The Environmental Bi-Weekly

A Special Issue

Friday, October 25, 1974

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Vol. 6 No. 21

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Squeeting Out the Deer Litt. Anthology and Bighams / 20

HIGH COUNTRY By Jone Bell

The rhythm of the seasons is a wondrous thing. The transition of summer greenery to the reds, yellows, oranges, and tans of autumn has burst over our countryside. And the gentle rain and winds of last night carpeted the good earth with a mosaic of variegated leaves. This morning, snow rings the valley at the higher elevations of the mountains. It is forewarning that winter may soon descend to our level.

Meanwhile, work goes on here on the ground. Making a move from city life to the farmstead on undeveloped land is a pleasurable thing, but not an altogether easy one. Those contemplating such a move need to be aware of the time involved, the scarcity of some materials, and, depending upon the area, the availability of certain trades or skills which you may need.

Our well is a good case in point. In July, I started contacting well drillers. None, of many contacted, could give a definite time as to when they could come to drill a well for us. So, following a well established custom here in the valley, we decided to dig or drive a well. We wound up doing both. We had a backhoe dig about a 17-foot well into which we set one-foot-diameter concrete pipe for a casing. At the time we set the casing in, we had three feet of water in the bottom. Two weeks later we had none.

The concrete floor for a pumice block wellhouse had already been poured at dwe were ready to set block. There was only one thing to do—take the two-inch steel casing I had already bought, have a sharp, steel-tipped point welded on, and drive it deeper. At first, I tried a 16-pound, hand-held sledge until I bruised the heel of my hand. Then I had to go for a tractor driven well-driver. It worked fine to put the point down to a depth of about 23 feet. But then the steel casing broke off about seven feet below the surface of the ground, inside the concrete casing. It isn't easy to drive pipe through rock and gravel.

The decision was made to blow the point off and create a small hole at the bottom of the well. We blew it with a stick of black powder last Friday. Saturday I got a hand pump to clean the well and get as much sand out as possible. We couldn't get the pump to work until Sunday afternoon. Two of us pumping were able to pump it dry until we got a breakthrough of a water course through the compacted area of the blast. We are still not absolutely certain of the dependability of the supply. We won't know until we get our electric pump on it.

Our small, gas-driven powerplant arrived and should be in operation this week. In order to keep our demand for electric power at a low level, I bought a one-third horse-power pump with a low wattage level and an over-sized pressure storage tank. With that size tank and no other demand for electricity at night, our powerplant will only need to be operated during the day. Hopefully, that will not consume so much gas that our future methane digesters will be strained to supply our needs.

In the meantime, we have gotten along very well for two months without electricity in our trailer home. That is not to say we have not used some electricity because the washing has been done in town. And, yes, we have used some petroleum products in the way of wax candles and a Coleman, gasoline lantern.

In addition to our well problems, we have also had trouble with refrigerators. Thanks to cooler fall weather, we have gotten along fairly well without refrigeration for the past two weeks. Our older model Servel, gas-burning unit developed trouble which we still haven't solved. There is much to be desired yet in the way of low-cost, dependable, gas units. But that is another story which I will entail in a future column.

All in all, I think my family is doing its part in President Ford's WIN campaign. And although there are moments when we hearken back to the "good city life," we wouldn't go back. It's too enjoyable here on the land.





"NO, SIR, COLONY OIL ISN'T THERE. WANT TO MAKE A \$ 10 / BARREL BET IT'S NOT UNDER THE OTHERS."

Letters

Editors

The message of Chief Seattle which appeared in your Sept. 13 issue is so poignant and so true that I feel it alone well worth the price of a year's subscription to your excellent paper. My subscription doesn't run out until next month, but here's my check anyway. Keep up the good work!

Sincerely, Ann L. Sutton Alexandria, Va.

Dear Editors:

Students are not supposed to have all the answers to the problems, that is why we are going to school. We do see a very fundamental solution to some of the environmental problems that keep coming up in your paper. If you want to protect the banks, don't hire the bank robbers as the guards.

When the item of protecting the landowners rights comes up, most of the so called witnesses are hired professionals that do not own land. In fact, it is safe to state that the professionals have been hired by Industry to speak against controls. It would not be any task at all to find professors from the University of Wyoming that are on the State of Wyoming payrolls taking money from Industry to prove that this state should be ripped apart to do just the opposite of good management. The point is, if landowners need protection, their only hope is to take the bull by the horns and use their power to fight their own battle. Industry can and always will buy their expertise and testimony.

We don't see any evidence that people are minding the store when it comes to the Wyom-

ing environment. There are numerous examples of collusion with University professors selling services to Industry and outside consultants just for the extra money. Another item of interest, the information sold was probably generated at the public expense. You can bet that the results will also be at the public expense.

Sincerely, Student Committee on Environment Laramie, Wyo.

HIGH COUNTRY NEWS

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The Last Great Carving Up of America



American Graffitti Number One: Where were you in 1962?

Bob Chamberlain/Mountain Gazette photo

Vail, Colo.— A Case in Point

by David Sumner

Vail, Colo., is one of the outstanding mountain resorts in America. A \$160 million haven of affluent, alpine luxury; deep powder snow; webs of ski lifts; and tastefully fabricated Anglo-Tyrolean gemutlichkeit. Though at age 12 Vail suffers variously from its own rapid, erratic growth, it remains for many a touchstone of well-packaged pleasure, a model pioneering exemplar of the planned recreational mecca.

But early on, no one seriously planned for the deer.

In 1960, two years before the birth of Vail, the narrow, 10-mile valley where this resort has been developed was a semi-wilderness squeezed between the Gore Range-Eagles Nest Primitive Area on the north and a nameless, 11,250-foot spur of the Rockies to the south; it was occupied only by Gus Kiatepes' sheep ranch, a few lesser private holdings, and an uneven ribbon of asphalt which showed as U.S. Highway 6 on most road maps.

In milder winters a modest mule deer herd—something like 150 animals—survived in this valley: watering in the open pools of Gore Creek and browsing the sage, oakbrush and other feed from the sunny, south-facing slopes nearby. An estimated three to six times as many deer drifted easily through the valley each autumn, following the creek westward to its confluence with the larger Eagle River, and fanning out on the lower, broader bottomlands and benches beyond.

"I hate to say it," said Kris Moser recently, "but the prospect for these animals isn't good. Unless we take drastic steps, and then stick with them, the deer here will be no more than a pleasant memory. In 10, maybe 15 years, there may be a few remnant herds, but I can't imagine much more."

Moser, an intense, transplanted Philadelphian, is now the local Wildlife Conservation Officer in Vail. Employed by the Colorado Division of Wildlife, he has been fighting a steady, losing rear guard action here for six years now — long enough

to make his job often lonely and depressing. For better or worse, he really cares about his area's deer; it is a tribute to his personal strength that he's stuck with them this long.

VAIL VALLEY HISTORY

A chronology tells the story.

Before Vail, the deer wintered in or below the Gore Creek Valley from mid-October to early May; seasonal migrations down from high country summer range and back were loose, seemingly almost aimless, unimpeded by barriers of any consequence. Elk also wintered in these lowland areas as did about 30 Rocky Mountain bighorn sheep—the latter dropping down each fall from the serrated 13,000-foot peaks of the adjacent Gore Range.

ENTER VAIL

● Enter Vail in 1962. With their historic winter range and migration routes suddenly occupied by a growing number of second homes, lodges, resort facilities and skiers, the deer moved westward away from the ski area in the winter months. Save for a few exceptionally tolerant stragglers, the Gore Creek Valley itself ceased to be viable winter range; the migration route to the more hospitable Eagle River Valley beyond was pinched to a single bottleneck four miles west of town.

HIGHWAYS AND DEER FENCES

● In 1969, old U.S. Highway 6 grew to Interstate 70, high speed, multi-laned and lined on either side by eight-foot safety fences topped with a single strand of barbed wire. That fall, the an-

smay We and the rest of the March of the Property

nual mid-October deer migration down from the high country coincided with the Colorado big game hunting season. Unexpectedly blocked en route to their traditional winter range, many deer milled in confusion along the impassible highway fence. There they became easy targets for lesser hunters who grasped at this as a quick, cheap opportunity to bring home some meat or a trophy. Game violations and convictions for the area increased some 500%; people were even firing at the fleeing, disoriented animals as they bolted between the houses.

 In the wake of this episode, the Colorado Division of Wildlife groped uncertainly for a solution. The Vail area was permanently closed to hunting, but the eight-foot safety fence remained a problem, effectively barring the traditional seasonal migration of most of the deer. The wildlife people proposed an underpass (10 feet, by 10 feet, by 100) beneath I-70 at the site of the principle deer crossing in the lower Gore Creek Valley. The Highway Department was skeptical; deer were not known to travel through underpasses, and a costly and embarrassing white elephant was feared. Under pressure to do something, the agency went ahead with the \$22,000 job anyway and also picked up the entire bill. All agreed it was an experiment.

That first spring, 1970, the deer actually used the underpass, though with great reluctance — gathering first in a "staging area" immediately to the north, browsing about for several days, growing increasingly jittery, finally walking tentatively through the tunnel to continue their instinctive trek to fawning areas and summer range higher in the mountains. Using a "video-time-lapse surveillance system," Moser and Division of

"I hate to say it, but the prospect for these animals isn't good. Unless we take drastic steps, and then stick with them, the deer here will be no more than a pleasant memory." — Kris Moser, Wildlife Conservation Officer in Vail.

Wildlife researchers counted 157 deer passing through the underpass that first spring. In subsequent seasons, the figure has shown a steady rise; in the fall of 1972, a total of 546 animals used this alien but effective structure. In all cases the age and sex ratios were good, confirming the acceptance of the underpass by all segments of the herd population.

HOME-FED PREDATORS: DOGS

During this same period, the dogs of Vail, and its increasing number of residential satellite developments, also discovered the underpass and the easy pickings to be found nearby. The community's canine syndrome is typical of many mountain resorts in the Rockies: a pedigree is a virtual prerequisite; thereafter, the larger the dog, the greater the status symbol. This means a preponderance of Huskies, Malamutes, Shepherds, St. Bernards and the like — \$300 dogs with \$200 training, Moser calls them. Vail's is a strong, synthetic, home-fed predator population quite unlike the nominal number of coyotes that once roamed the area.

These dogs do not need to kill to live; to the extent that they harrass wildlife, they are only acting out instincts that their domestication has rendered superfluous — but not fully suppressed. The town of Vail has a leash law to prevent this, but it is irregularly enforced. More recently, Eagle County has enacted a simi'ar law. A pound is now under construction and the county is advertising for a full-time dog catcher.

The precise extent to which Vail's superdogs have preyed on deer is impossible to document; unquestionably according to Moser, the activity is common — especially in the vicinity of the underpass at the time of the migrations. The problem is not merely those deer brought down, hamstrung, or otherwise maimed and left to die. Especially in late winter and early spring, many of the animals are already weakened by the normal rigors of survival — especially the cold and the limited food. When an undernourished deer is chased by dogs, this can add a critical element of stress that eventually may bring death from other causes. In addition, pregnant does (and cow elk as well) bred the previous fall are known to abort if run excessively.

Moser's early attempt at solving this problem was not popular with many Vail residents and visitors.

"I shot so many dogs in this district," he explains matter-of-factly, "that I don't even like to think about it."

In addition, he worked the local press intensively, met repeatedly with town officials and groups, and generally strove to increase public concern in every way conceivable. In the past year or so, his efforts have finally begun to bring initial results; he is, for example, no longer alone in shooting free-roaming dogs. Colorado law now allows any citizen to kill dogs pursuing wildlife.

"The word seems to have got around," he reports. "It's still a serious problem, but I think the dogs are getting smaller."

VAIL LAND PRICES EXCLUDE DEER

● In recent years, Vail has grown remarkably. Today, 15 unincorporated subdivisions are squeezed into the Gore Creek Valley, and a second complete ski center, LionsHead, is wellestablished and serving a new network of ski runs a mile west of the original "core" village. This has intensified pressure for development on all privately owned land in the area. Included are three



When dog meets fawn, this is a common result. This infant mule deer, a young buck, was killed in the foothill community of Morrison, 25 miles southwest of Denver. Vail is far from being the only Colorado community with a "dog problem;" the situation around Aspen, Boulder, and Steamboat Springs is also acute.

Photo by David Sumner

parcels (two of 40 acres, one of 120) in the heart of the critical migration "staging areas" close by the deer underpass.

For over two years, Moser, the division of Wildlife, and the U.S. Bureau of Land Management (BLM) have tried to arrange a land exchange that would keep this vital acreage wholly undeveloped.

The stakes are high. Land values in parts of the Gore Creek Valley have inflated up to \$30,000 for prime quarter-acre building sites, so there has been talk of trading public BLM lands elsewhere in the state for the privately owned Vail area tracts in ratios of 20, 40 and even 100 acres for one. BLM local Area Manager Stew Wheeler has questioned the wisdom of this potential deal.

"How far should we go to protect these deer?" he asked. "Should we really be obligated to give up that much public land for them?"

At present, the exchange is still pending while a new appraisal is made. But even if the figures can be worked out, another roadblock is in the offing. Citizen opposition to the exchange has mounted in Colorado's Grand County (60 miles northeast of Vail), where the trade could add 1,120 acres of public lands to the new Val Moritz ski development, now being promoted as Colorado's next Aspen or Vail. Loss of some winter range for deer may be a concern here as well; however, the situation appears less critical than it is at Vail.

If the exchange plan fails, the Vail deer herd will be the most obvious losers, but they will not be alone. Though the owners of the three tracts near the I-70 underpass have been free to start building at any time, they have voluntarily held off development during the negotiations. In so waiting, they have now been overtaken by the advent of county-wide zoning which substantially reduces the allowable density on the critical lands. This reduction is not great enough to significantly help the deer, but it will cut deeply into the owners' return on their investment. Without the ex-

change, neither man nor beast around Vail stands to gain.

NO END IN SIGHT

Speaking at the 1972 summer Vail Institute Symposium, former Interior Secretary Stuart Udall prophetically discussed the future of the Vail-Gore Creek-Eagle River Corridor. He foresaw a continuous urbanized alpine resort strip, 60 miles long and a half mile wide, possibly as early as 1985. The mileage figure is exaggerated; the corridor which likely will be developed is something over half that length, but the basic idea is not fanciful.

Though the Rockies' second-home boom has been damped by current economic conditions (see High Country News, August 2, 1974), its ski industry is alive and well. Last winter, visitor days at Colorado ski areas showed an 8.3% increase; the prospect for the coming season is for continued, steady growth. Existing areas in the state have this year invested \$26 million in improvements and expansion to accommodate this.

Ski growth in the Rockies might also receive a massive boost from major, albeit as yet uncertain, changes in global weather patterns. These include the North American jet stream normally responsible for snowfall in the New England states, which are now the volume center of skiing in the U.S. For three consecutive years now, nearly snowless winters and unseasonable thaws have been the rule in the Northeast as torrential rains and 45-degree temperatures have washed many of the region's ski areas dangerously close to bank-ruptcy.

One more bad winter could finish the job; it may not reduce New England to ski country akin to North Carolina, but it will force the center of American skiing west to the Rockies. Right now, it's simply impossible to foresee how many Eastern skiers, despairing of their region's snowless slopes, could soon turn westward for their winter recreation.

In the Vail area, developers are banking on steadily increasing demand no matter what hap-

"\$300 dogs with \$200 training" . . . Vail's is a strong, synthetic, home-fed predator population quite unlike the nominal number of coyotes that once roamed the area.

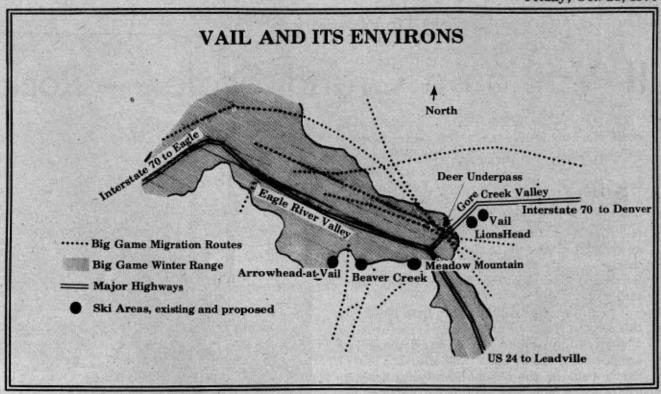
pens back East. Both Vail and LionsHead continue to build toward their limits, and the Gore Creek Valley is filling close to capacity; the mountains to the east, steep slopes on the north and south, and a narrow gap to the west (just beyond the underpass) block any more major growth. But on the far side of that gap, where Gore Creek spills into the Eagle River and the latter flows westward through a broad, U-shaped valley, the abundance of open space seem almost to mock Vail's restrictive, walled-in environs. Above this lovely valley is more class-A ski terrain. Running its length is I-70, providing quick, easy access all the way from Denver. Moving toward reality on its floor and the slopes above are two more major ski resort complexes.

Beaver Creek, once the designated alpine ski events site for the ill-fated 1976 Winter Olympics, is now awaiting approval of a special land use permit from the U.S. Forest Service. Many of the planned ski runs, eventually to be served by 14 lifts, will fall on 3,000 acres of public land. Over 5,000 additional private acres, including and surrounding the ski area, are now platted; the three major developers here project an eventual combined capacity of 18,500 persons; a number of townhouses and second homes, plus a tennis club and golf course, are already completed.

Immediately west of Beaver Creek lies the proposed Arrowhead-at-Vail ski resort; its sketch plan has been approved by the county, and developers are pressing the Forest Service for a go-ahead within three years. The smaller Eagle Ridge development is planned to tie into this. These two complexes are designed to handle another 9,750

Between these two areas on the west, and Vail and LionsHead to the east, lies a fifth potential site — Meadow Mountain. Formerly a small going ski area built to capitalize on the weekend overflow from early Vail, it is now an inactive 2,200-acre property belonging to the same firm that has Vail, LionsHead and Beaver Creek. Though only an intermediate ski hill, Meadow Mountain could eventually become the keystone of what some envision here: a row of five major ski areas tied together, one after another, by an incredible network of lifts, gondolas and cable cars. At peak capacity, this interconnected European-style complex could well accommodate something like 75,000 skiers daily, perhaps more.

In anticipation of this prospect, historic sheep ranches (some over 80 years old) even further westward along the fertile Eagle River bottomlands are, one by one like dominoes, selling out to investors holding them for their future promise. Most ranchers here readily admit their traditional



A series of after-the-fact, largely extemporized efforts (first an underpass, then shooting dogs, then increased citizen concern, then voluntary restraint by developers) have so far helped keep the animals from near extinction. And the possibility now exists for protecting some portions of critical winter range. In recent months, efforts to this end have occupied a significant amount of Moser's time. Although necessarily piecemeal, his accomplishments and those of others working in a similar direction give a flicker of hope for some of the Vail deer herd — and also for some of the elk that winter in the upper Eagle River Valley.

Among the positive steps are:

1) Vail Associates (developers of 2,200 acres at Beaver Creek proper) and Grouse Mountain at Vail, Ltd. (developers of the Eagle-Vail resort complex below Beaver Creek) have both signed letters of intent pledging some of their private lands to a 2,000 to 3,000-acre elk preserve.

2) No dogs will be allowed in Vail Associates' Beaver Creek development, unless the Division of Wildlife is satisfied with their means of control. This was a condition of the county's preliminary approval of the Beaver Creek development plat.

3) The Benchmark resort development below Beaver Creek and the Arrowhead-at-Vail complex will have strict dog controls and-or no-dog areas, as appropriate.

4) With the aid of another land exchange, Ben-

worries about the shape of things along the Vail Urban Strip a decade or two hence when new sets of circumstances, and new groups of owners and developers, could wipe out the agreements and controls of the 1970s. His statement is also only relatively optimistic since over a year ago (before he had begun to work intensively with the present developers), he was talking doom for the deer and many elk of the area. This view was backed by the Division of Wildlife's March 1974 comments on the earlier Beaver Creek area Draft Environmental Statement.

"Our major concern here," reads a salient passage in these remarks, "is that such development could permanently change the environment from a rural agricultural type that is productive for wildlife to one of urban character that is virtually a wildlife desert."

POSSIBLE HELP FROM THE STATE

How inevitable is this end? A year ago it was a foregone conclusion; with the various agreements made since then, the wildlife picture began to look slightly less bleak; now, action by Colorado Governor John Vanderhoof opens a third possibility, albeit remotely.

This past September a total of 13 Colorado State agencies — commenting on the Forest Service's Final Environmental Statement on its Management Plan for the Beaver Creek area — either opposed the ski development or voiced strong concern over its negative impacts. As a result, Vanderhoof has requested a delay in the Beaver Creek ski area permit "until substantial agreement has been reached by the various governments involved."

The Governor held out the possibility that firm state opposition could result; should that actually happen, the Forest Service would almost certainly deny its permit. More likely, Beaver Creek will get kicked around for a time; plans will be modified and the more serious problems (mainly those dealing with air, water and solid waste) will be addressed. Thereafter, the ski area will get the green light. Significant modifications to benefit wildlife are unlikely because animals are not a priority concern and because the large areas of land they need cannot be economically justified.

The best possible fate for the Vail deer herd (as well as the area's elk) is not bright. If these animals survive at all, they will do so as a diminished, semi-domesticated group existing unnaturally as objects to please affluent onlookers gaping here and there into little parks. For these animals, what was once wild, wide-open winter range will be reduced to an implicit, mountain-suburban zoo.

"How far should we go to protect these deer? Should we really be obligated to give up that much public land for them?" — Stew Wheeler, BLM Area Manager.

way of life is dying. Simultaneously, new rural resort subdivisions surface frequently: Tender Wild, Adam's Rib, Eagle Crest, Bellyache Ridge, Lake Creek. There is developable (though not outstanding) ski terrain down this way, too. The Vail Urban Strip creeps west.

BOON TO INVESTORS, BUST TO DEER

While a boon both to investors and to one form of winter recreation, the long term effects of this activity bode ill for the Vail deer herd. The animals' vital winter range, the last available destination for those same deer that must now dodge the dogs and skitter through the underpass, also lies in the same Eagle River Valley — below Beaver Creek, below Arrowhead, and beyond. If the activity proceeds, without strictly enforced dog controls and without the deliberate setting aside of substantial undeveloped tracts for wildlife, the situation for the Vail deer herd will be terminal.

chmark has also agreed to pare its proposed 4,140-unit condominium development on 1,800 acres below Beaver Creek to 1,910 units on 500 acres — primarily because the original plan would have encroached drastically on the Vail deer herd's vital winter range.

All these steps are evident compromises. Lands will not be developed to their utmost, and once Beaver Creek and its support developments begin to fill with skiers, there will be restrictions although, admittedly, giving up a pet is no great sacrifice and controlling one only a minor inconvenience. On the other hand, some wildlife will disappear. About half the Beaver Creek area's 150 wintering elk will be lost according to the U.S. Forest Service's Final Environmental Statement on its management plan here.

"I'm optimistic," said Moser recently, "based on how well the various controls are enforced, and the various agreements kept."

But Moser's statement is hedged with ifs. He

The Last Great Carving Up of America

II Vail on a Grand Scale — Rocky Mountain Orgy

The story of the Vail deer herd is a case study in itself; more significantly, it is also a contemporary parable for the entire reach of the Rockies — a story that is repeating itself, with no essential variation, time and time again. From Arizona north to Montana, from New Mexico to Idaho, the inroads of accelerating development are steadily, relentlessly, and in multiple combinations paring away habitat vital to the big game animals of the region — mule deer, white-tailed deer, elk, antelope, big horn sheep, black bears, Rocky Mountain goats.

It is almost impossible to get a firm handle on this process. This is so partly because it is a matter of attrition. (Animals are not dying en masse, just disappearing one by one — one after the other.) Partly because the habitat-destroying developments are so numerous and diverse. (By itself, the Vail case is small.) Part'— because in many instances, figures just don't exist, while in others, they are presently suppressed. Partly because the impact of many stresses is simply unknown. (Will Western mule deer adapt to urbanization as well as the whitetails of Pennsylvania or Michigan?)

This lack of information is ironic since it would be logical for there to be more attention given to impacts on big game. In the Rockies, big game are what might be called "high profile species" - not only because they are large and therefore visible, but also because, to one degree or another, all are hunted. Today this means that big game is the cornerstone of a significant regional recreation industry; back in 1968 (the last year for which figures are available), big game hunting expenditures in Colorado alone exceeded \$22 million. Even though the sport now suffers from a profound ethical confusion, it remains a growing activity throughout the Rockies; the fall of 1973 witnessed record numbers of both deer and elk hunters in Colorado, with increases exceeding 30%. Since the late 1800s, this economic import has meant that big game species have been studied, observed, coddled, pampered and managed with more partiality, earnestness and scientific verve than any other group of animals on this continent - excepting perhaps waterfowl and upland game birds. While contemporary critics rightly accuse state wildlife agencies of excessive attention to big game and of proportionate neglect of other species in the ecosystem, none can deny that this myopia has achieved some remarkable results. In many areas of the West where various big game species had been eliminated or largely reduced by the early 1900s, large populations now exist. Around the turn of the century, for example, Colorado hadn't a single antelope; today hunters in the state annually kill approximately 5,000 animals from generally stable, self-sustaining herds.

The existence of these ample populations has also helped bring big game vividly before the non-hunting public: watchers, photographers, and many others. In Wyoming, where deer still outnumber people, these animals are a visible and important part of the everyday landscape — akin to weathered barns in New England or white-faced cows in Nebraska. Around the old mining town of Ouray, in southwestern Colorado, bighorn sheep fulfill a similar role — sometimes even wintering

Trailer courts provide low-income housing for Vail area employees and construction workers. This is several miles west of Beaver Creek, in the Eagle River Valley. The shaggy dog in the roadway to the right hasn't the size to inflict much harm on the area's deer, but give him a few teammates...

within the city limits, and often in plain view from the one-counter cafes along the town's lone main street. Were these animals to disappear, it would be a deeply lamented local tragedy.

Perhaps the presence of these big game animals helps reassure contemporary residents of the West that the wildness which toughened, tempered and sometimes even broke their forefathers is not so far removed after all. Wildlife certainly does have that historical value: it reminds us, if only fleetingly, of what ruled this land before we came to dominate it.

CRITICAL ZONES IN CRITICALLY SHORT SUPPLY

Today, the critical element for the big game animals of the Rockies is open space; in particular, three different types of wild land are essential:

-lowland winter range;

—migration routes, some over 60 miles long, between those lower areas and summer range, which is most often higher in the mountains;

—fawning and calving areas at intermediate elevations where the young of the species are born and first nurtured.

If these animals survive at all, they will do so as a diminished, semidomesticated group existing unnaturally as objects to please affluent onlookers gaping here and there into little parks. For these animals, what was once wild, wide-open winter range will be reduced to an implicit, mountainsuburban zoo. Summer range, where extreme climactic conditions and public land ownership tend to discourage development, is still plentiful — but even its nutrient qualities appear to be declining as a result of heavy and prolonged livestock grazing. This is a probable cause of mule deer declines in areas where winter range is still in ample supply.

It is an irony of geography, weather, and history that these three critical zones, in the order they are listed, are most vulnerable to development—thereby to elimination as viable habitat. In the 19th century, the sheltered, low elevation valley sites were the most attractive to homesteaders; readily available water and fertile soils added to the appeal of these lands. So pioneers came, settled in and, in so doing, took this vital habitat out of public domain.

As long as this land remained in agricultural use, the impact on big game was largely minimal—though in some areas overgrazing and competition from cattle and sheep displaced populations. Today, however, descendents of the early pioneers are often unable to resist selling out those same historic tracts, now more habitable, profitable, and appealing than ever.

PERCENTAGES OF PUBLIC LAND DE-CEIVING

Partisans of continued rapid growth in the Rockies argue that the vast percentage of land in the region (almost 50% in Colorado, over 70% in Utah, almost 80% in Eagle County, the site of Vail) is public — either National Forest, BLM or state — and thus not open to many forms of private development. However, since much of the region's critical, lowland winter range for deer, elk, and, to a lesser extent, bighorns is at stake, mere percentages are both deceiving and weightless.

Furthermore, public lands are themselves far from immune to development, or from the impacts of development on adjacent private tracts. Almost every ski area in the Rockies occupies National Forest land; much of the region's timber and minerals comes from the same domain. To reach these, access roads must be built where before none existed; many of these become permanent. The Colorado State BLM office figures that over four million of its 8.4 million acres may be affected by developments on adjoining tracts.

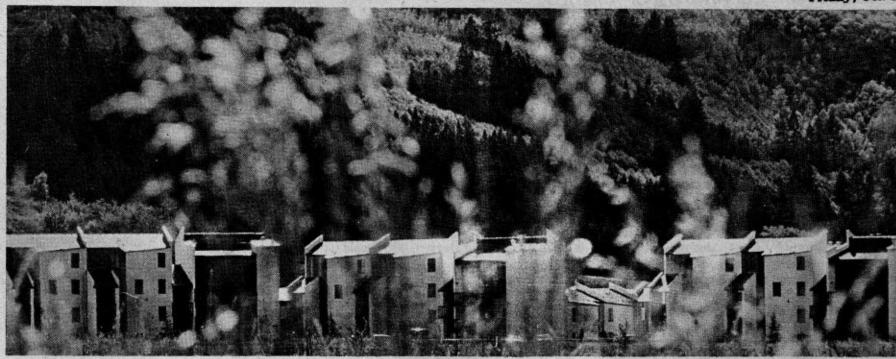
BIG GAME LOOKS ABUNDANT

Though some species in the Rockies are endangered, big game species are not. Through the efforts of the region's various state wildlife agencies, these animals are at near peak populations in many areas — and thereby deceptively abundant since their numbers stand at the beginning of a long downward curve. This illusion makes it all the easier for planners and developers to write off local herds with minor concern, and without incurring significant protest.

For example, oil shale development in Colorado's Piceance Basin threatens the world's largest migratory deer herd. Environmentalists have made repeated reference to this fact, as has the Colorado Division of Wildlife. But precious little concrete action on behalf of these aminals is in the offing. They can be sacrificed because it's common, unexamined knowledge that there are plenty of deer elsewhere in the state—somewhere

. . . for the time being.

For the big game of the Rockies, the result is attrition; because deer, elk and antelope are for



Townhouses in a meadow below Beaver Creek. These are part of the Eagle-Vail complex, one of three major developments which will feed the new ski area.

the time being still plentiful, the particular loss usually takes place quietly — accepted as an inevitable "trade-off," a cost that is far outweighed by the benefits of the project.

Even with a declining species like the bighorn sheep, the possible loss of small herds in scattered locations is at best a strong secondary consideration. Today, for example, a complex of 55 single-family residences and six townhouses (the first two, now constructed, contain 36 and 35 units) is now in progress three miles east of Vail. The 205-acre development site is also a quarter of a mile below a terrace of cliffs that is winter range for approximately a dozen bighorns. This is a remnant herd already. In 1962, the initial year of Vail's development, there were about 30 animals here; unregulated development in the upper Gore Creek Valley and non-existent leash laws appear to have contributed to the 60% decline. It is also

tional Forest. The project blocks the seasonal migration route of about 200 elk, and also occupies a portion of their calving grounds.

● Vigorous real estate activity in northern Montana's Flathead Valley (western gateway to Glacier National Park) has seen 43,000 acres carved into 827 subdivisions in the past 12 years. Because of local policies which deter development of prime farm and ranch land on the valley floor, much of this subdivision has been pushed back into the foothills — 9,000 acres of it into prime winter range for white-tailed deer and elk. As is the case with state wildlife agencies throughout the Rockies, the Montana Fish and Game Department has little to say about this activity.

"When our turn to comment finally comes," reports Bill Schneider, editor of the state's highly conscientious wildlife department publication, Montana Outdoors, "we put into the public re-

Divide, annual rainfall is only about 10 inches. But the potential for resource development is high—especially for fossil fuels—and thus investor interest is strong. Development, when and if it occurs, will pose a significant impediment to animal migration.

Between 1948 and 1971, reports the Colorado State BLM office, rural subdivision has eliminated 102,000 acres of mule deer winter range in the Roaring Fork Valley—gateway to the ski resort of Aspen.

Twelve miles from the northwestern Colorado ranching town of Meeker (slated to become a bedroom community for the oil shale industry) is an on-again, off-again subdivision bearing the ironic name, The Wilderness Country Club. Whatever its implications for the popular, market concept of wilderness, it is clear that proposed development will take place on 500 acres, with an additional 2,500 to be owned in common by the residents. At present, all this land is essentially wild (its only use is livestock grazing); 80% of it is covered with serviceberry and oakbrush, both vital winter feed for deer and elk.

"I am here to express concern for the big game which use this area in the winter months," stated Forest Service Ranger Dale L. Harthan at the Rio Blanco County Planning Commission meeting in March 1973. "I realize that the proposed development is on private land, but if constructed, it will affect elk directly, and their well-being is part of my agency's responsibility. Direct development of 500 acres may not be too significant, but the effect of having people, dogs, snowmachines, etc. there during the winter months will increase the area lost to 1,300 to 1,400 acres. This, plus other indirect pressures caused by the proposed development, will have the potential to reduce key winter game range capacity by 400 head of elk."

Harthan recommended against approval of the Wilderness Country Club and the planning commission did likewise. The developer indicated he would try to circumvent the latter decision, but he never had to take such a step. Soon thereafter, the county commissioners overruled their planning advisors and approved the project. "Their rationale," reports Harthan, "was that the county needed more tax base."

"Our major concern here is that such development could permanently change the environment from a rural agricultural type that is productive for wildlife to one of urban character that is virtually a wildlife desert." — Colorado Division of Wildlife comments on Beaver Creek ski development.

the last herd in the Vail area.

In part in response to this, the developers have voluntarily pulled back from full utilization of their tract; 124 acres (61% of the available land) will be open space — a substantial portion of it forming a buffer zone between the residences and the sheep's winter range. In addition, Vail's variably enforced leash law will also apply here.

Will these measures be enough? At best, it's a gamble, rather a long shot. Other developments exist or are in the offing nearby. The Division of Wildlife might do best to live trap the animals and move them elsewhere. But will the agency decide a dozen or so rare sheep are that important? And at what future date will the need to expand development into the inviolable buffer zone become overwhelming?

BUT THE TOLL ADDS UP

Twelve animals, even bighorns, is not a great sum. But start adding up the toll for big game throughout the Rockies and the figures rapidly gain weight. Subdivision alone will inflict a major toll, as the following examples, chosen at random, indicate.

Acord Lakes Mountain Retreat is a 3,600-acres summer home development on private land surrounded by central Utah's Fishlake Na-

cord the effect of the subdivision on wildlife. Sometimes we even recommend refusal. We know our letters are mostly exercises in futility. But nevertheless our 'predictions' for the state's wildlife remain in public files — a possible source for a hardy 'I told you so' sometime in the future."

Schneider's forthright stand on this kind of subdivision caused Montana real estate interests to demand his removal from his job, but Governor Tom Judge would have none of it.

In the heart of central Wyoming's semi-arid Red Desert, the old 21,000-acre Great Divide Sheep Ranch is presently being sold in 160-acre tracts. "Antelope, deer, elk, sage grouse, wild turkeys and wild horses may be found on the ranch," reads the rather formal offering circular (which is also misleading; the nearest elk are 50 miles distant, the nearest turkeys 100).

Anyone who envisions a second home in these parts best know what he's about; even though this land straddles a windswept dip in the Continental

"When our turn to comment finally comes we put into the public record the effect of the subdivision on wildlife. Sometimes we even recommend refusal. We know our letters are mostly exercises in futility. But nevertheless our 'predictions' for the state's wildlife remain in public files — a possible source for a hardy 'I told you so' sometime in the future." — Bill Schneider, editor of MONTANA OUTDOORS.

The Last Great Carving Up of America

Mickey Mouse Replaces Elk in Ecosystem

Back off, take a grander perspective, and it's possible to discern a major historic episode now in process in the Rockies. Reduce this to its rawest, meanest essentials and you have it: The Last

Great Carving Up of America.

This episode is a natural sequel to those other two great American land rushes of the post-World War II era. California and Florida, both former never-never lands of paradise and peace, had been attracting dreamers and refugees alike for decades. (The first Los Angeles land boom dates back to the 1880s; Florida did not take off until the 1920s.) Large enclaves of open space, be they defined in terms of a region or a state, have historically held a special lure to this peculiarly restless nation known as America.

Today, however, both Florida and California are battered by growth, their images increasingly tarnished and dubious in the national eye. Census figures for both states indicate their once astonishing growth rates have peaked out. But a far more penetrating symptom of the demise of the Florida and California dreams comes courtesy of the always shrewd marketing perceptions of Disney Enterprises, builders of the two most colossal pleasure palaces in the U.S. In their ways, both Disneyland and Disney World are opportunist death symbols - monuments to the fact that the natural landscapes of these two areas are largely too crowded and too cluttered to foster any grand dream of "the great escape."

Faced with this dead end, America is offered instead an inclusive, self-contained fantasy world: escape now with Mickey Mouse, Bambi, Mary Poppins, and the Seven Dwarfs. These engaging fabrications can be no more than reality substitutes in lands whose wide-open spaces once attracted, but now begin to repel, the national im-

agination.

Disney Enterprises also sits atop major land holdings in the Rockies (just outside the town of Dubois in west central Wyoming), but as yet there is no development here. It's too early in the growth history of this region really to capitalize, to create another truly effective and salable fabrication.

But with interest in Florida and California fading, developers of myriad pursuits and persuasions have for well over a decade been turning to the Rockies - at least implicitly aware that this is the last great enclave of attractive open space left in the contiguous 48 states. A brochure, stuffed in the Sept. 15, 1974 Denver Post, pushing a southern Colorado retirement haven known as Wild Horse Mesa is right on when it labels the Rockies "one of America's last rewarding frontiers."

NO SLOWDOWN IN SIGHT

Though the pace of growth is presently damped by the national economic slowdown, the region is unlike most of the rest of the U.S. While Florida, New England, and the desert Southwest, for example, languish in nervous economic stagnation, the Rockies continue in an on-going state of being discovered, optioned, staked, leased, peddled, and exploited.

True, events have occurred that would have been inconceivable several years ago. The Atlantic-Richfield-led Colony Development Operation has indefinitely postponed construction of the first scheduled commercial oil shale plant in Colorado. The ski area at the old quarry town of Marble and the residential-resort empire of the Woodmoor Corporation are now among Colorado's two most notable bankruptcies. Other developers are also in trouble. Some are holding large acreages on which they are unable to move and fighting to make monthly or quarterly payments. Others where construction is already underway,

have begun offering "no money down . . . no closing costs" purchase plans in an effort to stay alive.

Neverless, the dominant regional direction remains forward: toward growth. Co'orado's population is increasing much faster than the national rate. It was 2.2 million in 1970; today it is 2.52 million; by the end of the decade it is expected to reach close to 3.0 million. Other states in the region show similar, though not as prolific growth patterns.

Statistics exist to gauge the land impact of this kind of growth. For every 10,000 people settling in an area, 100 new acres are needed for retail and service stores, 150 acres for parks and other public lands, 700 acres for homes, 180 acres for streets, and 70 acres for industry. The total is 1,200 acres; this presumes high density development, which is not what many newcomers to the Rockies seek.

AN AIR OF URGENCY

Among the notable qualities of this regional growth despite national recession is the constant, never quite subliminal air of urgency. It is born not merely of the eternal allure of the quick buck; that shows only as the now familiar mixture of hustle and guile. Beyond that, there's something else, a new tonality, an uneasy awareness that this nation is indeed filling up, that once the Rockies have been sated with their Vails, their spin-offs, and their imitators - once the region has been dug, dammed, developed, and divvied to its limits the end of a 350-year era will be reached. Save for Alaska, which really is not that hospitable climactically, the American frontier as a geographic entity will be defunct.

Open space - with its perennial gift of the opportunity to go West, move on, hit the trail, always to something better - has been the background against and into which American has grown. For 350 years there has always been more of someplace else: a territory ahead, a virgin land, a better place to make a living or a killing. This was implicit in the founding of Jamestown, Plymouth, Detroit, Los Angeles, Vail, and Wild Horse Mesa. In the flooding of Hetch Hetchy and Glen Canyon; in the strip mining of Appalachia and the Northern Great Plains. This vision (shrinking daily as a reality) has fostered incredible dreams, exaggerated expectations, inordinate hopes; it is now the cornerstone of some of our most deeply embedded national assumptions, including our very capacity to conceive of what the word "future" means.

But with the Rockies, this endlessly mobile, immensely opportunistic orgy will exhaust its last great geographic resource. Truly attractive open space will cease to exist in large, alluring, undiscovered chunks; it will survive instead only in . scattered, out-of-the-way patches and corners and then under increasing surveillance and con-

parody — an acting out of an historic gesture without its historic substance, a momentum without mass. No grand vision of a new and better life prompts this helter-skelter raid; instead, the primary impulse is more an urge to keep things going the way they have already been going until they are gone. And still bigger, still faster.

Among the notable qualities of this regional growth despite national recession is the constant, never quite subliminal air of urgency. It is born not merely of the external allure of the quick buck; that shows only as the now familiar mixture of hustle and guile. Beyond that, there's something else, a new tonality, an uneasy awareness that this nation is indeed filling up. . . .

trol. For the legions of go-getters who capitalize on the land and its gifts, space is running out, and with it, time. The abundant Rockies are their last great opportunity.

So now it's a matter of seize the day. The end of an historic era is often characterized by a certain frenzy and decadence, and thus it is here: not only the incessant hawking of subdivided nirvana, but also the rush for the region's many non-renewable resources. The entire phenomenon seems almost a



Snow has fallen, and an elk herd makes its way from the high country to the valleys and foothills below.

Photo by Charles W. Smith



The Last Great Carving Up of America

IV Emigrant Go-Getters, Native Boosters Plan Destiny of Frontier

Material finitude: few concepts are more alien to the American mind — but here it looms, an inadmissable spectre in all its concrete reality. Project Independence, with its heavy plan on "national self-sufficiency" through infinite energy, is public policy declaration of just how difficult the realization is. As long as there is a chance at ducking this fact — even if that chance demands the concoction of Rube Goldberg technologies which reduce the living tissue of the land to abcessed wounds — it will be pursued, chased, reached for, ultimately like a fistful of sand.

Today in the Rockies, mining for coal and oil shale top the list of energy activities; interest in uranium is also high; the Bureau of Mines is trying to figure out how to develop Utah's tar sands. BLM is striving to accelerate its oil and gas leasing programs while also readying for intensified grazing on public lands; the Forest Service is gearing up for a 12% per decade increase in grazing demand on its lands through the end of this century. The Atomic Energy Commission is eager to become involved in in situ oil shale processing. The Bureau of Reclamation (BuRec) has swung the weight of its activities from agriculture to the task of meeting the massive water needs of energy development. Demand for timber from the National Forests is increasing at about 25% per decade. Non-energy minerals are being eagerly sought. Demands for all forms of recreation (not merely skiing) are up.

In the process, wildlife is being inexorably squeezed out; its economic value pales beside the potential worth of other regional resources;

aesthetic, historic and ecological values are largely regarded as pleasant, romantic luxuries—useful only when they can be marketed.

THE LAST REWARDING FRONTIER

With this frenzy of activity in the Rockies, a classic and predictable planning pattern has emerged. In most cases, this is a polished, well-calculated repeat of earlier efforts on the two coasts and in the upper Midwest — inadequate efforts with serious environmental consequences which could have taught people in the Rockies wisdom and could have stirred foresight, but which, by and large, have not.

Even though many contemporary residents of the Rockies are natives of those generally illplanned and overdeveloped regions, this area as a whole languishes in a backwater of environmental consciousness. Much is made of the people who come to the Rockies to enjoy the clean air and wide-open spaces, but the notion may well be something of a lie. On a deeper level, most of the newcomers have been aware that they've also come to "one of America's last rewarding frontiers." Having failed to reap those rewards primarily social and monetary - where they started out, many have turned to the Rockies precisely because they want to "make it." The historic fur trappers, gold and silver miners, and cattle barons are telling precedents. Fresh opportunities still exist here that are largely closed off elsewhere

The alliance between these emigrant go-getters and natives; most of whom languish in a world of 19th century boosterism, has done much to create the diverse boom now under way in the Rockies. Though many, in their own eyes, believe they are sincerely concerned about the land, the dominant environmental sensibility of the region remains epitomized in the terms "minimize," "mitigate," and "manage."

Faced with destructive projects the magnitude of oil shale and Northern Great Plains coal development, most people simply refuse or are unable to comprehend the extent of what is really going on. Perhaps this is because such a realization would be too painful, for it implies not only environmental ruin, but also the end of what has, for 350 years, been limitless plenty.

Promoters and followers alike also express an astonishing confidence in a pair of technological panaceas—planning and land restoration—belying a continuing faith in abundance: in the imagined capacity of the land to suffer destruction (or drastic change) and still retain its satisfying and productive qualities.

ANOTHER TYPICAL, PLANNED DISASTER

The planning process which follows from this sensibility pursues a regular, predictable sequence. It begins with a ceremonial announcement of the project — a subdivision, a resort, a mine, a dam, a livestock grazing allotment plan, a timber sale. Though in truth extensive engineering andor feasibility work (economics is understandably paramount) has preceded these occasions, they invariably exude an air of the wondrous and the new.

In the more sophisticated privately-funded instances, the project is (or will soon be) legitimized and blessed by a pandering professional ecologist, whose next contract depends on the "success" of this one. His work includes an environmental inventory of everything from salamanders to saprophytes to soils, and he will be retained to monitor the disappearance and-or deterioration of same. Often PR firms are hired to coat the scheme with a gloss of ecological rhetoric; polished, four-

color brochures with soft-focus photos give the words visual impact.

Government promotions are not as slick; however, with them, dense and sometimes illogical bureaucratic prose, plus Byzantine documentary justifications of inordinate bulk strive to achieve the same overwhelming propagandistic effect. No matter who the promotor is, each new job will be "better" than its predecessors; thus the mistakes of the past will be avoided - even if the mistake is attempting the job in the first place.

There follows a response - a dissonant chorus of after-the-fact outrage and praise, opposition and assent - all of which is ground into the tailend planning mill, though not usually in equal portions. The final result will be billed as a compromise, but in truth most developers will make only those concessions necessary to get their project underway so they can reap its rewards. The job will be patched, modified, and given a cosmetic lift while remaining essentially intact.

Wildlife will seldom play a major role in any

changes that are made.

Furthermore, as the Vail story shows, the planning will probably be short-sighted. Secondary growth and impacts will not be anticipated with consistency; new development will proceed under variances, zoning changes, and the like which will further undermine the original compromises. How, in 1960, could the founders of Vail (those same people who bought the original 550 acres there for about \$100 acre) have forseen all that has come to pass, let alone that which is now just beginning?

Photo by Don Hinton



Winter range is critical to the survival of the remaining big game herds. Unfortunately, these choice lowlands are often also ideal for development, which explains why wildlife can be endangered in areas long before we lose all of our wide open spaces.

The Last Great Carving Up of America

Wildlife — Another Victim of Energy Demand

Throughout the Rockies, their entire length and breadth, subdivision is but one motive for carving up the land - for converting habitat to other "more beneficial" uses. In truth, the process shoves forward simultaneously on a number of interrelated fronts — both in the mountains themselves. and also on the diverse lowland plains, plateaus, and basins that support those heights. Unquestionably, the two largest single projects in the region are Northern Great Plains coal development and oil shale. Both involve vast areas of what today is essentially wild or semi-wild land where present use is limited almost exclusively to livestock production.

Future coal and oil shale development will turn the Rockies into a gigantic energy colony since most of the power produced by these regional resources will be exported out of the region. With either development, environmental disruption extends far beyond the destruction of wildlife habitat, but again this concern is a major one.

COAL COMES OF AGE

Coal. In March 1972, former Montana Fish and Game Director Don L. Brown indicated that his state's wildlife could "lose 770,000 acres of habitat and 2.6 million acre feet of water" to coal development. Elk, mule deer, white-tailed deer, and antelope are all involved in that state's portion of the great Powder River Basin coal fields.

Across the border in Wyoming, where most of the 20,000-square-mile Basin lies, figures are harder to come by. This is not only because the shape of actual development changes from one day to the next (new plans for mines, plants, railroad lines, and reservoirs surface regularly); but in addition, the Wyoming Game and Fish Commission

is under political constraints which limit its accessibility as a source of information.

A conservative April 1974 report from one game biologist in that agency points toward a direct loss of between 9,000 and 40,000 acres of deer habitat, and between 9,000 and 47,000 acres of antelope habitat by the end of the century. As is commonly the case, loss of habitat to other uses is but a part of the picture; poaching, accidents due to vehicles, increased fencing, and similar human pressures could well double the numbers of wildlife lost.

The Northern Great Plains Resource Program (NGPRP), a joint federal-state study of the impact of coal development on Montana, Wyoming, Nebraska and the Dakotas, puts the habitat loss in a regional perspective in a September 1974 draft report. The NGPRP report predicts that if a low level of coal development occurs in the region (144 million short tons of coal produced in the year 2000) mule deer and whitetails will likely lose 51,359 acres of good or medium quality habitat by the year 2000. Antelope stand to lose 44,227 acres by the year 2000 and other big game 527 acres if low development occurs.

Habitat losses if high development levels are pursued (977 million short tons in the year 2000) compound the crisis. NGPRP places predicted acreage losses for the year 2000 at 277,255 for mule deer and whitetails, 210,842 for antelope, and 2,216 for other big game under the high development scenario.

SQUEEZING OIL FROM ROCKS AND DEER FROM THE ROCKIES

Oil shale. Like the Northern Great Plains coal country, the tri-state oil shale region

(positioned where Colorado, Wyoming and Utah meet) is vast: approximately 17,000 square miles. It is also superb habitat.

Colorado's Piceance Basin, where the richest oil shale deposits lie, is winter range for the White River mule deer herd which historically has numbered between 30,000 and 60,000 animals. The state's Division of Wildlife estimates that the BLM lease tract recently obtained by Standard Oil of Indiana and Gulf Oil supports 52 wintering mule deer per square mile. Wayne W. Sandfort, the Division's Wildlife Management Chief, believes that the oil shale boom could reduce the White River deer herd by 75 to 80% by the year 2 000.

Marginal inflationary economics, not environmental concern, is already in the process of delaying oil shale development. However, it will be a time yet before the true meaning and import of the Colony Development Operation's suspension of plans for development in Colorado can properly be assessed. Colony's decision may point to a more intensive shift to traditional and presently more economic fossil fuels - oil from the outer continental shelf (another frontier) where 10 million acres are scheduled for lease in 1975, and Northern Great Plains coal. If this be the case, oil shale will move to the back burner until the crude dries up and the coal runs out. The Federal Energy Administration's recently released preliminary oil shale assessment, with its generally unfavorable tone toward this energy source, appears to back this view.

OTHER MINING PROBLEMS

Both oil shale and coal developments are similar in two basic respects. First of all, their size, complexity; and longevity are difficult to overstate.

The direct impact of acres mined (and thus lost as habitat) will, in the long run, be less significant than the effects of the total support development both industries will require: highways, railroads, jetports, dams, diversions, aqueducts, new communities or substantial enlargements of old ones, power plants, transmission lines, and basic construction materials (timber, sand, gravel, cement). Throughout both regions, people pressure will increase as well.

Forthright, well-prepared regional environmental impact statements could deal adequately with the cumulative impacts on wildlife, but none are being prepared. Instead, the developments are being handled in a bit-by-piece fashion which focuses on the larger picture only occasionally in passing. It is much less revealing to issue 25 or 50 discreet impact statements — as if one part of the development puzzle were unrelated to all the others

The second concern common both to coal development and oil shale is adequate reclamation of mined lands and other acreage disturbed by support development (building sites, roadways, railroad grades, etc.). This is essential to the survival of healthy wildlife populations both during and after development, and it is not an easy task.

Both the Northern Great Plains and the oil shale country are characterized by thin topsoils and scant rainfall. On many sites, only exotic plants (for example, Sudan grass, alfalfa, and crested wheatgrass) have taken root with much success. None by themselves furnish adequate habitat, and many tend toward monocultures when exactly the opposite is needed: a diversity of usable forage and cover, most of which are native to the area.

According to the Rocky Mountain Center on Environment's (ROMCOE) report "Energy-Related Legislation in the Rocky Mountain States" by Ann Sayvetz, surface mining law requirements vary enormously throughout the Rockies. ROMCOE notes a total lack of regulation in Arizona and Utah and very stringent standards in Montana.

The Montana law goes so far as to say "certain lands because of their unique or unusual characteristics may not be mined under any circumstances," ROMCOE says, "No other surface mining law in the region explicitly recognizes that environmental damage may be a controlling factor in the decision to mine resources."

Montana law says you must be able to return the land to its original productivity or better. In contrast, several states (Colorado, Idaho, New Mexico, and Wyoming) have exceptions to the revegetation requirements where rehabilitation is "not practicable" or not "economically or technologically feasible," according to ROMCOE. It is not clear what "economically feasible" is supposed to mean since any reclamation effort will cost more than none at all. And "not practicable" is a giant loophole in light of the National Academy of Science report that concludes reclamation may take 50 to 200 years, and in arid climates may not be possible at all.

Oil shale mine reclamation looks just as discouraging. Although revegetation of cubic miles of sooty, dark, sterile "spent shale" poses an immense, unique reclamation problem, state controls are non-existent and BLM controls aren't sufficiently strong.

Generally speaking, the dominant Western philosophy of reclamation is toward a kind of prettifying — "restore to a natural-appearing condition" is a phrase which epitomizes this — a cosmetic patch job rather than thorough environmental rehabilitation. Only the latter can attend adequately to the needs of the varied wildlife species in the ecosystem, including big game.

The Last Great Carving Up of America

High Country News-11 Friday, Oct. 25, 1974

VI Dams, Timbering, and Fencing Take Awesome Toll

The scope of both Northern Great Plains coal development and oil shale tends to dwarf all other activity in the Rockies. However, lesser causes of habitat attrition, when their impacts are tallied, are no less profound in the losses they promise to

Dams. Both the Bureau of Reclamation (BuRec) and the U.S. Army Corps of Engineers are actively pursuing their specialty in the Rockies. Not a single free-flowing river or major canyon has escaped the drawing boards of these agencies' planners, though in many cases public pressure (focused by Wilderness and-or Wild and Scenic Rivers designation) has achieved preservation.

Wildlife, including big game, has been a largely secondary concern in most of the West's river battles — even though stream terrace and valley habitat is a consistently critical component of the region's ecology. Long ago historian Walter Preston Webb first called the West "an oasis civilization;" when an oasis is destroyed or drastically changed, all the life it supports is affected.

This became starkly evident to citizens of northern Idaho in late 1971 after the gates were closed at the Corps' 717-foot-high Dworshak Dam on the North Fork of the Clearwater River. Since 1957, the Idaho Fish and Game Department had opposed the project — predicting the loss of winter range for 800 elk, for up to 300 white-tailed deer, and the blocking of migration routes for many more.

However, as the winter of 1971-1972 blew into the Clearwater country, nothing had been done to cope with this prospect. In December over 100 deer, seeking their winter range which was by then inundated, fell through the ice of the rising reservoir pool and drowned. On January 12, 1972, the belatedly outraged Lewiston, Idaho, **Tribune** reported in an editorial what not even the game managers had forseen previously: "some 1,300 deer are wintering on the ice, and 650 of them will die unless something is done."

The 50-mile-long reservoir has also eliminated some 17,000 acres of elk range, but the impact on these animals has not been as dramatically visible. For over a decade now the Corps, the Forest Service, the State Fish and Game Department and the State Land Board have been haggling over the purchase and special management of replacement habitat. Though negotiations have dragged out for a decade, the task remains incomplete.

LEAVE NO STREAM UNDAMMED

A similar sequence of events is in the offing for almost every authorized water project in the Rockies. For example, a 1967 Colorado Division of



Barbed wire has meant death for large numbers of pronghorn antelope in the West. Bureau of Land Management researchers are now recommending unwoven fences — which will hold most sheep and which will allow most antelopes to pass. Use of these fences is not official BLM policy yet, however.

agricultural interests of the West are rapidly waning. Southern Idaho's ill-conceived Lower Teton Project, which virtually dooms 500 to 1,000 wintering mule deer, is one of the last of a porkbarrel era; its purpose is primarily to irrigate potato fields, most of which have sufficient water as it

However, the advent of the Rocky Mountain energy rush has given BuRec new life; increasingly, more of its projects are designed to provide water for "M&I" uses, i.e. "municipal and industrial." Both coal and oil shale promise to consume great quantities of water; the increased populations needed to run these industries will intensify this demand. To this end, a mid-September 1974 BuRec report outlined 28 water projects that could be built to supply the four federal oil shale lease tracts in Colorado and Utah. The Allenspur Dam on Montana's Yellowstone River is only one of a number of projects being advanced to support the coal industry. For whatever of these many proposals that become real, wildlife losses are inevitable.

MITIGATING DISASTER

Under the Fish and Wildlife Coordination Act of 1958, both dam-building agencies have established "mitigation" programs — the actual design of which is worked out by the Division of River

Generally speaking, the dominant Nestern philosophy of reclamation is toward a kind of prettifying — "restore to a natural-appearing condition" is a phrase which epitomizes this — a cosmetic patch job rather than thorough environmental rehabilitation.

Wildlife report on BuRec's proposed Upper Gunnison Project in the central part of the state reaches the following conclusion: "8,000 acres of big game winter range ... will be affected which will necessitate a reduction of 800 to 1,000 deer or from 615 to 800 elk." The loss would be brought about not only by the direct flooding of habitat, but also (because this is an agricultural project) by "the conversion of native range lands to irrigated, agricultural lands" — i.e., intensively farmed monocultures where deer and elk are regarded as predators and shot out accordingly.

For BuRec, its days as a handmaiden to the

Basin Studies, Bureau of Sport Fisheries and Wildlife. The intent of these is somehow to make up for, or replace, habitats that have been irreversibly destroyed. For terrestrial wildlife, mitigation commonly takes on two forms: special planting and or "management" of public lands to increase their forage productivity, and outright purchase of private lands for big game range. However, the latter is becoming increasingly difficult as land prices in the Rockies rise; often, too, project monies run out before transactions take place.

In many cases, the argument that purchase of

private lands benefits wildlife is fallacious; since those lands are active habitat anyway, no additional range is being provided. Planting and burning to increase big game forage tends to take place in an ecological vacuum — boosting the productivity of the land for one or two species while largely ignoring the rest of the system.

Finally, the extent of the mitigation, whatever form it takes, seldom matches that of the habitat destruction — not only by reservoirs, diversions, canals and laterals, but also by the dependent development a water project can stimulate.

The proposed Dallas Creek project near the town of Ouray, in southwestern Colorado, is a case in point. Not only will it flood many acres of mule deer winter range; in addition it will provide necessary water for a major coal mine (some of it probably stripped), a powerplant or gasification facility, plus new communities and or subdivisions that could someday number 45,000 people. All this simply cannot be mitigated.

TIMBERING EFFECTS VARY

Timbering. The jury is still out on the precise impact of timbering on big game; effects vary from one area to another. If carefully laid out, a cut may benefit both deer and elk by "opening up" a tight forest canopy and allowing forage to take hold. If haphazardly planned, the entire ecosystem, including wildlife, will suffer. On the National Forests of the Rockies, ber efits of timbering for big game have frequently been cited, almost by rote and after the fact. On "show-me" tours, agency employees will urgently point out even the most scant sign of deer or elk tracks or droppings in a clearcut. Rationale appears to exceed reality.

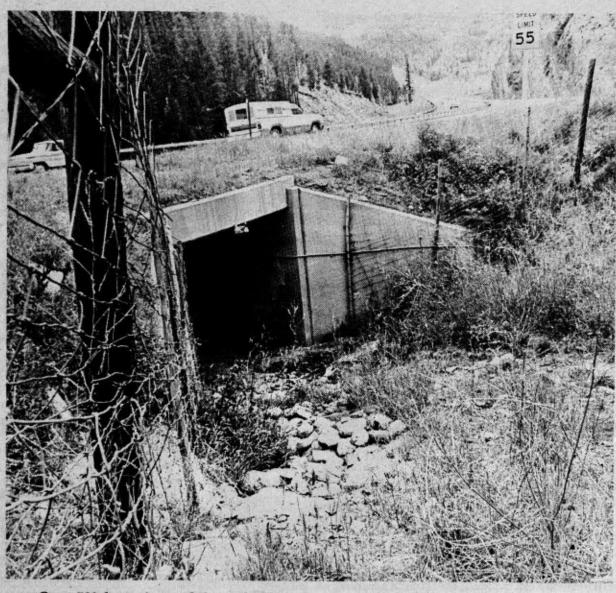
Particularly in the case of elk, a species which rarely tolerates sustained human intrusion, it is clear that timbering can be a detriment. Calving grounds are commonly vulnerable because cows seek heavily forested cover to bear their young. In addition, logging roads can provide ready access to de facto wild areas which often provide the securest habitat.

Montana wildlife biologist (and Fish and Game Commissioner) Leslie Pengelly also questions whether the Forest Service can rightly assert the benefits of clearcutting, for example, as a provider of big game forage when the agency has not determined if food is the basic limiting factor in the animals' ecology. In the Rockies, much clearcutting has taken place in areas of summer and or intermediate range where big game forage is already in ample supply. Along Embargo Creek in southwestern Colorado's Rio Grande National Forest, several large clearcuts adjoin long, grassy parks reaching upward to the alpine tundra. Forage is growing back in those clearcuts, but it can only give the area's elk more of what is already available in abundance.

WIRE DEATH TRAPS

Open Range Fencing. Centuries before the invention of barbed wire, Shoshone Indians observed that the fleet pronghorn antelope, despite its innate ability to do so, seldom jumped a vertical barrier. Seizing on this knowledge, tribesmen piled brush in long, V-shaped windrows to make traps for antelope drives. Since these animals of the plains were used to running around all obstacles, they became easy victims to the Shoshones' strategy.

Early white settlers were disinterested in this peculiar trait, but from the 1870s onward, they



Over 500 deer migrated through this underpass beneath Interstate Highway 70 near Vail in the fall of 1972. Fencing similar to this has been put up along the route further west to cut down on deer-auto accidents, a common liability of high speed highways in habitat areas; its cost is approximately \$19,000 per mile.

were increasingly eager to lay claim to "their" portion of the open range. Their prime means of doing this was barbed wire. Early on, the prime concern was simply to keep livestock in check. However, in recent decades, the use of barbed wire has become increasingly synonymous with "grazing systems" — diverse strategies designed to manage livestock for maximum meat production for a growing, hungry nation.

In the process, tens of thousands of miles of barbed (and also woven net) wire have come to criss-cross the antelope's native range throughout the West. Only after the vast fencing networks were in place was it discovered that these sheep-tight barriers were antelope-tight as well.

Awareness of this impact grew steadily. Antelope died of thirst in enclosed pastures where water holes had dried up; they starved when they were unable to leave overgrazed range; they died of malnutrition and exposure when they were unable to migrate to protected winter range where forage was available. In the winter of 1971-1972, between 2,000 and 9,000 antelope perished in one sector of Wyoming's Red Desert when fences blocked their migration from snow-covered summer range.

This last incident was the most recent and well-publicized of an attrition that had grown with the fencing of the West. Observers began noting this impact back in the 1940s, and by the mid-1960s, criticism of over-fencing was wide-spread; documented reports of antelope mortalities came from eight different states.

During the same period, research toward a solution picked up; a 1973 bibliography on this subject lists over 70 Ph. D. theses, monographs, reports, position statements and field studies on antelope

and fencing — most of the work by BLM and-or state wildlife biologists. However, in content, the material tends to read like so many exercises in the reinvention of the wheel, primarily because livestock interests have misled and hampered the work, or else blocked its implementation.

Finally, in 1973, BLM researchers compiled a comprehensive national policy (the first ever) for all fencing in antelope habitat. The intent was to assert a fact which research had already and repeatedly proven true: fence types are available which will hold most sheep and allow most antelope to pass.

Uneasy about asserting this policy without public input, BLM next called a Regional Fencing Workshop in Cheyenne, Wyoming, in March 1974 to allow several hundred leading stockmen and environmentalists to debate their ways to a compromise. Another policy draft resulted, its fencing standards essentially the same as those recommended by the BLM researchers. It was released and circulated for comment this past August; the input is now being reviewed.

Out on the antelope range, most of the impassible fences remain in place as they have for decades. If the August draft policy remains intact, modifications will begin soon, and the antelope-proof fence will be largely a thing of the past.

BROWSE ERADICATION AND DEEP SNOW

This turn-around on open range fencing is an exception to the growing pressures on wildlife habitat in the Rocky Mountain West. One could enumerate the process of depletion almost indefinitely. Sagebrush, which can be vital winter sustinance for antelope and deer, but not for cows, is "treated" with herbicides so that it will be succeeded by grasses which grow cattle. In Montana, mountain mahogany, and antelope bitterbrush (also vital browse plants) have been eradicated because they had the misfortune to grow next to sage.

In Colorado, clouds are seeded to increase water

In the process, wildlife is being inexorably squeezed out; its economic value pales beside the potential worth of other regional resources; aesthetic, historic and ecological values are largely regarded as pleasant, romantic luxuries—useful only when they can be marketed.

River so that the probable salt loading from, for example, oil shale development will not further debilitate its waters), but the increased snowfall threatens to bury deer and elk winter range. For a

been at least temporarily scuttled.)

A new highway which duplicates an already existing route pushes across the northern reach of Wyoming's Big Horn Mountains. Pressure to build every last segment of Interstate Highway 70 across Colorado intensifies, even though major relocation (and thereby habitat loss) is involved, and even though the national 55 m.p.h. speed limit has rendered this Eisenhower era program unneeded.

production (and dilute the salinity of the Colorado

time, a jetport runway threatened to reach deeper into Grand Teton National Park. (This plan has

None of these and similar projects show any pretense of benefitting big game; most are obviously detrimental, but for the most part, such impacts have and will go unnoticed. The self-concealing nature of attrition is but one element of this; various state wildlife agencies are also at fault.

HUNTERS ERASE EVIDENCE

In their practical zeal to see that no big game goes "wasted" (and no license unsold), these agencies have helped conceal the most vivid impact of on-going habitat depletion throughout the region. The mechanism is disarmingly simple: when plans or studies show that project X is going to usurp critical range for Y deer or Z elk and thus doom them to death by starvation, the wildlife agency involved normally hikes the number of hunting licenses available in the area to be affected. Thus, game herds are "cropped down" to numbers which the reduced habitat can support. This usually takes place over a span of several years; when it's over, it's as if absolutely nothing at all had happened. Happy hunters have carted off the "surplus" game; happy developers proceed with their projects; and relieved game managers count themselves fortunate for having averted the public relations spectre inevitably presented by the sight of starving and dying animals.

In truth, state wildlife agencies might do greater long term justice to their big game herds by deliberately allowing such nightmares to take place. Instead of permitting herds to be deceptively "trimmed" again and again, perhaps they should forthrightly let the inevitable consequence of habitat depletion take place. Let the deer or elk become malnourished, starve, and die in clear sight of the public eye. For example, let this happen to those 75 elk to be "traded off" for the new ski development at Beaver Creek west of Vail. This is a simple matter of playing it straight. Generally speaking, people must see a problem (or hear it, or smell it) before they become seriously concerned, perhaps before they realize there is a problem in the first place. Hiding the results of habitat loss only helps insure that more of the same will con-

Given the political (and generally unprofessional) essences of the region's state Game and Fish Commissions, it is unlikely that the real effect of habitat depletion will be allowed to become so visible. Those Commissions are appointed bodies (members are usually tapped by the Governor whose decision is subject to some kind of legislative review. Qualifications for appointment are next to nil. (In Colorado, unwritten criteria seem to be: a) the person must hunt and-or fish; b) must be known and respected in his community, and c) must generally reflect the views of the Governor who appointed him.) Pressures on members are such that many end up serving the interests of people more than those of wildlife. To allow any number of animals to die because their habitat was usurped - by a subdivision, a dam, a strip mine, whatever — would not be politically expedient.

The Last Great Carving Up of America

VII Life-Giving Habitat Last Hope

The need today in the Rockies is for a multiple, crash habitat program — even now as it verges on being too late to preserve much more than remnant, protected herds like the 800 or so bison living beyond their time in Yellowstone National

For the big game species of this region, the issue is not extinction — not even for a declining species like the bighorn sheep. Today only the plenitude of these animals is threatened — the continued existence of deer, of elk, or antelope in something reminiscent of their historic numbers. This concern has little to do with hunting; it has instead to do with maintaining a modest continuity with our past, with the pioneers' vision of a seemingly limitless, almost overwhelming abundance, all of which was wild.

In certain spots in the Rockies today, and at certain times of the year, one can still see — in a single sweep of the eye — a thousand or more deer, or antelope or even elk. Not the semi-domesticated animals of Yellowstone or the National Elk Re-

In Colorado, for example, rural counties are consistently averse to any step that would take land off the tax rolls. Largely for this reason, the State Legislature, which must approve all habitat acquisitions, has made it clear that it prefers leases to purchases. However, it is difficult to obtain leases over periods of time long enough to warrant any major habitat improvements on the land involved. Catch 22 — almost.

The conditions under which purchases are carried out are also limiting. Once a critical wildlife tract is identified in Colorado, and its owner has expressed a willingness to sell to the State, the Division of Wildlife can do no more than offer the property holder a two per cent option. Then it's up to the Legislature; it can easily drag out the process for years. When land prices were escalating rapidly, precious few property owners were willing to sit still for a piddling two per cent option; now that values have levelled off, this situation may become less acute.

On the federal level, the Land and Water Conservation fund — portions of which have in the

Planting and burning to increase big game forage tends to take place in a ecological vacuum — boosting the productivity of the land for one or two species while largely ignoring the rest of the system.

fuge outside of Jackson, Wyoming, (those beasts stare at you like milk cows, tamed by management and industrial tourism). But genuinely wild creatures that still know enough to flee from their greatest enemy. And not just remnant groups of three, six, or 20 animals, but instead whole herds large enough to raise a genuine cloud of dust—large enough to be intimidating, humiliating, perhaps even frightening.

The days of such experiences are numbered; even to preserve modest, left-over herds, immediate action and a large infusion of funds for vital programs are necessary. Among the potentially effective courses of action are the following.

OUTBIDDING THE DEVELOPER

■ Habitat purchase for wildlife. This is a simple, direct, costly measure that has been undertaken only minimally for big game. Obstacles on both state and federal levels are great. past been used to purchase valuable habitat lands—is badly bottled up. The Forest Service, BLM, the Bureau of Sport Fisheries and Wildlife, and the National Park Service have all identified valuable lands that should be purchased; they have attached prices to those lands; and acquisition has been authorized. However, funds were not appropriated in any significant portion by the Nixon Administration. For example, the Bureau of Sport Fisheries needs \$99 million to buy already authorized or designated tracts, while the Administration asked for only \$8.5 million. Overall, the four agencies will be getting about five per cent of what they need, unless the Ford Administration changes the previous policy.

Meanwhile, legislation is working its way through Congress which would increase the annual lid on Land and Water Conservation Fund authorizations from \$300 to \$900 million. Sixty percent of these funds (which come from Golden Eagle and offshore oil leasing receipts) would be made available to the states on a matching basis;



Sagebrush is vital winter sustenance for antelope and deer - but not for cows.

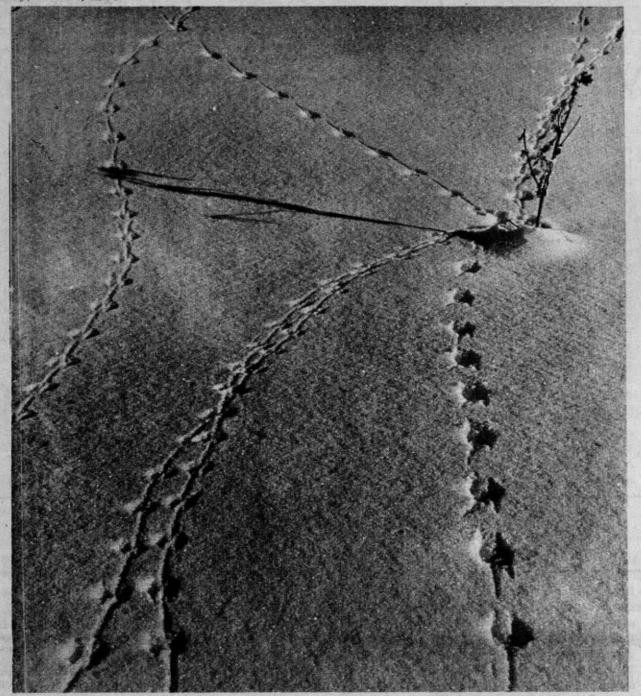


Photo by David Sumner

the remainder would go to federal agencies. The Wildlife Management Institute and the National Audubon Society, among other conservation groups, are strongly supporting the increase in the Land and Water Conservation Fund.

ZONING FOR WILDLIFE

■ Zoning. Today in the Rockies there is no such thing as zoning for wildlife, save special federal designations: National Parks, Monuments and Refuges. National Forest Wilderness Areas and BLM Primitive Areas are both land use designations that can have the effect of preserving habitat—even though this is not the prime intent of either. Wilderness and Primitive Areas are open to livestock grazing and mining; cattle and sheep are also allowed in some of the newer Parks and Monuments.

On the state level, land use legislation has been systematically lobbied to a near nullity throughout the Rockies. Montana has made the most progress in this area, though a bill imposing a two-year moratorium on rural subdivision and providing for a state-wide inventory of environmentally critical areas was killed last spring in the State Senate after easily passing the House.

Colorado, the most generally besieged state in the region, has for two acrimonious legislative sessions witnessed an adamant putsch against state land use control by a firm alliance of developers, county officials, and rural legislators. This year, the lawmakers did finally throw together and pass a muddled, unevenly written bill, HB 1041, which promises to get the state going on a comprehensive land use plan, albeit haltingly.

The statute's eventual success will depend

largely on the ability of state and local governments to: a) figure it out, and b) follow through. In essence, HB 1041 instructs the counties to identify areas of state interest and devise plans to administer them accordingly. Wildlife habitat is included as a category of possible state interest, but only when a species "in a proposed area is endangered." This means that neither loss of diversity nor depletion of abundance is a concern; for example, losing most of the deer in a given area is permissible as long as the animals do not completely disappear.

On the county level, where most zoning decisions are made, interest in wildlife is normally proportional to the degree the animals are threatened — and also to the sophistication of the residents who might care about them. Colorado's Pitkin County, which is dominated by Aspen, probably has the most progressive land use controls in the state; Routt County (site of LTV's Steamboat ski area), San Miguel County (site of the Telluride ski area), and Vail's Eagle County are moving in similar directions. In every case, action has been akin to doing something to the shoe after it's begun to pinch and raise blisters.

In most rurally dominated counties, talk of land use and zoning are anathema and regarded as a direct, insidious infringement upon basic human rights. Anyone should be allowed to build a MacDonald's anywhere he wants, and the red carpet should be rolled out for same.

In the counties, the real need is for a special wildlife designation. However, as it is elsewhere in the U.S., zoning categories throughout the Rockies have been created to reflect the aspirations of developers. The normal lowest density zone (usually called "Resource," "Agriculture Forestry" or the like) in Colorado allows one building per 35 acres;

however, the average rural residence renders approximately four times that acreage unsuitable for big game habitat, unless the animals happen to be unusually tolerant. Deer and elk simply need more space than humans; appropriate zoning for them might permit one residence per 120 acres, with access and building site location determined by the patterns of wildlife use on the tract.

Several of the Rocky Mountain states, as well as more advanced counties, are also moving toward "hazard area" zoning which prohibits or limits development where it would be dangerous to humans—e.g., in avalanche and landslide paths, on alluvial fans, floodplains, and unstable soils. From this scheme, it is not an extreme step to protective zoning in areas whose development would pose hazards to wildlife.

DEER VS. THE IRS

Tax Law Changes. Under current state property tax laws, when a subdivision, for example, is built next to a tract of agricultural land, the assessed valuation of the latter increases to a level far above that which would be logical from a farming or ranching point of view. The rationale for such hikes is that the adjoining undeveloped land is de facto of high speculative value because of the subdivision next door. In the Rockies this practice has repeatedly helped turn valuable meadow and brushland habitat straight toward development. In many cases, spiralling taxes have forced farmers and ranchers into selling - even though they'd have preferred to hold on to their land as is. The appeal of this arrangement to those wishing a greater tax base is obvious.

Legislation that would tax lands according to their present use could well serve as an incentive for owners to leave their land in agriculture, rather than bailing out in order to escape increasingly heavier tax burdens.

PROTECTION LAWS PASSED

● Special Habitat Protection Laws. As concern for the well-being of Rocky Mountain wildlife slowly rises, a diversity of protective schemes are being devised. Most are piecemeal, but since habitat pressures are so multiple, even limited legislation can help — as long as its advocates don't exaggerate its importance.

For example, the 1973 New Mexico Legislature passed a "Habitat Protection Act" which empowers the state Game and Fish Commission to close critical wildlife areas to vehicular traffic — especially by trail bikes, ATVs, jeeps and snowmobiles. A portion of the Tres Piedras Ranger District on the Carson National Forest was closed on September 28, 1974, — the first such area where the new law has been applied. Widespread publicity accompanied the closure which will be enforced by extensive patrols.

In Colorado, a new law to deal with marauding dogs is now in the talking stage. The intent is to make owners financially liable for their pets' depredations in the same way that poachers are responsible for their illegal kills. Present penalty assessments in the state are \$100 per deer, \$300 per elk, \$1,000 for bighorn sheep and so forth.

THE MESSAGE IS CLEAR

Such are some of the immediate measures that must be applied if, in the next half century, the big game of the Rockies are not to dwindle to increasingly low numbers — and if those numbers are to survive in anything more than semi-domesticated park-like conditions. All these measures deal with habitat, but for some reason its importance has been traditionally hard to get across. Perhaps this is because habitat is only land, and land only dirt, and dirt not very exciting, for in its inconspicuous way, it only gives life.

Montana Department of Highways photo.

VIII Wildlife — a Barometer

"Subdivisions can intrude onto winter range and displace big game," reads a passage from the 1973 Eagle County (site of Vail) Master Plan. "They can also act as barriers to big game movement. . . . As county populations and economic activity increase, big game conditions are certain to deteriorate. The animals should be considered as a barometer of human welfare; the better they can be protected, the better the habitat for humans."

The same could be said of any other species — the pair of Prairie Falcons currently nesting on the gypsum cliffs above the mouth of Beaver Creek, the abundant raptors of the oil shale country, the salmon blocked from their spawning grounds by Dworshak Dam. Barometers all, but none of them alone any more than tiny symptoms of a final change moving both massively and imperceptibly across this land.

Though the Rockies are in a "growth recession"— the region's version of the current national economic slowdown— in the long run, into the 21st century, this promises to be little more than a haitus (just as the Great Depression has proven a haitus) in the ineluctible process of this nation's historical enactment of its own peculiar destiny. Colorado's recent failures— the Colony Development Operation, the Marble Ski Area, the Woodmoor Corporation— will most certainly be followed by others. But few of these will be final; successors will arise, eager to build anew, and better, and probably even bigger.

The inconceivable barrier of finitude remains a ways down the road. Like the iceberg concealed from the view of a 17th century helmsman by a still bank of Atlantic fog, until suddenly the giant solid mass is upon him — upon his fragile, masted ship with its load of hopeful, dreaming pilgrims. That iceberg is more imposing, more terrifying, more final than anything he has ever seen in his life. And as the helmsman stares up at it, he realizes in an instant that no frantic spinning of the wheel, no furious screaming at the crew, will save either him or his feeble ship.

How strange it is to find, implicit in the death by starvation of a single scrawny deer near Vail in Colorado, the end of 350 years of limitless hope, the end of an ever alluring future that has always receded before us, never quite drained of its promise

At least not until tomorrow. Or the next day.

Wyoming Gubernatorial Candidates Face Issues

by Marjane Ambler

At recent meetings with environmentalists, Wyoming gubernatorial candidates Dick Jones (R) and Ed Hershler (D) both said they had to be realistic and admit that Wyoming is becoming more industrialized, no matter what its citizens would prefer. Jones presented this view to the Wyoming Outdoor Council Sept. 28, and Hershler spoke Oct. 13 to the Wyoming Sierra Club. Both also seemed to agree that one reason for this expected industrialization is that the federal government would have the ultimate control over most coal development in the state.

However, the two candidates' ideas on how to prepare for the changes differed on nearly every subject broached by the en-

Hershler worried about competition for water between agricultural users and industry, including the slurry pipeline. Jones stated that Wyoming's water should be overallocated in order to maintain the state's control over it.

Jones said he thought he would encourage the expansion of strip mining because of the serious national economic situation



Dick Jones

which, he believes, is brought on by our money going outside the country for oil. On the other hand, Hershler thinks strip mines would be worse than power plants, if the plants were properly controlled.

Details of their comments on the major topics follow with Jones, who spoke first, and then Hershler.

SLURRY LINE

Earlier this year, the Wyoming legislature approved, subject to the state engineer's permit, a pipeline that would carry coal in aslurry (crushed coal in water) to a power plant in Arkansas. The coal would be supplied from a mine near Gillette, Wyo. The pipeline has become a big campaign issue, largely because of the water that would be used.

Jones said if there were priorities set for industrial use of water, he would give a higher priority to the slurry line than to gasification. If the slurry line is built, he believes that Wyoming water should be used in it. "If we use Arkansas water, then we're completely ignoring our deep water and are saying, There it is; we don't want it.' Now let's assume Nebraska or South Dakota does then say, 'We'll get it and we'll use it.' Then you talk about havoc! We can't do anything about it then," Jones said. He said he believes the state would be able to maintain control over the pipeline and shut it down if problems

In an earlier reference to water, Jones said, "Overappropriation of water to me is good as long as you maintain some minimum flows . . . I would like to see all of our streams overappropriated enough so that whatever excess water there is, we put it to some kind of use."

NON-DEGRADATION OF AIR

Asked about air quality standards, Jones said he thought the standards should be constantly changed as new devices are invented so the most modern would be required as they are developed. "At the same time," he cautioned, "we have to tell the public that rates are going to go up to pay for them . . . These companies have to get their money from somewhere . . . They're limited on their profits, and they pass their expenses on to the consumer."

STRIP MINING & POWER PLANTS

Jones was asked, "A lot of us have the feeling that state officials are giving lip service to holding down industrialization, but we have the feeling that they really favor . . . gasification plants and expanding strip mining. If you were in there, what do you think would be in the interest of Wyoming?"

Jones said he hoped gasification plants wouldn't come, but

Jones said he hoped gasification plants wouldn't come, but said if the federal government wanted it, they could do it. He said the only state control would be through rules and regulations which the plants would have to meet.

tions which the plants would have to meet.

"As far as strip mining," he continued, "I think it's going to expand; I think I'd encourage it to expand but only as fast as we

(Continued on page 16)

Colo. Votes on Nuclear Bombs

One item on the Colorado ballot next month goes beyond personalities and politics. Amendment No. 10 will give the people of Colorado a choice about nuclear detonations in their state.

The amendment requires that the Atomic Energy Commission get an affirmative vote from the people before going ahead with any detonation of underground nuclear devices in the state. It also requires that any such project must be able to pay for whatever damage might result from the blasting, with resorting to the use of state funds. Damages from "ground motion, ionizing radiation, other pollution and other hazards attributable to such detonations" are included in the amendment.

"If the voters are given the legal right to decide the future of nuclear blasting, the burden will be on the Atomic Energy Commission and industrial supporters to prove the efficacy and safety of underground nuclear blasting," says a group called People for Rational Energy Sources (PRES). The Denver group gathered over 70,000 signatures this summer to put the amendment on the ballot.

Since then, endorsements have come from political candidates around the state — including gubernatorial candidates John Vanderhoof (R-incumbent) and Dick Lamm (D). The amendment also has the blessing of Democrats George Brown, Gary Hart, Frank Evans, Ben Galloway and Floyd Haskell. Congresswoman Pat Schroeder is the only major Democrat to withhold her support. Although she opposes the AEC's

plans for nuclear blasting of natural gas in the state, she says she doubts the amendment's constitutionality.

Colorado has already experienced two underground detonations — the AEC's Project Rulison and Project Rio Blanco. A 40-kiloton nuclear bomb was detonated to crack the tight rock formations near Rulison. Three 30-kiloton devices were used near Rio Blanco. Both tests failed to produce any marketable gas.

The Atomic Energy Commission has estimated that full field development of Colorado's natural gas reserves by nuclear blasting could mean 2,000 to 13,000 wells with three to six bombs per well.

Ruth Fawcett Dies

Ruth Fawcett, wife of Art Fawcett of Esterbrook, Wyo., died Oct. 20 of cancer. By staying home and taking care of the ranch, Ruth made it possible for Art to go to hearings, meetings, and other Sierra Club and Wilderness Society functions. She loved flowers and birds and all the living things in her Laramie Mountains.

"The nicest thing that Ruth's friends could do in her memory is to renew their efforts to preserve wilderness, clear streams, and clean air so that all wild things can continue to live in harmony with their environment," Art says.

A memorial service for Ruth will be at the rustic church in Esterbrook at 2 p.m. on Sunday, Nov. 10.

yoming Candidates Face Issues

(Continued from page 15)

can do it properly . . . This nation is in trouble financially - a lot more than most people think." Referring to the trade deficit, which he believes is largely caused by the amount of oil purchased from the Mideast, Jones said, "This is contributing more to inflation than anything else. If Wyoming can contribute even more energy, (now I don't want to limit it to just coal; I'd like to find all the oil and gas we can, too) then maybe we could do something toward stopping that sending of our dollars out of the country . . . That would be in the interest of Wyoming and of the whole country. But it's got to be done right.'

RECLAMATION

A listener expressed concern about his statement that "it's got to be done right" and asked about reclamation. "Would you require some kind of proof that the land would grow native grass again, in the long run, without having to have fertilizer and water poured on it?"

"No, I wouldn't be prepared to do this . . . I don't think anybody would because I'm not sure you can do it. I'm not even sure you can get the seed to do it." However, he suggested one thing the state could do would be subsidize well drilling in the Madison Formation, for example. He suggested that farmers could use the water for a few years without paying for it. "So when all is said and done, we won't have to worry about whether nature is going to give us enough water and whether plants that we planted are going to live or not . . . If you give them enough water, you know they'll live."

SITING BILL

Jones was asked about Texaco's silence regarding the reservoir it p'ans at Lake DeSmet. He said we should have laws so that the company would have to tell the state what it plans to do. He said he didn't favo: a plant siting bill that says a company can't do anything for several years. "But I do favor some provisions of the siting bill which say you aren't going to do anything until you come up to our rules and regulations. Now that may be three months, three years, or 30 years. That's all we're trying to accomplish, really, I think — to do it right."

PREPARING FOR IMPACT

Bureau of Land Management (BLM) figures in the environmental impact statement for the Powder River Basin show a population of 40,000 to 50,000 people by 1978 if mining proceeds along expected timetables, Jones was told by one person present at the meeting. He asked, "What would you do? Would you try to slow this growth?"

Jones replied that he didn't agree with the projection. "You can't prepare and get that many people in there in that time. There's no way." He said he thought shortage of building materials would slow the growth as well as the fact that they would have to live up to land use regulations that the state will have to set up. "That's the only ironclad control we have," he said. He said he was more willing to believe another study by the federal government which said Wyoming was going to lose population.

LAND USE PLANNING

Land use planning was emphasized by Jones as the means for controlling growth in the state. He said Wyoming needs to adopt some broad overall guidelines that will tell local communities what they have to do before they have any major

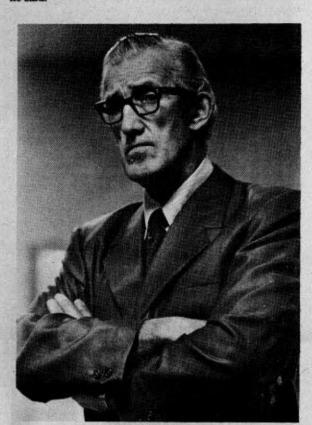
A resident of Sheridan County asked Jones if he would be willing to declare irrigated creek bottoms off limits to strip mining. He pointed out that in Sheridan and Johnson counties, all of the sought-after coal is in the four percent of land presently devoted to agriculture.

Jones replied, "I wouldn't dare to say yes or no. . . . I can't see the day when I would say to you or anyone else, you cannot strip your land. I believe very much in a free enterprise system, and that's what we would be interfering with if you own a piece of land, and the law would say to you that you cannot sell it . . . If you're going to restrict the use of it, then you're going to stop the sale of it in case the man wanted to sell it to a mining company."

A resident of Teton County asked him if he could support their county's land use planning if they decided they didn't want power plants because they would have too much of an

impact on their way of life.
"I don't know whether I would dare try to answer that . . . I wouldn't want to do anything that means that absolutely nothing happened because I think the federal government could step in and make sure that something would happen . . . That's why I want to approach it through land use planning so that if it's done, it's done right. That alone may stop them from coming; I don't know.'

Asked what he thought of present state and local planning, he said he thought they get hung up on zoning. He gave an example in his home county where a wrecking yard was proposed at a site that Jones thought ideal. However, it was zoned differently, so they set the wrecking yard on another site along the highway, forcing some adjacent residents out. "Rules and regulations would have stopped that; zoning is what caused it,"



Ed Herschler

SLURRY LINE

Hershler said the possible effects should be studied prior to proceeding with the pipeline since after the agreement is signed, it will be controlled by federal agencies. "Even if we say we need to shut it off, they would say, 'You've committed 20,000 acre feet, and you're now in interstate commerce. You're going to continue to supply it."

PRESENT WATER LAWS

Asked about water laws, Hershler said Wyoming has some good laws, but they are not adequate and are not being enforced as they should be. For an example, he said there is a law which states that if any stream is overappropriated, that is automatically enough to reject a permit for more water. There is a new application for the Moorhead Dam on the Powder River. Since the Powder River is already about 400% overappropriated, the state engineer should immediately reject the application, but he's not doing that, he said.

When someone asked why, Hershler said, "I think the state administration is industry-oriented. I would like to see that trend reversed.'

Concerning priorities for water, Hershler said he might even consider a moratorium on transfers of water from agricultural to industrial use until there had been sufficient study.

NON-DEGRADATION OF AIR

A Sierra Club member asked if Hershler would support a policy of non-degradation of existing air quality, and he replied that he "certainly would." (The Sierra Club is now involved in a suit over Environmental Protection Agency regulations which would allow states to permit degradation to secondary stan-

Continuing his answer, Hershler said, "People say we don't have a good air quality act. I think we have the basic tool for good air quality. But the thing is, you can't define everything in a law. You've got to have good rules and regulations." He said that enforcement was a problem in air regulations as well as the water regulations mentioned before.

STRIP MINING & POWER PLANTS

Hershler generated the most response when he commented that strip mining is, to him, worse than building power plants when the plants use sulfur scrubbers and are properly controlled. When asked to explain, he said he thought we had the technology to clean up power plants but implied there was little that could be done to lessen the destruction of strip mines.

An overwhelming majority of the people in the state want industry, Hershler said, reporting on the results of a private poll he had conducted. However, he pointed out that most of those polled also want stricter controls and do not believe the state is properly handling industry now.

Hershler was asked if he felt that after meeting Wyoming's energy needs, it would be desirable to locate other power conversion facilities outside the state. "I would like to," Hershler said, "but I don't know if I could . . . We are living in the United States, and if an agency in Washington says we need your coal or we need your gas, . . . can we be provincial enough to say no?"

Regarding controls over industry, he said, "I don't feel they can come to Wyoming on their own terms; I think they have to come to Wyoming on our terms. If one refuses, you know there will be someone else right on their heels who will meet our terms . . ."

RECLAMATION

Asked about reclamation, Hershler said he would hope to restore the land to at least its original condition. In some cases, when its original condition was "just a bare hill," he said it might be better to make a recreational area with a lake, for

Asked about his connection with the Kemmerer Coal Company, Hershler explained that he did represent them as their attorney. "You'll be hearing from now until the election that if I'm elected, the coal companies will have nothing to worry about. . . . I just feel that I'm my own man. I'm not down there working for Kemmerer Coal; I'm not working for environmentalists; I'm not working for any special interest group; I'm working for all the people of Wyoming."

"A siting bill is a must," Hershler said when the topic was brought up. Elaborating later, he said there whould be a minimum of 18 months for industries to make application to the state to let us know when they are coming. "I'm not trying to be vindictive to the companies," he said. He said then perhaps the plan should be kept confidential to protect trade secrets. On the other hand, he said the communities would need to be able to prepare for the company and know how many temporary and how many permanent employees would be coming.

PREPARING FOR IMPACT

The excess general fund was pointed to by Hershler as one way to help communities prepare for the impact of new industry. He said presently, there is about \$50 million in the general fund which he thinks should be reduced to about \$10 million. He suggested setting up an industrial fund which could be used for long-term loans to counties and communities that need it. He said the county would be responsible for repaying as the valuation of the county rose. He suggested grants for counties that get impact from other counties but which do not realize increased valuation.

Money is coming into the state, and the towns and counties are limited by maximum mill levies. "I think the state has a responsibility to help," he said. "I don't think we've even tapped the severance tax" as a source of funds.

LAND USE PLANNING

An attorney who lives in Teton County, which wants to control growth, asked Hershler whether he would be able to support them in this. Hershler said he could, and at the same time he could support Sweetwater County, for example, which may be more industry-oriented. "I think planning is much more valuable when it's done at a local level but I do think the state has to establish some minimum standards. . . . If you people in Teton County want to maintain your scenery and environment I certainly see nothing wrong with that."

When David Sumner offered to let High Country News print his definitive manuscript, we jumped at the chance. We've temporarily suspended most of our regular features in this issue to bring an eloquent, state-of-the-region's wildlife message. Serializing such a work to make it fit HCN's normal limitations would have destroyed the powerful message David Sumner's piece holds. We've stripped the paper to its barest

bones and to give you this special edition. Rather than just zeroing in on one area (such as the Vail Urban Strip), Sumner has put months of research into the whole region. He pulls back the curtain to reveal a stage full of starving, confused animals beseiged by an expanding America, by hunters sent to erase the evidence of development, and by

dogs — the "home-fed predators."

He sees this as the Third Land Rush, the inevitable expression of a "peculiarly restless" breed called Americans who crave open spaces. Apocalyptically, he forces us to look at Walt Disney's Florida and California fantasy worlds for a hint of what our fate may be.

Yet, before he leaves us in helpless, hopeless despair - a state that's easy for environmentalists to slip into - he gives us a few hopeful objectives to work for when lobbying and advising

decision-making agencies.

Although we regret postponing our regular HCN features, we think Sumner's story warrants it. We hope you agree — let us know Since this is our last issue before you go to the polls, we've

also picked out a couple of election items which should be of interest to all environmentalists in the region - Colorado's Amendment No. 10| and the Wyoming gubernatorial race. Wyoming is still a part of that valuable last-frontier-in-the-Rockies which David Sumner describes. At the same time the state is severely threatened — and sorely lacking in defenses. We present here a picture of the two men — one of whom may have a profound effect on the West.

P.S. The conference committee working on the federal stripmining bill was unable to agree on the landowner consent portion of the bill prior to adjournment. They will meet again Nov. 19. A discussion of the bill will be included in the Nov. 8,