. The good

news makes me feel great but I want to know the bad too.

At last the western states seem to be getting together to help solve the hideous fate the so-called energy crisis is inflicting upon us.

Keep up your good work and thank you all each day for all the hours you spend and the efforts put into High Country News.

Gail O'Haver
Sundance, Wyo.

REFORMING ASS

Dear HCN:

I make no claim to being the author of the following poem since I believe it has been around for a number of years. I am sure the readers of HCN will agree it is appropriate in this era.

I thank my God the sun and moon
Are both stuck up so high.
That no presumptuous hand can stretch
And pluck them from the sky.
If they were not, I do believe
That some reforming ass
Would recommend to take them down
And light the world with gas!

Respectfully submitted,
Howard A. Nelson
Omaha, Neb.



Editorial



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Friday, Mar. 14, 1975

Thoreau didn't say

In land planning is the preservation of the world

Last week I felt a new urgency about preserving remaining wilderness. I think it marked a disenchantment with my role in the environmental movement.

I saw myself fighting for minimum stream flow legislation. Trying to see how little water we can leave in a stream and still have some fish life.

I said utility siting legislation is a top priority. We want to find the "best place" to put a 3,000 megawatt coal-fired power plant in the southeastern Utah canyonlands.

And for the past year strip mining control legislation was a must. We sought the least destructive (and cheapest) way to tear open the land and return it to some semblance of order.

Henry David Thoreau said, "In wildness is the preservation of the world." He didn't say, "In land use planning is the preservation of the world" — he had no faith in man's ability to manipulate nature and come up with anything resembling organic wholeness.

I think I tend to favor wilderness over putting faith in man's ability to plan the world because nature is such an impartial arbitrator. In contrast man manipulates nature to favor some aspects — say to grow unblemished corn — and to extirpate others — say insect pests. More often than not, man acts without total wisdom of the consequences of his favoritism, and the plan backfires on him.

Nature brings change to the environment, too — through floods, fire, drought, animal population eruptions — but the action can't backfire.

Since Thoreau's time, man's ability to plan ahead has brought us rivers that catch fire, smoggy cities, DDT, nuclear poisons — and less wilderness.

We keep coming up with "a better way" to run the same misguided activities — the "clean" auto engine that uses more gasoline than the "dirty" model, the "planned" mountain resort where condominium owners drive 600 miles to stay three days.

We search for a way out of our predicament by trying the same old tricks with a new twist. Each new step seems to lead only further down the path of linear expansion. We search for new frontiers with new resource bases rather than husbanding renewable resources in a search for a steady state society.

Charles C. Bradley of Bozeman, Mont., wrote Gallatin National Forest Supervisor Lewis Hawkes on this very point. He asked, "Is all development a one-way trail toward ultimate degradation of land? Can, or will, our civilization ever have the wisdom and self-restraint to stop the forward rush to develop every nook and cranny? Do we have the strength to pull back from any area of commercial expansion and deliberately invite or re-establish wilderness in a formerly trammled area?"

"If the answer to that question ever turned out to be 'yes' I could go to my grave happy in the thought that America had learned something terribly important about the earth and people and the continuity of life. A 'yes' answer would also tell the militant environmentalists that they could afford to relax a little and take a broader view of the human scene, instead of having to assume the narrow role of Implacable Enemy of All So-Called Development."

"Under these conditions I might actually vote for abandoning some remaining wilderness opportunities in favor of an effort to resurrect other and more important representative areas. Right now I

don't dare, because the development process looks irreversible, often mindless — a seeming mad rush to wring the last fast buck out of the earth before the next generation gets here."

Today the search for a steady state society represents the ultimate challenge. It comes back to Thoreau's basic idea: "Simplify, simplify."

For instance, we know solar power will work to heat and cool our homes. It's working now. So why are we trying to develop a way to wring petroleum out of oil shale rocks in part of our few remaining wild lands?

Perhaps we've lost all sight of reason. We don't know when to be content. "Simplify, simplify," says Thoreau, but it grates against our urge to try out new, untested forms of high technology.

Siting acts, mining controls, subdivision regulations — all they seem to do is buy society a little more time. But if the course is set and our appetites for "the good life" remain as insatiable as ever, why bother to buy time?

"One of the penalties of an ecological education," wrote Aldo Leopold in *The Round River*, "is that one lives alone in a world of wounds. Much of the damage inflicted on land is quite invisible to laymen. An ecologist must either harden his shell and make believe that the consequences of science are none of his business, or he must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise."

Are we caught in a maelstrom? Shall we give up on man and his meddling and pour our efforts into preserving the few remaining wild areas? Better to ask, could we be sure that wilderness areas remained inviolate if we gave up totally on man?

Today I feel we cannot forsake man in favor of the wilderness no matter how tired we become or how attractive the alternative is. Laws do not protect wilderness, people do. And until man gains a new respect for the land, we can only expect to see our wilderness lands diminish.

Also in Bradley's letter to Hawkes is this line: "I would rather know of the existence of a wild lake than own a cabin on its shore." In this simple phrase may lie salvation of man and preservation of wilderness. We need to look to nature to help us redefine what we truly value. Without a real sense of belonging, a sense of organic wholeness between man and the earth, we stand to lose everything. Natural systems are steady state systems. We must model our society in their likeness.

by Bruce Hamilton

PIONEER ★ JUPITER



RUSTLE UP SUBSCRIBERS

Dear HCN,

May I use your letters-to-editor column to talk to my fellow subscribers? Also to "Friends of High Country News"?

Listen! We can't let Joan, Bruce, Marjane, Marge H., Tom, Tommie, August and Mary Margaret down. We can't let HCN down!

The financial report on page 16 of the Feb. 28 issue is a foreboding of trouble for HCN if we fail it and its people now. These people are expending themselves to the limit, and I feel that we, the "stockholders" and supporters must all pitch in and help, now.

HCN nearly went under once before, and we saved the day. We have a vested interest in the paper and in the decent way of life that it is fighting for. We can do it again!

Suppose each one of us rustles up one new subscriber during the next month, JUST ONE, consider what that would do to the subscription list. I suggest that each of us try to do that or else give a gift of a subscription to a thoughtful person who might read and see the light.

I appreciate HCN because it doesn't entertain with beautiful colored nature pictures as many environmental magazines do, but gives us the plain

unvarnished hard-to-swallow facts, straight from the shoulder.

Tom Bell has done and continues to do his part; the others are doing their parts. Now let's you and I, do ours.

Very sincerely,
Myra Connell
Lander, Wyo.

HIGH COUNTRY NEWS

Published biweekly at 140 N. Seventh St., Lander, Wyo. 82520. Telephone 307 332-4877. Second class postage paid at Lander.

Publisher	Thomas A. Bell
Managing Editor	Joan Nice
News Editor	Bruce Hamilton
Associate Editor	Marjane Ambler
Office Manager	Mary Margaret Davis
Advertising Manager	August Dailer
Circulation Manager	Georgia Nations

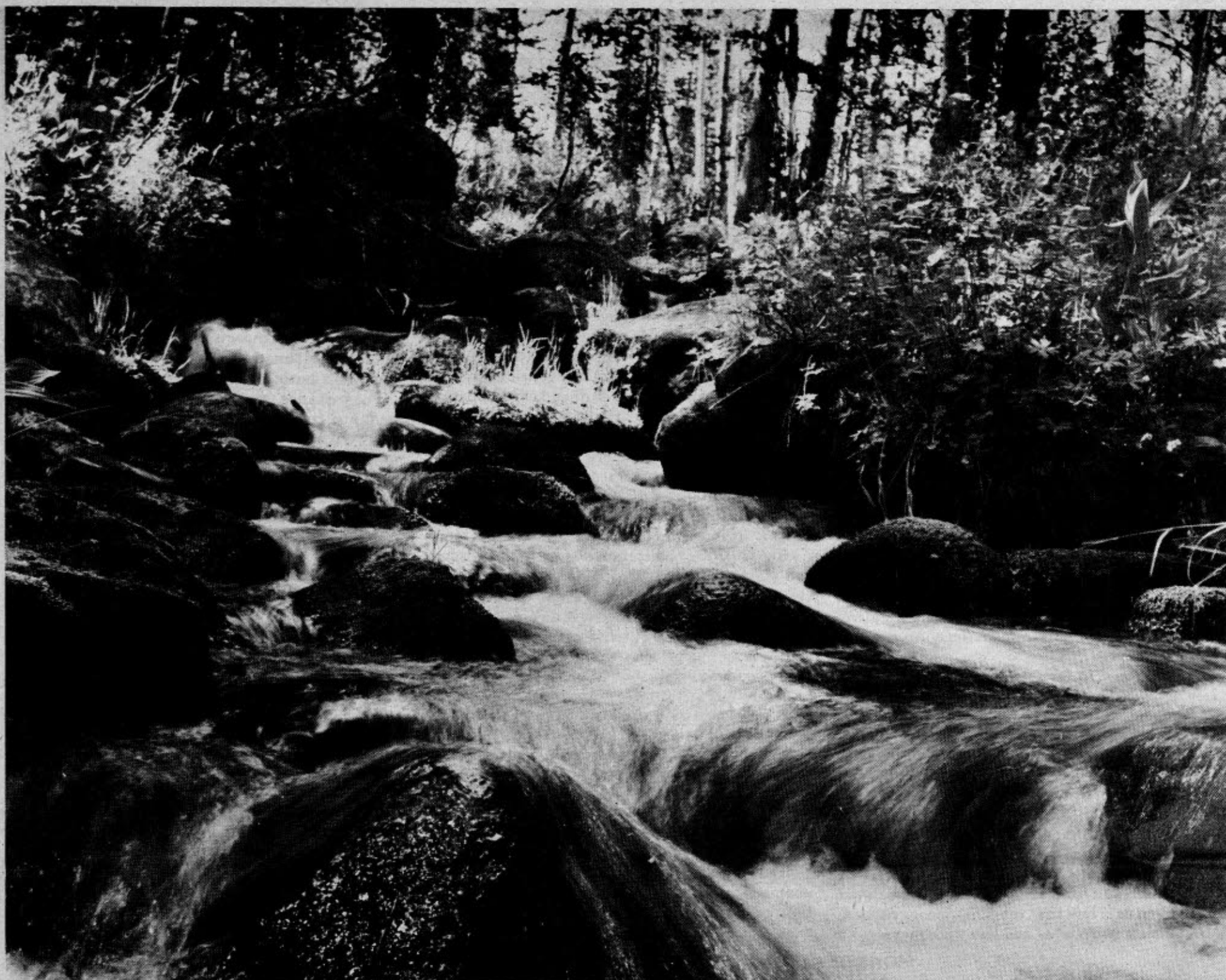
Subscription rate \$10.00

Single copy rate 35¢

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Geologically speaking, the main job of a river is hauling dirt.

Photo by Ken Genz

Flow reservations — water under the bridge?

by Ken Bovee

When a proposed development is opposed by a group of environmentalists, the complaint that their arguments are emotional and non-objective is invariably raised. If you want to see the developer get emotional and non-objective, however, just raise the subject of flow reservations.

A flow reservation refers to water which must be left in the river. The thought of all that water just running off someplace downstream raises plenty of hackles.

Many people, especially ranchers who depend on river water for irrigation, confuse flow reservations with stream preservation. Stream preservation usually limits or excludes some or all types of development on certain sections of a river. A flow reservation is essentially a water right, filed by the state, for a recommended amount of water, adjusted to seasonal requirements. As a water right, the flow

reservation will not affect the use of water by ranchers with prior rights.

A flow reservation cannot override or circumvent the water rights of the rancher (provided he has prior rights), even if the stream is over-appropriated. However, these reservations may compete with future industrial water demands. Thus, the water will be "used" one way or another. It will either remain in the river or it will circulate through a wet cooling tower somewhere.

Is water left in its channel considered a beneficial use of that water? Legally, it is if the state legislature says it is. But what of the practical, nuts and bolts, benefits of maintaining minimum streamflows?

RIVER FLOWS & WATER QUALITY

The most economically important reason for maintenance of required streamflows is for water quality. Let's say, for example, that a river basin contains 1,000 people and that the river has a summer low flow of 500 cubic feet per second (cfs). Now suppose we add a big coal gasification and electrical generation complex that attracts 10,000 people to the basin and drops the summer low flow to 50 cfs. All of a sudden we go from no mandatory water pollution control to a required 99.999% coliform

bacteria removal (based on Washington Department of Ecology level 1 model for water quality). And the river will probably still suffer some degradation of water quality. A great deal of the added tax base from the facility will go for a tertiary sewage treatment plant for the additional waste load.

In essence, the cheapest solution to pollution is still dilution. A number of things combine in the above scenario to cause the predicted results. The most obvious is that the ratio of organic waste to water has increased enormously. As water is removed from the system, so is oxygen. And the ability of a river to oxidize organic waste depends on the total amount of oxygen available.

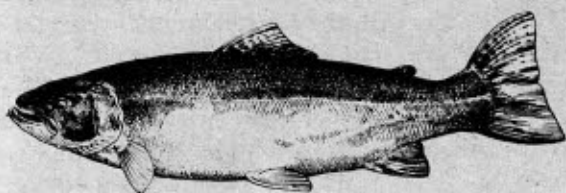
In addition, where a stream is dewatered, the water velocity decreases and summer water temperatures increase. This lowers the rate at which oxygen is added to the water, and also the amount of oxygen which the water can contain in solution. To make matters worse, the rate at which the organic waste is decomposed is not completely dependent on oxygen concentration; it is also a function of the concentration of waste and the temperature of the water. Thus, when a stream has more waste than it can handle, any remaining oxygen is quickly removed from the water. When the system becomes

Ken Bovee has recently earned a Master's degree in limnology from the University of Montana. For his thesis work, he studied the effects of water diversions on fish and other river resources. He is now continuing that research on the Tongue River near Miles City, Mont. The project is the cooperative effort of the university and the state Fish and Game Department.

oxygen depleted, the river may become a genuine nuisance.

For one thing, an oxygen-depleted stream may smell bad. Some bacteria are anaerobic. They take the oxygen they require not from air, but from chemical compounds in the water. One of these compounds is sulfate. When oxygen is removed from the sulfates in the water, hydrogen sulfide comes up from the water. Not only is hydrogen sulfide a

In essence, the cheapest solution to pollution is still dilution.



poisonous gas, but it also stinks. While the chances of being poisoned by the gas are probably remote, the smell alone is enough to cause concern.

A further consequence of oxygen depletion is the disruption of the phosphorous cycle. When oxygen is plentiful in water, most of the phosphorous is present in the form of ferric phosphate. This compound is quite insoluble in water. When oxygen is depleted, the ferric (Iron III) phosphate is reduced to ferrous (Iron II) phosphate, which is water soluble. This in turn acts as a fertilizer, promoting the rapid growth of algae and aquatic plants. At this stage, the river is well on its way to becoming a long, narrow swamp.

WATER RIGHTS ASSURES QUANTITY, NOT QUALITY

While the amount of water available for irrigation is assured by the landowner's water rights, its quality is not. Of major concern to the irrigator is the concentration of dissolved solids in the water. As a stream is dewatered, the water temperature increases through several processes.

First, there is less water to heat, so that a given amount of incoming solar energy results in higher temperatures. Secondly, the velocity of the water decreases, so that a block of water originating in the cool mountains takes longer (and therefore spends more days in the sun) to reach its mouth. A third cause of increased temperatures is that decreased streamflows will draw the stream away from its banks and the shade provided by trees along the bank. (Reduced streamflow may even result in the death of the trees).

As the water becomes hotter, it evaporates faster. This increased rate of evaporation tends to concentrate the salts dissolved in the water. Thus, the water used for irrigation will become saltier. This is crucial in areas where many streams already have quite high salinities.

HAULING DIRT

Irrigation, fisheries resources, sewage hauling, and industrial or municipal uses of water are subordinate uses of a river. Geologically speaking, the main job of a river is hauling dirt. Each river system is delicately balanced to provide at any instant, just the discharge required to carry away the sediment provided by the drainage basin.

When something upsets this equilibrium, the river adjusts its sediment carrying capacity to absorb or resist the change. For example, when a new dam is built on a river, the sediment is held back behind the reservoir. Water released below the dam is nearly sediment-free, and gains potential energy from its lightened load. As soon as the river resumes its flow below the dam, it begins cutting down into its channel to pick up the amount of sediment lost at

the dam. This problem is so commonplace that most large dams have energy dissipating structures built in to keep the river from under-cutting the dam.

When there is more sediment entering the stream than it can handle, the sediment simply settles out. This process is termed aggradation, and can be caused by an unusually large sediment source (such as a clear cut, landslide, or a strip mine), or by maintaining the same sediment yield but reducing the discharge of the river. Under natural conditions, run-off is synchronized, so that the receiving stream is at high flow at about the same time that the tributaries are.

Now suppose that during the spring run-off, the tributaries are running bank-full, but that the main stem of the river is dewatered down to half of bank-full. The main stem will not have the power and velocity to carry off the sediment supplied by the tributaries. In this manner, the main stem will begin to fill with sediment, and the elevation of the stream channel will be raised.

RIP-RAP WON'T DO

A downcutting, or degradational stream, is probably a greater problem for dams than for anything else. However, an aggradational stream is a headache for everyone. For one reason, an aggrading stream is likely to change its channel; it will become much wider in relation to its depth and the meander pattern may change or break up into divided channels.

Even a dewatered river still has the capacity to flood or at least run a good stream during periods of high precipitation. With the elevation of the streambed raised, the definition of a 10 year or 100 year floodplain becomes a real guessing game.

Bridges may have so much sediment deposited beneath them that they must be raised to allow for periods of higher flow. Or even worse, the stream may change its course and miss the bridge entirely. This is not only embarrassing to the engineer, but it is costly, and all the rip-rap in the world can't help keep the river in its channel. Ranchers who pump irrigation water out of the river may find their pumps silted in or their diversion basins filled with sediment. The only solution to the problem is dredging — or maintaining enough streamflow to accommodate the sediment load.

WHAT ABOUT THE FISH?

While the fisheries of the Northern Great Plains region are not particularly important on an economic basis, they are important as barometers. If the habitat can be maintained so that there is little change in species composition, diversity, and productivity, then it is probable that expensive problems will be avoided.

In addition, there are several rare species of fish inhabiting the rivers of the Northern Plains. Most notable of these are the paddlefish (*Polyodon spathula*), the pallid sturgeon (*Scaphirhynchus albus*), and the shovelnose sturgeon (*S. platorhynchus*). The range of these species has been reduced drastically in this country, primarily due to habitat destruction and/or water pollution. The two sturgeon species have been especially affected by the construction of dams on the Missouri River system.

Flow reservations were first established in the Pacific Coast states for the protection of the economically important fish. The application of such reservations to rivers containing sauger, smallmouth bass, and channel catfish might seem unwarranted, compared to a stream with steelhead and salmon. However, the benefits extend far beyond the fishery itself. In addition, the less valuable warm-water

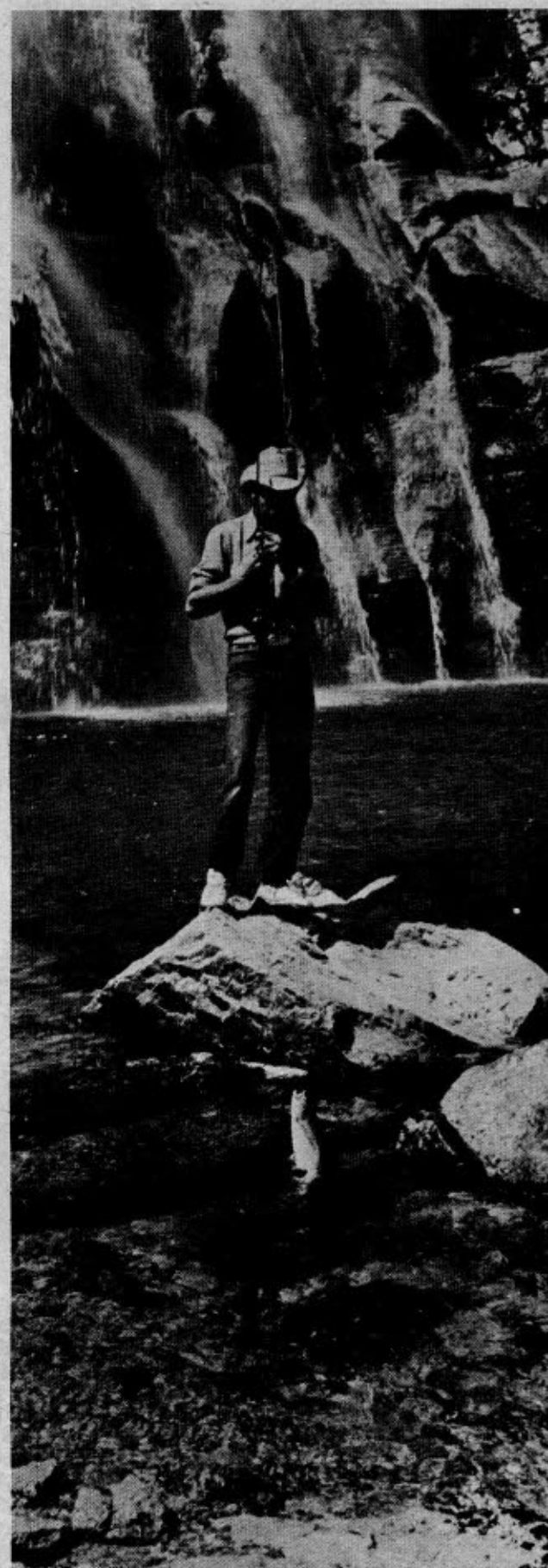
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fish may be more sensitive to changes in the flow regime than the salmon and steelhead.

There are a good number more species involved in a warm-water fishery. Competition is more intense, food webs are more complex, and the top carnivores eat fish rather than insects, making food chains longer.

When a stream is dewatered, the following changes occur: water velocity decreases, depth over riffles decreases at a higher rate than pool depths, sediment deposition over a given area increases and sediment size decreases, summer water temperatures increase, while dissolved oxygen concentrations decrease. Overall, that means less food for the

(Continued on page 6)



ANGLER HOOKS A TROUT near Needle Falls, Mont. Trout are an indicator of stream quality. Montana Department of Highways photo

A flow reservation cannot override or circumvent the water rights of the rancher, even if the stream is over-appropriated. However, these reservations may compete with future industrial demands.

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Friday, Mar. 14, 1975

Piute Trout beats all odds

by Tom Baugh

For centuries a rare and little known fish has been involved, unknowingly, in a struggle for the very survival of the species. The struggle has been a quiet one, taking place in the silvery streams and beautiful alpine meadows of a remote portion of the Toiyabe National Forest, in California and Nevada.

Long ago, land slippage or possibly earthquakes isolated the Piute Trout by creating natural barriers such as water falls which eliminated natural fish migrations.

In 1912 a sheep herder, remembered only by his last name of Jaunsaras, played an important part in the drama of the Piute Trout. Jaunsaras trapped and transplanted some of these trout from lower Silver King Creek to the area above Llewellyn Falls.

DOOMED IN DRY POOLS

In 1924 the lack of rain and the light runoff from snow began to effect the streams of the lower portion of the Silver Creek drainage. John Jaunsaras, brother of the man who made the initial transplants, came across large numbers of Piute Trout trapped in the rapidly evaporating pools of Mill Creek. To save the fish, John and a companion carried the trapped trout in five gallon cans upstream to an area in Upper Fish Creek. Carrying the cans in one hand and agitating the water with the other hand, these two men eventually transported 75 cans of their precious cargo to the silvery streams in the green meadows above Llewellyn Falls.

The story of scientific interest in the Piute Trout begins sometime in the year of 1930. In that year J. O. Snyder proved that the Piute Trout was a separate and distinct species. The interest stirred by Snyder's work led to several efforts to transplant the fish from the small, remnant Piute population to streams without a resident fish population.

A transplant effort in 1937 to Leland Lakes in Eldorado County was a failure. The fisheries manager realized that they needed more information

concerning the environmental needs of the Piute before attempting further transplants. Research continued and a mass transplant took place in 1946. Four hundred Piute Trout were relocated in the North Fork of Cottonwood Creek in a remote area of the White Mountains of Mono County, Calif. Wildlife managers held their collective breath and were rewarded with success.

The story of the management of the Piute Trout is an almost constant cycle of failure and success. Tragedy struck the population of this endangered species in 1949 when 5,000 Rainbow Trout fingerlings were inadvertently planted in the creeks above Llewellyn Falls.

Initially it appeared that the Piute and Rainbow Trout were not interbreeding. Later studies showed that interbreeding was occurring, however. A hybrid offspring was rapidly populating the stream, replacing the Piute. In 1964 to destroy the hybrids, portions of Silver King Creek as far downstream as Llewellyn Falls were treated with a vegetable poison called rotenone.

When the treated portions of Silver King Creek were cleared of the poison, it was restocked with a pure strain of Piute Trout which survive there today.

ANGLERS' DREAM

From the research which has been gathered, it appears that the Piute Trout is an angler's dream. It is easily caught.

The first indications that the species was suffering from heavy fishing pressure began to come to light in the late 1950s. Fishery biologist Eric R. Gerstung reported that "the Piute Trout appears to lack the wariness of other trout in its ability to avoid the angler's hook. Sections of stream opened to angling contained an end-of-season trout population of only one-sixth that of an adjacent unfished portion of stream."

To add to the Piute's troubles, part of the fishery was on public lands and part on privately owned land. This dual land ownership pattern made it difficult to structure and carry out a comprehensive

management fishery program. During the early part of 1971 the Toiyabe National Forest was able to exchange land with the private owner, gaining 640 acres of prime Piute Trout habitat in Upper Fish Creek Valley.

NO FISHING

The Toiyabe National Forest, working in close cooperation with the California Department of Fish and Game, is presently involved in an intensive management program to insure the perpetuation of this species. Angling is no longer permitted above Llewellyn Falls.

Research continues in an attempt to locate additional streams and lakes which are compatible with the needs of the endangered and protected Piute Trout. As waters with the particular quality necessary for the Piute Trout are located, transplants will take place. If these transplants are successful, the range and the ability of this species to survive localized disaster will improve.

A couple of sheep herders started the management efforts. A wandering scientist recognized the uniqueness of the Piute. And today some very dedicated people are working to insure that this species doesn't join that long list of other animals which have perished from the face of the earth.



Water . . .

(continued from page 5)

forage fishes. This results in fewer forage fish, causing in turn fewer fish-eating species such as small-mouth bass, sauger, and northern pike. These conditions favor the production of coarse, bottom-feeding fish, especially carp, buffalo, and river carp-suckers. Because of their large size and deep-bodied shape, these species are probably not suitable as forage for fish-eating species.

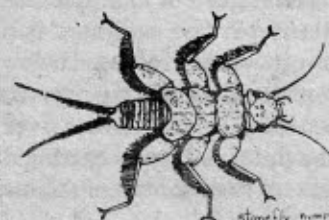
While the methods and focus of flow reservations are based mainly on protection of the fisheries resources, the benefits extend far beyond the fishery itself. If the fishery can be protected, it is likely that water quality and sediment problems will be minimized.

AN EXPENSIVE COMPROMISE

Unfortunately, the solution to maintaining a minimum streamflow and supplying water for industrial development at the same time is the construction of storage facilities. At any rate, this is the solution proposed by the Bureau of Reclamation. It should be recognized that this is a very expensive solution, and not entirely satisfactory. Dams and reservoirs will intensify the problem of increased salinity for irrigation water, alter the temperature regime of the river, and cost millions of tax dollars. Yet while dams are likely to be constructed anyway, to supply water for industrial purposes, there is no guarantee that any of the stored water will be set aside as reserved streamflow.

Several alternatives to this solution are available but have not been seriously considered. One is the export of the coal to load centers where excess water is available. This is a completely reasonable alternative, competitive economically and environmentally preferable (see the draft EIS for Colstrip, Mont., Units 3 & 4).

The best alternative would probably be a different form of energy, such as solar or fusion. However, with the coal lease program of the federal government essentially giving away millions of tons of coal to the coal and utility companies, this alternative will probably not be taken seriously until the profits have been made.



THE PIUTE TROUT. A creature with a tumultuous history of struggles for survival. Sheep herders, biologists, and government agencies have all played a part in the evolutionary drama.

Photo by Ken Genz



Photo of young golden eagle by Don Domenick, courtesy of the Colorado Division of Wildlife.

Aerial wolf hunting plan disputed

Plans for a state-sponsored wolf kill have resulted in a court suit and a flood of letters to Alaska Governor Jay Hammond. Gov. Hammond as a state legislator was instrumental in curbing the use of poison and bounties to eliminate wolves preying on moose, caribou, and other game animals. However, he took part in aerial hunts when he worked as a predator control officer for the U.S. Fish and Wildlife Service in the 1950s.

Now he refuses to interfere with the Alaska Fish and Game Department's predator control program because "you're either going to have professional management or you're going to have political . . . I'll opt for professional management anytime."

The controversy centers on a popular hunting area near Fairbanks where the moose herd has declined dramatically. Friends of the Earth Alaska Representative Jim Kowalsky says this is a result of "gross misjudgments" on the part of the fish and game department in allowing moose hunting.

Friends of the Earth and several other organizations and individuals have announced plans to take the case "as far as it has to go" to stop the hunt. Kowalsky charges that the department proposed to kill the wolves to allow the moose population to rise so they can be hunted heavily again.

State Game Biologist Bob Hinman said the herd can no longer sustain both wolf predation and human hunting. He added that hunting would be

reduced or stopped, apparently in addition to the wolf kill. Hunting by air is the most humane means of killing, Hinman said.

Kowalsky said the department has no idea how many wolves are there but propose to kill over 50%.

Audubon names birds headed for trouble

The National Audubon Society's Blue List, its "early warning" indicator of bird species apparently headed for trouble, is growing longer.

Newcomers to the list this year include the canvasback duck, a prized game bird on which the hunting season is now completely closed, and the purple martin, an insect-eater which can sometimes be persuaded to move into multi-unit bird houses.

In all there are 51 species on the 1975 Blue List,



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EAGLES AND POWER LINES. Power lines provide a significant extension of habitat for golden eagles, according to birds of prey specialist Morlan Nelson. When Idaho Power Company flew their lines between Twin Falls, Idaho, and Hells Canyon, Oregon they counted 92 eagles perched on the lines and found 32 nests on poles and towers. At least 17 of the nests were identified as eagle eyries. "This is a significant extension of the habitat for birds of prey as they are located in areas having no natural nesting sites," says Nelson.

On the other hand, power lines also pose a significant hazard for eagles. In 1973 National Audubon Society members working in the field reported over 300 eagle electrocutions in the United States. About 98% of the victims were young birds just learning to fly, estimates Nelson. He says the problem occurs "almost exclusively on single-pole, cross-arm type construction where the conductors are near-horizontal and have insufficient spacing. . . . To correct this, a practical solution appeared to be one of placing phase wires and the ground wire at different elevations which would prevent simultaneous contact between any two wires." Since eagles are very selective in their choice of power line perches, Nelson thinks that making the lines safe is not an insurmountable job. He estimates that 95% of the electrocutions on Idaho Power Co.'s lines could be prevented by correcting two per cent of the poles.

Bob Turner, regional representative for the Audubon Society in the Rockies, says, "In the past three years the cooperation of the electrical utility industry and the federal and state agencies has been outstanding. We do continue to find new 'hot spots' and occasionally it's necessary to do a little 'arm-twisting,' but by and large the problem is being resolved." If you find an electrocuted bird, Turner asks you to contact Erwin Boeker with the U.S. Fish and Wildlife Service in Denver at (303) 234-2126, so the situation can be corrected.



five more than last year. There were nine new species added but four others were dropped. The Blue List, published in Audubon's ornithological journal, *American Birds*, is intended "to give early warning of potentially dangerous, apparently non-cyclical population declines," and does not include the 49 U.S. birds already on the Endangered Species List maintained by the Department of Interior.

By the time a bird reaches "endangered" status it may be so close to extinction it may be difficult or even impossible to save it. The idea of the early warning list is to help spot trouble earlier so there will be a better chance of doing something about it.

Besides the canvasback and purple martin, the additions to this year's Blue List are: reddish egret, mountain quail, upland plover, common night-hawk, Lewis' woodpecker, hairy woodpecker and lesser goldfinch. Included in '74 but deleted this year were the limpkin, Franklin's gull, gray vireo and common yellowthroat.

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Holly Merrifield's wildlife



bald eagle

grizzly bear



bald eagle



bald eagle

Holly Merrifield of Thornton, Colo. has been creating wildlife art exclusively for the last 10 years. "Each animal becomes alive to me," she says. "Even in the preliminary sketches they take on a certain personality all their own."

Although she has received many awards for her work in the graphics and traditional oils categories most recently she has turned to the scratchboard medium shown here.

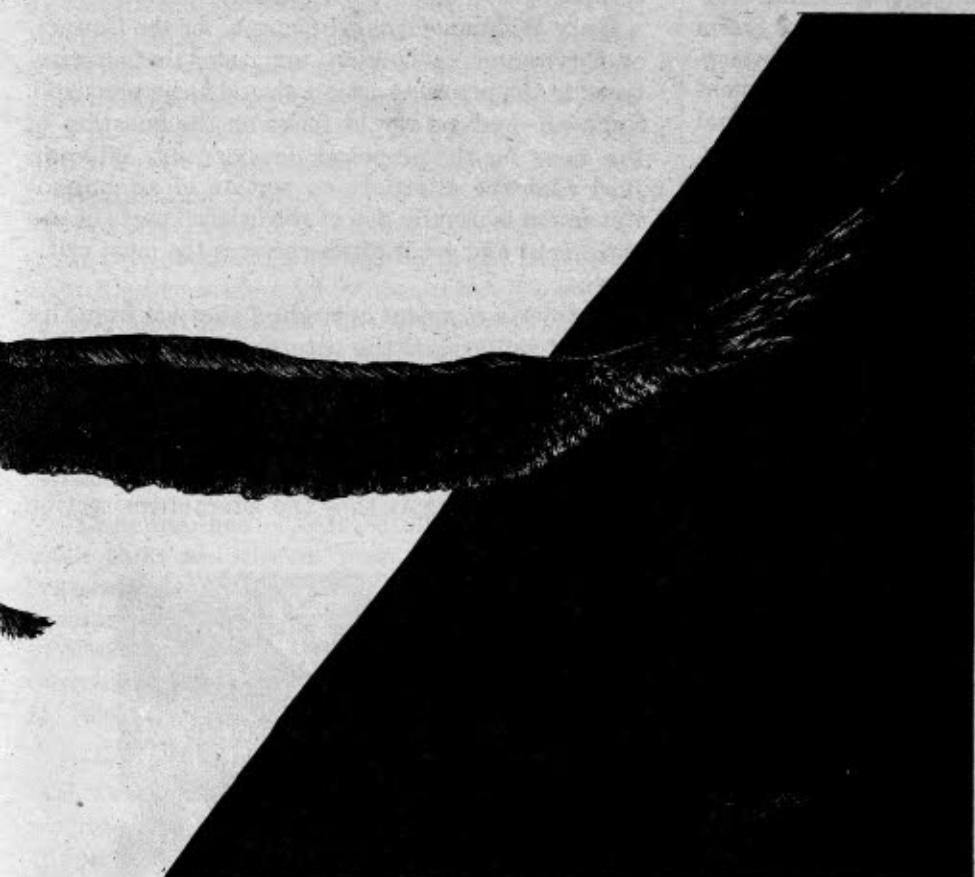
"Scratchboard is a special material which is made in England," Merrifield explains. "It has a clay base and then is covered with six layers of Indian ink. The drawing is then created by scratching into the clay through the ink surface, allowing for no mistake to be made. Scratchboard allows this delicate line to bring out the texture of fur and feathers in great detail, thus bringing the animal or bird to life in the drawing."

Merrifield's African wildlife art is displayed at Tarzan's Place stores at Stapleton Airport in Denver and in Boulder, Colo. Her North American animal works are on display at the Port of Fine Arts in Heritage Square, Golden, Colo. She invites visitors to her studio at 1420 E. 91st Ave., Thornton, Colo.

Through her interest in wildlife art, she has become active in helping preserve wildlife by serving on the board of the Colorado Wildlife Federation. "I very much wish to help in the preservation of the animals and nature, so that they don't merely become a memory on canvas," she says.



life art



osprey



brown trout

Rocky Mountain bighorn sheep



Holly Merrifield

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Denver energy conference Impact statements disappointing

by Bruce Hamilton

When you bring environmentalists and representatives of government and industry together to talk about the environmental impact statement process you can be sure of one thing — no one is going to agree. At the Regional Energy Environmental Impact Statement Seminar held in Denver on March 6 and 7 no new directions emerged. There was only frustration expressed by everyone involved in the impact statement process.

Citizens are tired of reviewing lengthy impact statements, agency people are tired of writing them, and lawyers are tired of taking them to court. But no one seemed ready to give up on the process. So one and a half days were spent hammering out a course of action to help direct future conflict.

Jack Collins, the First Assistant U.S. Attorney in Portland, Ore. told the conference that we are asking too much of our administrators when we ask them to compare energy supply alternatives in an impact statement. When we ask our administrators to rank energy resources, we are asking them to set our national energy policy. That's a task for the Congress, Collins said.

Collins said that when a power distributor is required to analyze why it should or shouldn't deliver power to a particular project, the power distributor could become the ultimate land use planner.

V. Crane Wright, a director of the Colorado Open Space Council and the National Audubon Society, spoke of her disappointment with the agencies that write impact statements and with the Council on Environmental Quality, which is supposed to oversee and direct the impact statement process. She said that, through trial and error, most bureaucrats can now put together a voluminous, suit-proof impact statement but that the spirit of the National Environmental Policy Act (the law that requires impact statements) is not being followed. Wright said that NEPA calls on the federal government to protect the environment and minimize man's disruptive influence. She felt that preparing impact statements has opened up the decision-making process to the public view, but it hasn't altered the

"... through trial and error, most bureaucrats can now put together a voluminous, suit-proof impact statement, but the spirit of NEPA is not being followed."

development-at-any-cost orientation of most agencies. Wright was particularly critical of the close working relationship between the regulated private industry and the regulatory agency, claiming that in some cases the industry practically wrote the impact statements for the government.

John S. Gilmore of the Denver Research Institute told the conference that most writers of impact statements have still not mastered the basic principles of social science, if the social impact sections are any indication. He said the writers haven't learned how to look at existing energy boom towns like Rock Springs, Wyo. and draw conclusions about what to expect from other developments.

Gilmore said the Canadians are a lot further along in social impact analysis. The Canadians are looking at the socio-economic impact of dismantling and abandoning a proposed gas pipeline through the MacKenzie River Valley as well as the impact of building and operating it, he reported.

At the legal session, Frank B. Friedman, an attorney for Atlantic Richfield Co., spoke on the requirement for "programmatic" impact statements.

He cited the case where the Atomic Energy Commission was required to prepare an impact state-

ment on its entire nuclear breeder reactor development program rather than on just individual reactor projects. In contrast he brought up the Sierra Club suit on Northern Great Plains coal development which alleges that the federal government needs to prepare an impact statement on regional (five-state) coal development. In this case the District Court ruled that a comprehensive impact statement was not required (an injunction on federal coal development in the region has been granted pending appeal of this case.)

Friedman asked "whether such overall programs or studies should necessarily be in the framework of NEPA." He said that when considering the need for a programmatic statement one should consider "the consequences of delay." (Friedman's company, Atlantic Richfield, is presently enjoined from further development of their coal mine in Wyoming's Pow-

der River Basin by the Sierra Club's request for a comprehensive impact statement.)

Gary Widman, General Counsel for the Council on Environmental Quality, suggested that alternatives to the proposed action should be emphasized. Such an analysis would focus on the question of the need for the proposed development. Widman said that the alternatives section of an impact statement is usually one of the briefest parts of the statement and yet it often receives the most criticism.

Widman's comment brought a question from the floor: If you expand the alternatives section of an energy impact statement to cover solar, geothermal, oil shale, energy conservation and other alternatives in depth, don't you have the makings of a National Energy Policy? No, Widman said, he didn't mean to imply that the alternatives section be that detailed.



Bobwhite photo by John H. Stanley, courtesy of the Colorado Division of Wildlife.

Farmers donate wildlife acres

While urban sprawl, strip mining, and rural subdivisions are reducing wildlife habitat, intensive farming is having a negative impact, too. Federal programs and higher farm product prices are both encouraging greater farm production. This is resulting in some farmers choosing to eliminate the shelter belts (the rows of trees planted on the plains during the thirties), brush, and other wildlife cover which was previously allowed to stand. With this kind of management, cover is available on crop lands, but only at certain times of the year.

To counter this trend, state agencies in several states have initiated Acres for Wildlife programs. Administered usually through the game and fish departments or through county extension services, the programs offer incentives to a farmer or a rancher to dedicate an acre for at least a year to wildlife.

The basic agreement is that a site will not be mowed, burned, grazed, or sprayed for a period of at least one year. The farmer decides himself whether or not hunting will be permitted. The purpose is to provide cover, food, water, and living space. If any one of these four necessities become scarce, it is a limiting factor, and the carrying capacity of the land is reduced.

Eligible land includes roadsides, ditch banks, or waste areas. Sometimes farmers will dedicate the corner of a section which might be difficult to cultivate anyway.

The administrative authorities believe that often mowing, burning, or spraying is done only through habit and tradition and that education can discourage these practices on some land for the advantage of wildlife.

Tokens of appreciation are offered although they often amount only to a subscription to the state's fish and game publication.

Anyone interested in wildlife habitat who does not own land is also encouraged to participate in the program as a "cover agent." These people help find landowners who will be willing to enroll.

The following states participate in the Acres for Wildlife program: Nebraska, Oklahoma, South Dakota, North Dakota, Minnesota, Wyoming, Kansas, and Arkansas. For more information on Acres for Wildlife in our region contact: P.O. Box 30370, Lincoln, NE 68503; or Dept. of Game, Fish and Parks, Pierre, SD 57501; or N.D. State University, Cooperative Extension Service, Fargo, ND 58102; or Game and Fish Commission, Route 2, Box 25, Laramie, WY 82070.

Canyon Coalition fights for Southwest

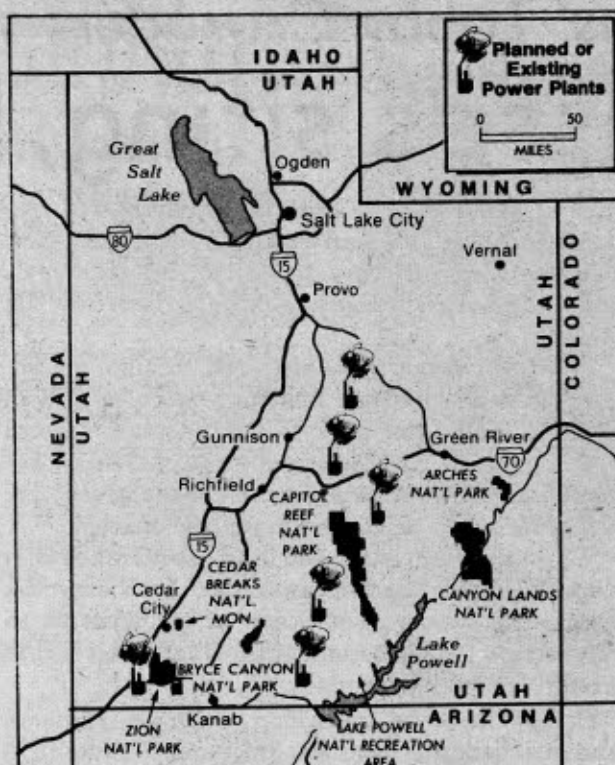
Within the next decade, massive industrial development planned for southern Utah by electric utility companies will transform one of America's reservoirs of clean air, wilderness, and natural beauty. A first generation of massive power plants has already been built in the Southwest. Relentlessly, plans for the second generation are moving ahead.

Five major coal-fired power plants are proposed for installation in the midst of the most significant scenic and recreational resources of the Southwest. Each of these proposed plants are designed to operate for 35 years, deplete vast reserves of coal, consume large amounts of Colorado River water, and produce electrical power for export to urban areas of southern California and central Arizona.

"The combined effects of these power plants, with their associated pollution, strip mines, transmission lines, pipelines, waste disposal dumps, and the expected population increase of 50,000 people, will overwhelm the unspoiled canyon country of southern Utah," says David R. Brower, President of Friends of the Earth.

Friends of the Earth, the Sierra Club, and the Wilderness Society have formed a coalition to oppose the construction of these plants. The three groups favor "a national policy of conscientious conservation, a more rational use of our natural resources, and accelerated solar research." They call themselves the Canyon Country Coalition.

To join the coalition or receive an information packet, write them at their headquarters at 4260 East Evans, Denver, Colo. 80222.



This map ran with an article in the LOS ANGELES TIMES entitled "Smog from Power Plants Threatens Utah 'Color Country.'"

"For the present, the money looks good to development-minded Utah voters, and with Southern California consuming most of this new power, it's figuratively as if Utah is willing to sacrifice herself on the altar to keep Los Angeles warm," said TIMES writer Philip Fradkin in the article, which appeared in the Feb. 9, 1975 edition. "And since the plants could not meet air pollution requirements for Los Angeles County, by locating out of state the utilities escape regulation by California's Coastline Commission and new state Energy Commission."

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The Hot Line

energy news from across the country

IRAN BUYS A-POWER. The U.S. is helping Iran become the first oil-producing country to take a major step toward nuclear power production. Iran plans to buy eight nuclear plants from the U.S. over the next five years. The purchases are part of a \$15 billion trade agreement. The now-defunct Atomic Energy Commission has issued permits to build nuclear reactors for foreign export to 39 different countries.

HOW TO SELL THE SUN. The American Institute of Architects has called for the creation of a new kind of utility company — one that would install alternative energy systems on existing homes and buildings. Conversion to solar, wind, or methane power wouldn't cost the homeowner a thing. In fact his rates would drop about 10%, according to the architects. Utility profits would be higher than they are now, the group claims, because so much electricity, natural gas, and heating oil would be saved. With the cooperation of utilities over the next few months, the institute will convert six different buildings to efficient energy use.

WORN OUT CREDIT CARDS. "You can even produce methanol from worn out gasoline company plastic credit cards," says Dr. Thomas B. Reed, a chemist at Massachusetts Institute of Technology. Reed has been urging since 1973 immediate construction of methanol production plants. If the substance — popularly known as wood alcohol — were fully exploited, Dr. Reed estimates the nation could cut oil imports as much as one million barrels a day. The state of Maine plans to have a methanol power plant in operation by the end of 1976.

ARCTIC GAS PIPELINE. Canadians are considering a project which some say may have an impact comparable to that of the opening of the West with the first transcontinental railroad 100 years ago. Proposed is the construction by Arctic Gas Pipeline, Ltd. of a \$7 billion line to bring natural gas down from Alaska and the Canadian shore of the Arctic Ocean to consumers in the U.S. and southern Canada. Standing in the way of this pipeline is competition from El Paso Natural Gas Co., which has applied to build a gas pipeline through Alaska, paralleling the Alyeska oil pipeline.

FEWER DOOM CLOUDS. "There is growing optimism among government officials and private analysts that the world will survive in good shape," the *Wall Street Journal* reported this month. In a March 5th article by Lindley H. Clark Jr., the *Journal* indicated that the doomsday clouds were lifting because the 12-member oil cartel known as the Organization of Petroleum Exporting Countries was showing signs of weakening. "To begin with, economic recession in the industrialized world, together with oil-conservation measures, has so reduced demand that several OPEC countries have had to reduce output sharply. And some members have already begun to shade prices," Lindley says. "Only a complete cutoff in OPEC oil shipments could force a depression, and that's unlikely," says Thomas D. Willett, deputy assistant secretary of the Treasury. He stresses that the world's troubles have eased — not vanished, however. The world will continue to suffer from the effects of a "massive misallocation of resources," Willett says.



Emphasis ENERGY

in the Northern Rockies and Great Plains



SO2 BATTLE MOVES TO COURT. The Wyoming Environmental Quality Council has acted in excess of its powers, say four utilities active in the Rocky Mountain region. The utilities have gone to court to block implementation of the state's first proposed controls on sulfur dioxide emissions. A petition for review of the regulations was filed first in Sweetwater County District Court by Pacific Power and Light Co. and Idaho Power Co. A second petition was filed in Laramie County by Tri-State Generation and Transmission Association and Utah Power and Light Co. Pacific Power filed suit after an unsuccessful appeal to the state legislature.

The Wyoming Department of Environmental Quality (DEQ) has filed its own court action, seeking dismissal of the power companies' challenges. The DEQ claims that the firms have not exhausted administrative remedies before taking their cases to court.

UTILITY SLOWDOWN, MINING SURGE. A lack of capital and lack of demand for power seem to be slowing down utilities' plans for power plant expansion, but strip mining operations are moving ahead in the Rockies. This month Utah Power and Light Co.'s Naughton plant near Kemmerer, Wyo., postponed for three years its fourth coal-fired unit. A similar postponement was announced earlier this year by Pacific Power and Light and Idaho Power at their Jim Bridger plant near Rock Springs, Wyo.

Strip mine companies, on the other hand, are apparently marching to a different drummer. In Montana, the Shell Oil Co. plans to strip more than a billion tons of Montana coal from the Crow Reservation. An open pit coal mine on the Flathead River in Canada eight miles north of the Montana border has been proposed. Decker Coal Co. has announced plans to greatly expand its southeastern Montana

mining operation. In Wyoming's Powder River Basin, four firms delayed by a Sierra Club suit continue preparations for mining and negotiations with the state and the local communities.

"It is almost inconceivable that companies are willing to go ahead with huge plans that involve huge investment, knowing that they face so many uncertainties from government restrictions, rules, and regulations, plus not knowing what new laws Congress will devise prescribing further limitations," the *Gillette News-Record* says. The newspaper indicates that mining companies near Gillette are moving forward despite all those obstacles, however.

YELLOW CAKE HOT. The coal mining hustle is being accompanied by an "almost frantic" bustle to get at new uranium sources, according to the *Casper Star-Tribune*. The Tennessee Valley Authority is buying up both coal and uranium reserves in the Rocky Mountains. About 40 to 50 other firms were actively exploring for Wyoming uranium in March. Uranium demand is expected to more than triple by 1980 and to jump by more than 700 per cent by 1985. The price for yellow cake, the low grade uranium produced at the mines, has skyrocketed from a recent low of \$5.50 per pound to \$24 per pound.

SHELL AVOIDS TOUGH LAWS. By staying within the Crow Indian Reservation, Shell Oil Co. can legally ignore stiff Montana mining laws, state officials say. In 1977 Shell, which is controlled by Royal Dutch Shell of the Netherlands, plans to begin mining more than a billion tons of Montana coal from the reservation. The company plans to ship coal to Texas and Louisiana, where it will be burned to generate power.

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Citizens' Lobby Crusaders smiling Wyoming passes siting, land use bills

by John Soisson

They called him a ragamuffin. A stitch in the border of the Radical Fringe. They knew him as a leader of what some called the Wyoming Children's Crusade.

What the legislators didn't know was that Bart Koehler and the other "Crusaders," although only in their twenties, spoke for a broadly-based group of voters throughout the state who could hardly be called "children." They soon learned.

"The constituents — that's where the real power is. The legislators won't change from what I say. The only power we have is the folks who put the legislators in office," Koehler said.

As director of the Wyoming Citizens' Lobby, Koehler headed a staff of young researchers that provided an alternative source of information to the legislators and a unique source of facts to thousands of those "folks." As executive director of the Wyoming Outdoor Council, he lobbied for environmental bills that he described as "essential to the state's future."

"No one who left the lobby headquarters in Cheyenne after this session left without a smile," he said. "It was always said that Wyoming was a slow second, third, or fourth on environmental issues. That may not be true much longer. This session gave us an excellent land use planning act, a landowner consent requirement for strip mining, and a plant siting bill that's as good as most. The state could become a leader — it really can't afford to do anything else!"

He set his can of Coors on the round oak table in the house he called headquarters and scratched his unshaved cheek. The 40 days and 40 nights of struggle to keep several bills from going down three times had ended. Like a weary sailor safely in port, Koehler was looking out over a calming sea.

"Even though most of the legislators who ran in '74 ran on a "motherhood, apple pie and trees" ticket, there was a lot of confusion about the substance of environmental protection. That made a lot of them uncomfortable — and when you're uncomfortable, you make a decision. A lot of them were open to learn, so, by and large, the decisions were good ones," said Koehler.

One of those decisions was to adopt a plant siting bill that establishes an independent, seven-person Siting Council in the governor's office that will review the construction permit applications of all energy conversion plants, uranium enrichment plants, and other industrial facilities that will cost in excess of \$50 million.

If an industry can't show that its project will not cause severe impact, the council will conduct a 180-day study (with two 60-day extensions, if necessary), upon which it will base its approval or denial of the permit.

Once the study has been completed, the council is authorized to specify when construction of the project can begin — a flexible "lead-time" provision that can help a community ease some of the shock of impact.

"The bill will require public disclosure of a project," Koehler explained, "and, at last, the people of the state will have the opportunity to review what's going to happen to them."

The 43rd Legislature considered the long-term as well as the short. "The siting bill is an important 'stop sign,'" according to Koehler, "but the land use planning bill gives some direction to the future. It's the best citizen participation law in the state — the most democratic!"

That bill created the Office of Land Use Administration, which also was placed under the direct control of the governor. Under its provisions,

each of Wyoming's 23 counties is required to prepare a local land use plan within the next four years. The counties will have technical, informational, and financial assistance available to them from the state office.

Public involvement is required through the entire planning process: hearings must be held in counties and cities prior to the adoption of local plans, prior to the adoption of state guidelines, before designation of areas of more than local concern, and before a final, statewide plan is enacted.

While the plant siting and land use planning bills were much discussed and anticipated in the months before the session, a package of amendments to Wyoming's 1973 Environmental Quality Act (EQA) brought the most surprises.

One of them was a provision which gives farmers and ranchers who have been in operation since 1970 the right to refuse to allow the coal beneath their land to be strip mined, even when that coal doesn't belong to them.

"As far as I know," Koehler said, "that makes Wyoming the first state with landowner consent, so we expect it to be challenged in court."

Another surprise was the serious challenge to the integrity of the EQA made by utility companies

regional legislative review

Colorado

Bill would bankrupt state

A bill dubbed the "Governmental Bankruptcy Act of 1975" by some critics has been introduced into the Colorado Senate. The bill, SB 104, would require the state to compensate a landowner whenever his property was reduced in value by any governmental action.

In the Senate State Affairs Committee the bill's sponsor, Sen. Kingston Minister (R-El Paso County), introduced some of his constituents whose land had been devalued because of floodplain designation. "They felt that they had been unjustly robbed of their property, even though they continued to have reasonable use of their property," reported the Colorado Open Space Council.

A similar bill, the "Zoning Compensation Bill" was introduced into the Oregon legislature in 1973. Charles Little in "The New Oregon Trail, an account of the development and passage of state land use legislation in Oregon" notes: "There are a few problems with such a scheme.

"First, does the individual landowner have any right to compensation, so long as he is not deprived of a reasonable use of his land, never mind his fantasized financial expectations?

"Second, why should the state give without the opportunity to receive? If some land values are reduced by planning and zoning, there are others (perhaps even more) that are increased. Shouldn't the people of Oregon, if they are to compensate for loss, also be compensated for gain?

"And third, where in the world would Oregon get



Bart Koehler, Wyoming Outdoor Council executive director and Wyoming Citizens Lobby director.

with power generating plants constructed or planned within the state.

"The Senate passed an amendment to the EQA that would have imposed a two-year moratorium on the SO₂ regs, but the House turned that down. It was a strong vote for due process!" He smiled. His beer can was empty.

"We did well on the major issues," he said, "but we need to pick up on the other things — river protection, coal export. And we will. I don't think the people here will be overrun — they love their state too much!"

John Soisson is a journalist who worked with the Citizen's Lobby in Cheyenne during the past session. He is now a volunteer with the Powder River Basin Resource Council in Sheridan, Wyo.

the money needed to pay compensation claims? In a hearing on the National Land Use Policy and Planning bill in the spring of 1973 in Washington, D.C., Gov. Tom McCall (R-Ore.) declared that if a compensation provision were mandated by a federal planning act it might cost, nationwide, something like \$300 billion in claims. This estimate was extrapolated from Oregon where, some believe, the figure could amount to as much as \$3 billion."

Colorado Open Space Council lobbyists say, "We assume that from the initial remarks of the committee members that they will view the measure (SB 104) as the disaster it really is."

N.M. environmental impact statement bill defeated

The New Mexico House of Representatives voted 36-27 to kill a revitalized state environmental quality act. The bill, sponsored by Rep. Raymond Sanchez would have required state agencies to file environmental impact statements on major projects.

New Mexico used to have such a requirement, but the law was repealed last session.

Sanchez, an Albuquerque attorney, claimed public utilities pressured some legislators on the weekend before the vote, according to veteran New Mexico newsman Fred Buckles.

Western Roundup

Teton wilderness fire plan drafted

A fire management plan for the Teton Wilderness in Wyoming is now in draft form and available for comment. The Teton Wilderness Management Plan, approved in 1973, recognized the natural role fire has historically played in the wilderness ecosystem. As a result, the management plan was requested. The nearby Grand Teton National Park was the site of controversy last year when a fire was allowed to burn. The objectives of allowing fires to burn more naturally are to perpetuate natural ecosystems, most of which are dependent on periodic fire, and to maintain a natural mosaic of vegetative types and successional stages. Indirect results are reducing the possibility of future insect epidemics and disease outbreaks and improving wildlife habitat. Requests for additional information should be addressed to the Bridger-Teton Forest Supervisor, Teton National Forest, Box 979, Jackson Hole, Wyo., 83001.

Rocky Flats emergency plans studied

A special task force to study nuclear materials safety at the Rocky Flats facility south of Boulder, Colo. has been appointed by U.S. Rep. Tim Wirth (D-Colo.) and Gov. Dick Lamm. Preliminary findings of the task force reveal that the safeguards for nuclear accidents inside the facility are adequate, but the off-site emergency plans are a major problem. A contingency plan for incidents off the grounds is "quite frankly, not very workable now. In fact, I think you could say it doesn't exist," said task force chairman Robert Siek, a Colorado Health Department official. Lamm characterized the problem by stating, "the risks are very small but the stakes are very high." One area of concern was the fate of the plutonium contaminated material at Rocky Flats caused by accidental spillage in the 1950s and 1960s. Present plans are to remove the deadly material this summer, but Siek said some interests want to keep the material on site for experimentation. "Let's move it to Washington and see if they still think that," chided Lamm. The task force plans to have the public review its preliminary report for "three weeks to a month," after which it is planning to hold public hearings on the issue.

Utilities try to dam Hells Canyon

Two utility consortiums announced that they will make another try for hydroelectric power dams on the Middle Snake River in Idaho, claiming the projects would conserve the equivalent of 12 million barrels of oil a year and would provide 2,500 jobs during the five year construction period. They also said the dams would cause little damage to the river's Hells Canyon area. Construction of dams on the river has been proposed since 1955. But since 1970, environmentalist opposition has been the principal barrier to construction, according to the *Idaho Statesman*. Oregon and Idaho legislators have introduced measures in Congress that would ban dam construction on the Middle Snake River.

New bald eagle sanctuary donated

The National Wildlife Federation has turned over to the federal government more than 1,000 acres of land along the Missouri River in South Dakota and Nebraska to be used as a sanctuary for the bald eagle. The government plans to make the area, which serves as a winter home for about 15% of the bald eagles in the lower 48 states, into a National Wildlife Refuge. The wildlife federation purchased the land with money from their "Save a Living Thing" fund raising campaign. The campaign was supported in part by Southland Corporation of Dallas, Tex. which donated one cent from the sale of each crushed-ice drink sold at its 5,000 stores across the country.

Judge says billboard ban is invalid

A Denver District Court judge has ruled Denver's 1971 sign code "unconstitutional and thus invalid." Judge Robert McLean ruled that two portions of the sign code are invalid because they violate the constitutional guarantee of freedom of speech and because they authorize invalid taking of property without just compensation. The code now calls for elimination of existing billboard signs. The judge questioned whether the signs are offensive to a large number of Denver residents or just to a small group, including the Denver Zoning Department employees who drafted the ordinance. The city is expected to appeal the ruling.

N. Cheyennes claim Tongue River

The Northern Cheyenne tribe has filed a suit in federal district court claiming all the water in Tongue River, Rosebud Creek, and their tributary systems. The case, which should be a landmark case in Indian water rights, cites priorities dating to an 1868 treaty, Executive Orders of 1884, and a 1900 constitutional guarantee, according to the Northern Cheyenne newspaper, *A'tome*.

High Country News-13
Friday, Mar. 14, 1975



CEQ DEFENDS POISON BAN

The Council on Environmental Quality, the governmental board that advises the President on environmental matters, has just released its report on the first full year of study (1973) of the effect of the executive ban on predator poisons. The CEQ says in its fifth annual report, "Data indicate that the new approaches (shooting, trapping, intensive sheep management etc.) are at least as effective — in terms of both predators killed and livestock protected — as control measures based on poisons. There has been no significant changes in overall livestock losses to predators; whereas some ranchers have suffered increased losses, others have had equal or reduced losses." Prior to the 1972 poison ban, coyote populations increased throughout the 17 western states. During 1973 coyotes increased in five states east of the Continental Divide, decreased significantly in three states west of the Divide, and remained at the same approximate level in nine states, according to CEQ. "Clearly, coyotes have not been responsible for driving the U.S. sheep industry out of business, either before or after the poison ban."

Photo by Don Domenick, courtesy of Colorado Division of Wildlife.

Briefly noted . . .

Colorado sheepmen want their state to be declared a disaster area because of reported damage by coyotes. "I lost a third of my income this year and there are some producers out here who are in worse shape. There has to be something done or this industry will fold," says Jack Wiggington, president of the Colorado River Wool Growers Association at Rifle, Colo. Wiggington says coyote predation has increased because of the federal ban on the use of predator poisons.

The Navy is studying federal land in Utah, Montana, Idaho, and Nevada for a proposed communication project involving missile-launching nuclear submarines, according to a military publication *Naval Institute Proceedings*. Dubbed "Project Sanguine," the ultra-low frequency radio signal project would require massive amounts of land to bury the communications network. Project Sanguine has been proposed for several sites but has always been defeated — largely on environmental grounds. Jack Reed, public affairs officer for the Bureau of Land Management in Utah, says the Navy has 10 western states under consideration for the project.

The National Park Service suspended for nine days without pay a Glacier National Park ranger who was accused of shooting a snowmobile. Arthur Sedlack reportedly fired a .38 caliber pistol into the motor of a snowmobile on Dec. 27, 1974.

Both U. S. and Canadian companies are showing interest in North Dakota's potash deposits, according to the N. D. Geological Survey newsletter. If mining begins, North Dakota will become a provider of "yet another type of energy," the newsletter says. Potash stimulates plant growth.

14-High Country News
Friday, Mar. 14, 1975



I've been trying to think of what I might write about National Wildlife Week — so why in the world does my mind keep going back to that Mothers' Day morning some twenty-odd years ago?

The walnut half-shell is possibly still around here somewhere — maybe tucked away in a box of trinkets in some dark corner of the basement. Or perhaps it has long since been unwittingly relegated to the trashpile. It doesn't really matter whether or not the shell is still around — it exists in my mind as vividly as it did on the day it was presented to me.

Because it was Mothers' Day, I was still in bed — a mother soon learns that, like it or not, there is one day of the year she is not welcome in the kitchen before breakfast. So I lay in bed, feigning sleep, and ignoring the rattle of pots and pans which filtered up from the kitchen, along with giggles and whispers. In due time (slightly before actual starvation had set in!) the two children entered the room — Martha precariously balancing the breakfast tray, and John tightly clutching a small white box tied with yellow ribbon. Daddy brought up the rear of the procession, coffee pot in one hand and cups in the other.

"Happy Mothers' Day!" they cried in unison.

"It's your very special day," remarked Martha as she placed the tray on the bedside table, "and we're going to be real good all day! So why don't we hurry up and eat breakfast so you can see your present!"

So I shared my more-than-ample breakfast with the three of them, and then it was time to open the box. Two pairs of shining eyes watched with eager anticipation as I untied the yellow ribbon and lifted the lid. Inside, carefully placed on a folded piece of Kleenex, was half a walnut shell. It was glued onto a piece of dark felt, cut in the shape of a turtle. On the shell itself, the word M O T H E R was printed in bright green letters, with the ER being crowded together in order to get all the letters in the available space.

"It's beautiful!" I said, carefully refraining from asking just exactly what it was for.

My unasked question was answered almost immediately, when Martha said, proudly, "There's a pin on the back of it, and you are to wear it all day long!"

Well, I really did wear it all day long. I wore it to church. Some of the mothers at church wore red or white carnations; I proudly wore a walnut-shell turtle announcing that I was "MOTHer." And they really were good all day long — and I really was treated like a queen. I wasn't allowed to do the breakfast dishes, or fix lunch — in fact, I was hardly allowed to do anything! We all went out to dinner, and I was still wearing the pin.

When I undressed that night, I removed the pin and put it away in its box, reflecting what a wonderful day it had been. Mothers may know that they are loved and cherished, but it is sort of nice to have one special day (out of 365) set aside to remind everybody!

I guess that's why Wildlife Week reminded me of Mother's Day. For one week out of 52 we are suddenly deluged with reminders of what our furred and feathered friends really mean to us. Hopefully, that one week splurge will carry over for the rest of the year.

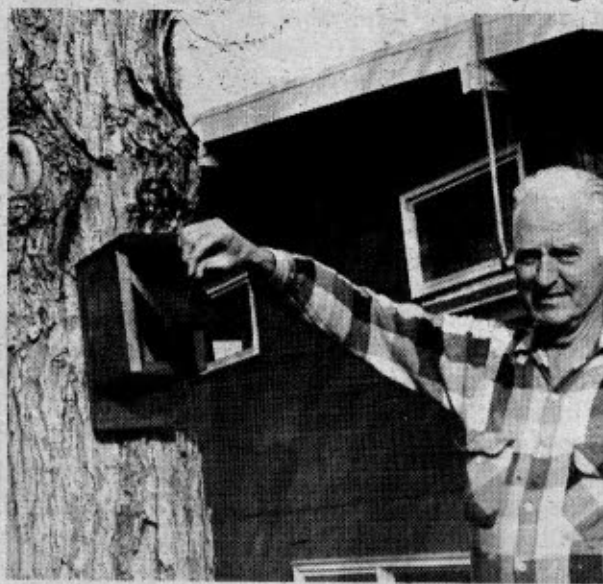
Sure, we capitalize Wildlife Week, and Mothers' Day — but our appreciation of wildlife, and mothers, isn't really on a once-a-year basis!



Improve backyard habitat

Man is different from most other animals in that he can manipulate the environment at will. Most of the time we think of man causing environmental manipulations to the detriment of wildlife — through mining operations, highway construction, subdividing and other developments. But all of man's actions need not destroy wildlife habitat. With a little effort and forethought man can enhance and restore areas that have become unproductive through neglect or carelessness. A good place to start is in your own backyard.

"All wildlife, indeed all life, requires four basic elements to survive: food; water; cover as protection from natural enemies and the elements; and areas where they can reproduce and bear their young in



One of the earliest spring birds in our western area, the bluebirds, will use a well-constructed bird house. A sturdy house might help protect them from our variable spring weather, with its sudden changes of temperature, ice storms, and high winds.

This bird house, developed by the staff of the Bureau of Land Management, can be built at a very low cost. It is simple and easy to construct. It will attract cavity-dwelling birds, such as bluebirds, swallows, wrens, chickadees, and sparrows.

By building the nest-box with a hole no larger than one and five-eighths inches in diameter, the home is made starling-proof. By facing the box northeast to reduce the afternoon heat buildup, making sure it is within one-quarter mile of water and by getting it up in early spring, there is a very good chance the birds will use it.

A setting of up to four feet above ground is best for bluebirds. Setting it higher attracts swallows. To preserve and camouflage the box-nest, a mixture of linseed oil and brown or green paint or stain may be applied.

The bluebirds is one of the best loved songbirds because of its beautiful colors and sweet warbling song. It is also popular because it eats great numbers of beetles, caterpillars, grasshoppers and other insects.

—Mary DeLapp

Type Bird	Entrance Diameter	Entrance from floor	Floor Cavity	Cavity Depth	Where to place Birdhouse	Bird found in breeding season
House Wren	7/8"	1'-6"	4' x 4'	6'-8"	Hung from limb: 6'-10' from ground	Upper half of U.S.
Blue Bird	1-1/2"	6"	5' x 5'	8"	On post or tree in or near open field, 5'-6' from ground	Eastern half and Western third of U.S.
Chickadee	1-1/8"	6'-8"	4' x 4'	8'-10"	Hung from a limb 6'-15' from ground	Over much of U.S., except part of south central and south west

Chart courtesy of National Wildlife Federation.

For further information write Bird House, BLM, Room 700, 1600 Broadway, Denver, Colo. 80202.

safety," writes Jack Thomas, Robert Brush, and Richard DeGraaf in an article in the latest **National Wildlife Magazine**.

"Combinations of these four elements are unique for each species, but you can plan a habitat that offers enough combinations to attract the greatest number and variety your area will support. Working with the natural resources at your disposal, your aim should be to plan the vegetation, supply water and natural, as well as artificial food, so that you provide the maximum number of homes for wild creatures."

The authors say that if you start from a sodded yard with little other vegetation you have some "sparse, but usable wildlife habitat." To get quick results from this situation the authors suggest augmenting the natural wildlife habitat with artificial habitat including bird feeders, birdbaths, nesting boxes and the like. Through carefully selected plantings and management your yard can be made more productive, but trees and shrubs take time to grow.

One way to enhance the habitat in your yard is to start letting your grass grow. Along one edge of your yard leave a strip unmowed and watch what plants and animals start appearing. You may be so pleased with the results that you decide to let the whole lawn revert to a natural state.

Planting trees and shrubs, or letting "volunteer" species invade can greatly improve the wildlife habitat. Trees provide food, cover, and nesting sites for birds as well as squirrels and raccoons.

Shrubs are "really more important than trees in your wildlife program. Shrubs are less fussy, grow faster, and provide food, cover, and reproduction areas for a great variety of wildlife which lives near the ground. Don't prune the lower branches," say Thomas, Brush, and DeGraaf.

When considering trees and shrubs for your yard, careful selection of type and position can greatly improve your backyard sanctuary. Berry bushes and fruit and nut trees are especially productive. It's also important to be sure that the plants moisture, soil, temperature, and light requirements match your yard's conditions.

"Be sure to select your plants carefully to provide the maximum overlap of flowering and fruiting times. Food should be available as needed. For birds, this means a year-round supply. If you have bird feeders, continue to fill them through the spring and until new growth takes over," say Thomas, Brush, and DeGraaf.

"But don't make the mistake of considering food provision the beginning and end of wildlife management. Food must be accompanied by the other three habitat elements to enable wildlife to live in your yard."

WHERE TO GET MORE INFORMATION

"Your county agricultural agent or state university landscape specialist has free advice on a wide variety of problems you may encounter. So does your local nurseryman. If you live in a Soil Conservation District, you can get help on water and soil problems from that office. Some state (fish and) game departments have staff biologists that can help you. Your local zoo, natural history museum, or nature center can tell you the specific needs of wildlife in your area. And some commercial nursery catalogs are gold mines of information," say the authors.

They also suggest **American Wildlife and Plants** by Alexander C. Martin, Herbert S. Zim, and Arnold L. Nelson (McGraw-Hill Publication) as an excellent guide to wildlife food habitats.

Copies of "Invite Wildlife to Your Backyard," by Thomas, Brush, and DeGraaf, are available for 25 cents each from the National Wildlife Federation, 1412 Sixteenth St., N.W., Washington, D.C. 20036.



by Ernest Callenbach, Banyan Tree Books, Berkeley, Calif., 1975. \$2.75, paperback.

Review by Michael Jakubcin

Ecotopia. In coining this word, and in his literally fantastic fictional work of the same name, Ernest Callenbach has focused the aspirations of so many of us.

The book is a comprehensive account of the experiences of one William Weston in his visit to Ecotopia in 1999. Weston is a skeptical New York journalist. Ecotopia is the nation formed as a result of the secession, in 1980, of Washington, Oregon, and northern California.

As the first official visitor to the country from the U.S., Weston is very uncertain as to just what he will discover. As the pages unfold, the picture becomes irresistibly clear. Ecotopians, through their intense respect for the biological bases of human existence, have created an eminently livable social environment. The population, which has intentionally begun a slight numerical decline, is decentralized. The former large cities of the region, notably the San Francisco Weston visits, have been re-structured. As these major cities have lost residents, numerous "mini-cities" linked by efficient electric trains have sprung up. The economy has been de-centralized, too.

Lest you fear another permutation of the old bugaboo, socialism, be assured. Callenbach has seen fit to retain our hallowed institution Free Enterprise. Although corporations still exist in Ecotopia, they no longer hold the vast decision-making power over society as in the U.S. Thus, a decline in per capita consumption has become a desirable accomplishment, and products judged biologically unsound are not in profitable demand. Aerosol spray cans wouldn't last a minute in Ecotopia.

Systems of food production and consumption are formulated on a stable-state concept; all wastes are part of a continuous cycle of organic fertilization. As the GNP has been intentionally reduced, the problem of less available work has been solved quite simply by shortening the standard work-week to 20 hours, thus nearly doubling the number of available jobs. Education has become the province of teachers and students rather than of school boards and administrative bureaucracies, with groups of teachers collectively owning the individual schools. Learning is primarily through practical experience, as students actually work at productive projects such as the gardens providing their lunches. The national educational exams taken in adolescence in-

sure that parents take care in choosing and supporting effective schools.

Throughout the book, considerable time is spent in describing what people might be like under an Ecotopian system. For example, while there is "brisk competition among schools" to maintain high standards, the students interact in a cooperative fashion. Older help younger and everyone regards special abilities as gifts to be shared rather than advantages to be capitalized upon.

Politically, women are dominant in Ecotopia, due to their being a substantial majority of the population and also because their party was largely responsible for the secessionist movement. Relations between sexes are much more open and straightforward, and yet not at all so sterile and self-conscious as Women's Lib seems to have left so many of us.

Race is still an unresolved problem, even in Ecotopia, but their manner of dealing with it is an interesting one.

Callenbach has thoughtfully dealt with all the basic areas of life. Without resorting to futuristic technological gimmickry beyond our present capabilities, he has proposed an entirely workable and altogether enjoyable system in which we might all find an expanded sense of purpose and worth as individuals.

But how to get there? On this point, Callenbach has taken the easy way out via secession. For this he should not be faulted, since the device has allowed him the freedom to give us an inspiring vision. But it is a vision the U.S. will never reach unless it realizes that its path of social evolution is proving maladaptive.

The ecological destruction currently in the spotlight is but a symptom. Ecological problems, just like all the other symptomatic social maladies, can only be truly solved if we will jolt ourselves from this evolutionary rut. Such a dislocation is nothing less than cultural revolution.

Ecotopia is beautiful, and within our reach.

Aerosol spray cans wouldn't last a minute in Ecotopia.



Organic Gardening in Montana

by Sandra Perrin and the Borrowed Times Media Action Group, 46 pages, 1975, \$1.00.

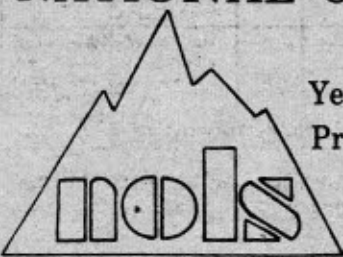
A hip-pocket sized book that's hip to the gardening problems and pleasantries common to Montana. Cold frames and hot beds help lengthen the season. Cold and warm season plants are separated to gain growing time. Do-it-yourself soil and seed testing stretch the garden dollar. Planting dates and frost dates are listed. How to handle insects and pests with better results. Start companion planting those crops and herbs for healthy yields and harvests.

For a copy, write to Box 1311, Missoula, Mt. 59810. The advice on composting and mulching alone is worth the dollar.

—AD

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High Country News-15

BULLETIN BOARD

LOONEY LIMERICKS

by Zane E. Cology

Nearsighted Mrs. Maghee

Sprayed her orchard with strong DDT.

She failed to observe

'Neath a tree, Hubby Merv —

Alas! Now she's Widow Maghee.

GOVERNORS ON AGRICULTURE

President Gerald Ford, Secretary of Agriculture Earl Butz, national presidents of farm organizations, and the 16 western governors will be among the participants in the Western Governors' Conference on Agriculture to be held in Billings, Mont., March 31 through April 3. The topic will be agriculture and energy. Federal Energy Office Chief Frank Zarb will be a panel member for a discussion of the impact of energy development on food production in the western United States. The four day conference will include a tour of the Colstrip strip mining area, panel discussions, speakers, and will end with a hearing before the U.S. House Agricultural and-or House Interior Committee. For more information, contact the conference coordinator, Doug Smith at (406) 447-3419.

DOLORES RIVER STUDY

Public information meetings on the wild and scenic river study of the Dolores River in Colorado will be held at 7:30 p.m. on March 26 at the city hall in Grand Junction, Colo. and at 7:30 p.m. on March 27 in the county courtroom in Cortez, Colo. Information on the Dolores study can be obtained from the Forest Service Regional Office, 11177 W. 8th Ave., P.O. Box 25127, Denver, Colo. 80225.

IWL SUMMER JOBS

The Izaak Walton League is sponsoring a youth summer employment program for high school seniors interested in careers in conservation. A limited number of jobs are available through the IWL with various government land management agencies. For more information contact Bruce Ward, Box 970, Casper, Wyo. 82601.

FOREST SERVICE GOALS

The Forest Service is interested in learning what the public thinks about a series of alternative goals for use and management of the nation's forest and range lands. These possible goals are described in a recently released document, "Alternative Goals for Six Resource Systems," which is available for review at all Forest Service headquarters offices. The alternative goal proposals will be used as a starting point in building a long-term multi-resource program for all Forest Service activities.

COMPOSTING CONFERENCE

The Fifth Annual Composting and Waste Recycling Conference will be held in Washington, D.C. April 25-26. Sponsored by Rodale Press editors and co-sponsored by CONCERN, INC., a leading consumer-environmental group, this year's conference will stress how using organic wastes in agriculture can help solve problems arising from fertilizer and energy shortages, as well as improve water quality. A special panel will look at benefits to developing nations when farmers can get more crop nutrients from city wastes and less from high-priced, energy-intensive chemical fertilizers. "Composting, Fertilizer, and Food Production" is the general theme. For more information contact M. Lalik, Organic Gardening and Farming, Emmaus, Penn. 18049.

16-High Country News
Friday, Mar. 14, 1975

MONTANA OUTDOORS



A game and fish publication with a purpose

A livable environment for wildlife is a quality environment for man.
—motto of MONTANA OUTDOORS

When the first issue of *Montana Outdoors* came out in November of 1970 with a grizzly bear on its cover, astute readers might have sensed that the Montana Department of Fish and Game and its editor, Bill Schneider, didn't plan to publish an ordinary fish and game type publication.

The choice of the grizzly was natural enough since the bear is the symbol of the Fish and Game Department of Montana, the state with the largest grizzly population of the 48 contiguous states. Yet its significance on that first cover goes far beyond that. For editor Bill Schneider, the grizzly stands for freedom ("I'm jealous of the grizzly," he interjects), for wilderness, and for an indication of the quality of life.

"A livable environment for wildlife is a quality environment for man" is the motto of the magazine. Starting from this philosophical base, the department, through its magazine, has attacked the two biggest — and most controversial — issues in the state: coal development and subdivisions. And as a result, *Montana Outdoors* has earned a reputation which suits its symbol of the grizzly: independent, apart from the mundane world, and a fierce opponent when confronted.

In January 1973 an issue of *Montana Outdoors* came out devoted to the problems coal development poses to Montana's wildlife and sportsmen. Since that time, confrontations over *Montana Outdoors* stands on coal and subdivisions have regularly occurred in the letters to the editor, in the governor's office, and in the halls of the legislature where opponents try to silence the magazine.

When the department published that first issue on coal development, it knew that it would be controversial. Schneider discussed its content in detail with the rest of the department before it was published, as he does for any controversial article. "I spend almost more time getting articles approved by everyone than I do writing them," he says.

The issue was, indeed, controversial, but the department backed him up. Wes Woodgerd, director of the Department of Fish and Game, explains, "Some will say our department has no business meddling in such matters, that we're way off base and completely out of our element, and that we should stick to what we're supposed to be doing — providing hunting and fishing. To such accusations, we can only say that the issue of growth directly affects our business, and that we would seriously fail our responsibilities if we neglected to discuss it."

Governor Thomas L. Judge has never tried to censor the magazine. Schneider says, "The governor has made a couple of public statements like, 'Maybe I don't agree with everything they say, but that's the fish and game department's obligation and responsibility to do that for wildlife.'"

Through the years, Schneider has earned the respect of environmentalists in the state. "It takes guts for him to keep coming out on these issues when he gets the response that he's gotten," Eldon Smith, conservation leader and wildlife biologist, says. "He's an amazing young man — he talks so quiet, but he's tougher than whang leather," he adds. Smith, who has worked with fish and game departments in several states, credits the department, too, for backing the editor. "This department is most unusual — it's both environmentally oriented and an activist organization."

Although letters to the editor sometimes question the magazine's stands, Smith believes the public in general supports the efforts. "If something happened to Bill Schneider and the department for some of the things they say, there would be a very strong public response." He says the fact that the department has not been censored proves that the politicians recognize this public support.

Smith was attending the 1973 legislative session when an attempt was made to exclude financial support of the magazine from the fish and game appropriations. He says the public showed its support of the magazine at that time.

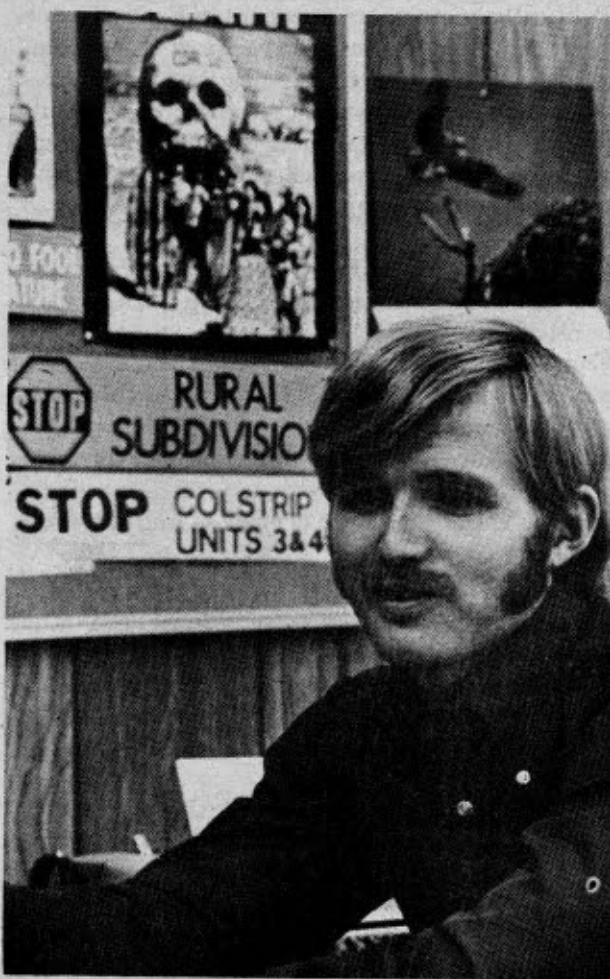
Actually only a very small percentage of the department's budget comes from the general fund. The majority comes from hunting and fishing license fees and special taxes on equipment. The sportsmen of the state seem to support the magazine's efforts philosophically, too. "We have many active sportsmen clubs in Montana, and not one of them has ever objected to anything in *Montana Outdoors*," Schneider says.

Perhaps one reason for the sportsmen's support is the magazine's stand on hunting, which it views as a legitimate management tool. It sees the real threat to wildlife coming from loss of habitat, a theme throughout the history of the magazine.

The grizzly is an example. "It's disturbing to me to see all that energy going into fighting hunting. It's good to see that people are really concerned about the bear. But while they're attacking the fish and game department policies or the Forest Service or

Why care about endangered species? Bill Schneider, editor of *MONTANA OUTDOORS*, offers the analogy of the miner's canary. "Before mining technology made it unnecessary, underground miners took a caged canary with them to the depths. If the canary died, they hurried to the surface, knowing they could be next. Today, all wild animals — especially endangered wildlife — are miners' canaries."

"If the greater prairie chicken became extinct, it wouldn't be taps for the human race. But it's a small step in that direction because man's environment has become a little less livable." (*MONTANA OUTDOORS*, March-April 1974)



Bill Schneider, *Montana Outdoors* editor, holds a degree in wildlife biology from South Dakota University, where he also studied journalism.

the Craigheads (two brothers famous for grizzly bear research), in the meantime, all this habitat destruction just goes on and on. . . I'll bet you couldn't find a person in the Fund for Animals who has ever heard of Ski Yellowstone," Schneider says.

Ski Yellowstone is a ski development proposed north of Yellowstone National Park which Schneider has campaigned against vigorously, both because of its effect on wildlife and because of its energy requirements. Ski Yellowstone promoters

hope to complete a "ski corridor" — a string of resorts from Bridger Bowl near Bozeman, Mont., to Jackson Hole, Wyo., according to Schneider in the January-February 1975 issue of *Montana Outdoors*.

That issue concentrated on the question of growth in Montana, and Schneider considers it both the most important and probably the most controversial issue published yet. In it, Schneider discusses both Ski Yellowstone and Big Sky of Montana, Inc., a giant real estate and recreation complex which is also in the "ski corridor."

In one of the more probing sections of this article, Schneider asks if perhaps energy demand is being created to help justify providing an energy supply. He points out that three of the major owners of Big Sky have a deep financial interest in promoting increased energy consumption — Montana Power Company, Burlington Northern, Inc., and Continental Oil.

Ski Yellowstone will be about half the size of Big Sky, if it is permitted. When Ski Yellowstone approached the fish and game department to discuss the development, Director Wes Woodgerd explained how each development only eliminates a dozen elk, two grizzly bears, ten acres, five miles of trout stream. "Inch by inch, this is eating us up," he said.

In the Big Sky-Ski Yellowstone area, condominiums and bars would go up beside the elk range "so they could watch the elk," Schneider says.

Ski Yellowstone also encroaches on grizzly habitat, which is Schneider's "soft spot," he admits. Grizzlies, even more than other wildlife, need a "buffer zone." "The bear requires large amounts of quality habitat. That translates into wilderness — de facto or official — where the . . . bear can live on its non-negotiable terms imposed by millions of years of evolution. Those terms include the hard fact that humans in their mundane pursuit of everyday life and grizzlies in their routine pursuit of food are not compatible in the same space," Schneider explained in the November-December issue of 1972.

This is why Schneider believes that grizzly habitat is an especially critical indicator of the quality of life. "Biologists call it a summit wildlife — like climax vegetation. When it's gone, a lot of other things that mean a lot to our lives will be gone, too," he says.

According to the readership surveys, readers of *Montana Outdoors* include all age groups and people of all interests, which is unusual for a game and fish publication. However, Schneider says he realizes that some of these readers buy it because it is from the department and because it has pretty color pictures of the state. The result, according to Eldon Smith, is that information about the relationship between habitat and development gets to people who would not be exposed to it otherwise.

Schneider believes there is no reason why other game and fish departments couldn't serve the same function. He says there have been a few recent indications that Wyoming and Colorado departments are willing to approach more controversial issues. "Just think, there are 45 of those magazines; all but five states have one. Gosh, if they could all really get out there and going, they could really be a positive force in conservation," he says. He believes that if the people encourage their game and fish departments in this direction and if the sportsmen back them up, change might come.

—MJA

MONTANA OUTDOORS has earned a reputation which suits its symbol of the grizzly: independent, apart from the mundane world, and a fierce opponent when confronted.

Dear Friends,

"On the first of January nothing happens except to the calendar. The date marks no astronomical event and corresponds to no change in the seasons, either here or anywhere else. The ancient Jews, Egyptians, and Greeks — all of whom put the beginning of the new year in March instead — were following a sound instinct, and so were the Englishmen, who for so long stubbornly refused to change their old custom. Perhaps the world was not actually created for the first time in March of 4004 B.C. (as Archbishop Ussher demonstrated to his own and many people's satisfaction), but March is when it is annually created anew, and that is when the calendar of the soul begins."

—Joseph Wood Krutch,
The Twelve Seasons.

We have relaxed our guard this issue. Kept the pollution, corruption, and general doom-saying to a minimum. This time, we'd like to give space to the natural world.

The occasion is National Wildlife Week. If we have lost our roots, our sense of direction, if we are dizzy and bleary-eyed from too many technicalities, we declare that Wildlife Week should be a relief, a look at what is still wondrous in the West.

Here are bluebirds (build a house for them), wolves, peregrine falcons, eagles, and indefatigable trout.

If your senses are awakened by photos presented here, the time is right. We are now a part of March — the time to stretch the mind and ignore the snowstorm around the corner. The time to ski in the slush, hike in the mud, or risk straddling a forgotten bicycle. The time to make outside in, however you can, and watch the amazing changes.

—the editors

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