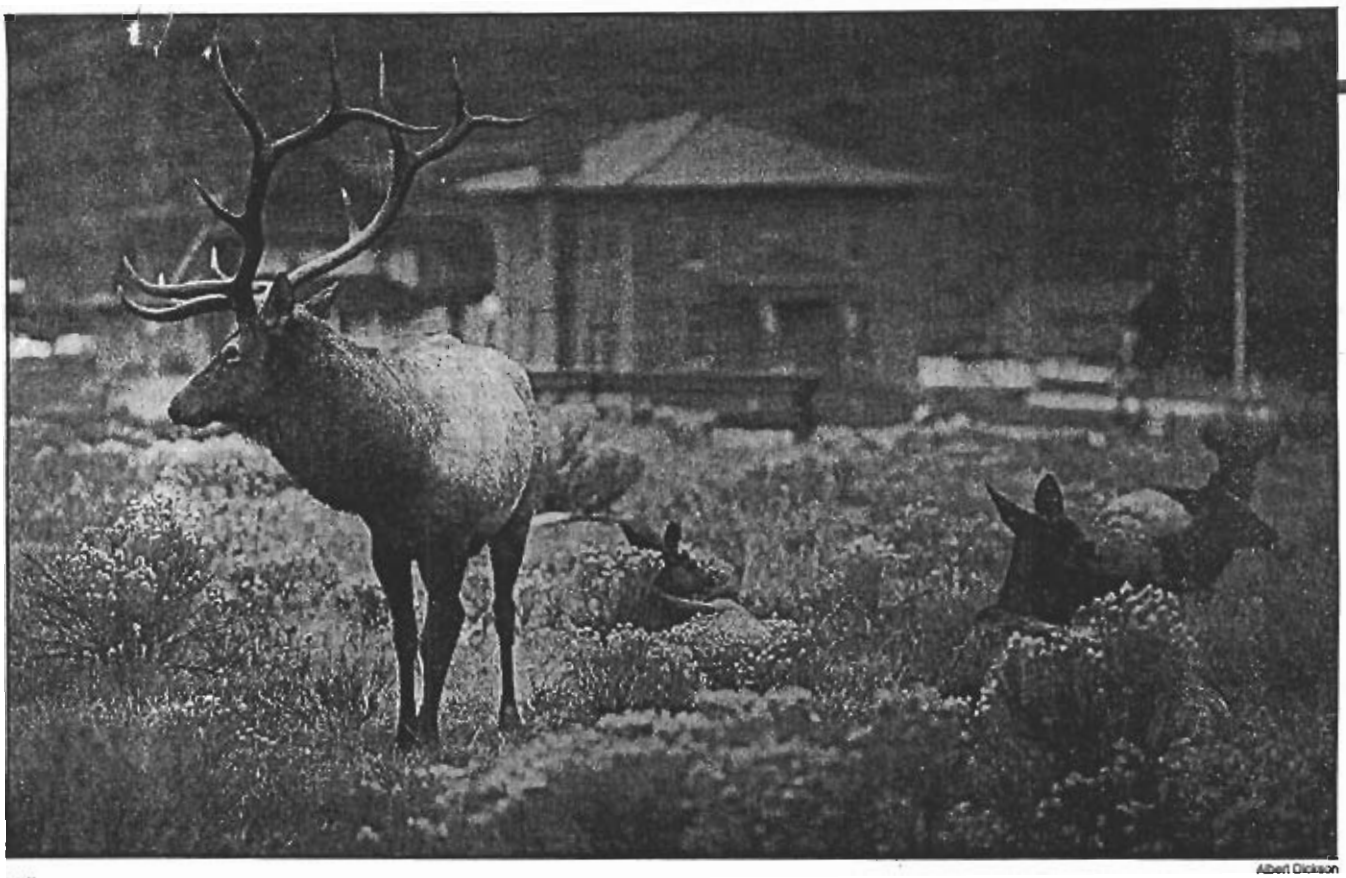


Albert Dickson

Elk congregate near Mammoth Hot Springs in Yellowstone National Park

Scientist says Yellowstone Park is being destroyed

Opinion by **Frederic H. Wagner**

The Yellowstone northern elk herd, allowed to persist at high densities by the national park's "natural-regulation" policy, is destroying the biodiversity and ecological integrity of the northern-range ecosystem. Park publicity denies this and misleads the public by proclaiming that all is well in Yellowstone.

There are only two possible interpretations of this behavior. One is that park officials really believe what they are saying, which means that park research is letting management down by erroneously reassuring it that it's on the right track.

The alternative is that park officials so fear the policy, management and public relations consequences of acknowledging the truth that they misrepresent the situation to avoid public demands for redress.

Whatever is correct, the ecological health of the northern range is being profoundly degraded.

How we got to the present state of affairs is best understood by reviewing the issue's history and the 180-degree wildlife policy reversals during that history. There have been three policy stages.

The first stage prevailed from the 1872 establishment of the park to the early 1900s. Its ethic was protection and nurturing of "good" animals like large hoofed mammals. They were fed artificially and protected from legal and illegal hunting. Predators, the "bad" animals, were controlled.

Stage 2 began around 1911-13 when it became evident to park officials that nurturing had allowed the northern elk herd to rise to unprecedented high levels and damage vegetation. A procession of government biologists — William Rush, George Wright, Olaus Murie, Walter Kittams, Robert Howe, William Barmore — concurred that the burgeoning herd, deprived of pre-Columbian population checks from large predators, seasonal movement and dispersal, and aboriginal hunting, had to be controlled artificially.

From the 1930s through 1967, park personnel shot northern-range elk and trapped them for transplant elsewhere. By 1961, the northern herd still numbered around 10,000 while park biologists believed the carrying capacity to be 5,000. In the 1961-62 winter, the park killed 5,000 elk and gave the meat to charities. By the latter 1960s, the herd had been reduced below 5,000.

The wildlife profession broadly endorsed these actions. In the early 1960s, a white paper issued by eight professors at then-Montana State University in Missoula and public statements by the Wildlife Society all supported elk population control in national parks, including shooting by Park Service officials.

Most importantly, a 1963 Advisory Board on Wildlife Management, composed of five scientists impaneled by Interior Secretary Stewart Udall, firmly recommended "direct" reduction of ungulates in national parks if other checks did not control their numbers. Board Chairman A. Starker Leopold held this view throughout his life, advocating it in 1967 Senate hearings and a 1983 letter to the Sequoia National Park superintendent. The board's report is widely misquoted inside and outside the agency.

Although there were no significant demurrals in the scientific community, in 1967 politics reared its ugly head. With the northern herd below 5,000, hunters, outfitters and guides who had previously enjoyed abundant elk hunting on animals straying outside the park were falling on hard times. Their appeals to the Wyoming congressional delegation brought Senate hearings to Casper, Wyo., on March 11, 1967.

Wyoming's Sen. Gale McGee was on the Senate appropriations subcommittee that funded the Park Service. He informed agency director George Hartzog that continued funding could be in jeopardy if the park did not stop shooting elk. Nine months later, with no new scientific evidence, the park announced a new ungulate-management policy of "natural control." Policy phase 3 had begun.

Park officials become indignant when it is suggested that Sen. McGee's threat drove the policy change. But persons employed by or close to the agency — Mark Boyce, Frank Singer, Gerald Wright — now matter-of-factly concede cause and effect.

"Natural regulation," as the policy was renamed, maintains that large numbers of elk had wintered in what is now the northern range for millennia before Europeans arrived. Any ecological changes that might have occurred are attributed to climate change, fire suppression and plant succession. By implication, the ecosystem is in balance and needs no human intrusion.

The policy gives no credence to the population checks that must have prevailed before 1492. It ignores archaeological, early photographic, and historic evidence which attest to a very different ecosystem that could not have endured today's large elk numbers. And it shrugs off the contrasts inside and outside the park boundary and inside and outside exclosures in the park.

In recent years the northern herd has approached or exceeded 20,000.

Academic and agency ecologists I knew in the late 1960s and early 1970s were widely skeptical of the policy. It was contrary to a half-century of evidence and theory. Wildlife students who visited Yellowstone returned incredulous over the policy and amazed at the dogmatism and defensiveness of the biologists with whom they spoke.

But no one had any relevant research going except park biologists, and careful scientists will not take stands on issues for which they have no evidence. For the time being the professional world, though in disbelief, remained publicly silent.

It took Alston Chase, a professional philosopher aware of the growing skepticism, to dig into the scientific literature and park files at his expense. Chase's 1986 book, *Playing God in Yellowstone*, accused park biologists of ignoring 50 years of prior research and documentation, and rewriting the elk history to support the natural-regulation policy.

Chase's 1986 charge that park officials suppressed contrary information, or used data selectively to support their policy positions, was not new. It had been voiced in the 1970s about the true status of the grizzly bear and again in the early 1980s over the same issue. It resurfaced in 1993 again on grizzlies and on the work of park biologist Richard Keigley. Park officials refused to release for publication a manuscript in which Keigley reported vegetation research that contradicts natural regulation, and they denied his request to continue and expand his studies along the same lines (*HCN*, 12/27/93).

The park credibility problem is magnified by both written and oral statements of their public relations people, who do not have the scientific credentials to interpret the nuances of complex ecological matters. Not infrequently their statements exaggerate or misinterpret. The problem is aggravated further by reflex as apologists jump to park defense with every criticism.

The growing concern eventually reached Congress. In 1986, it appropriated funds for the park to investigate whether the northern range was "overgrazed." In essence, Congress asked the park to investigate itself. The ensuing flurry of research activity by both park biologists and agency-funded university researchers largely concluded that the range is not "overgrazed."

But an in-depth look at much of the research raises questions of its validity and casts doubt on whether the congressional funds were well spent. First, the research was not well designed. Individual studies were a miscellany not clearly tied to a coherent research plan. A 1989 audit by the Department of Interior's assistant inspector general for audits found that no study plans had been prepared for 23 of the 41 research projects. Plans for the remaining 18 were "deficient with respect to content."

Second, the vegetation research did not address the key problems. It focused on herbaceous vegetation when it is the woody vegetation that is fast disappearing from the northern range under elk browsing. Some of the studies which drew conclusions supporting the park's position prove, on critical review, to show just the opposite.

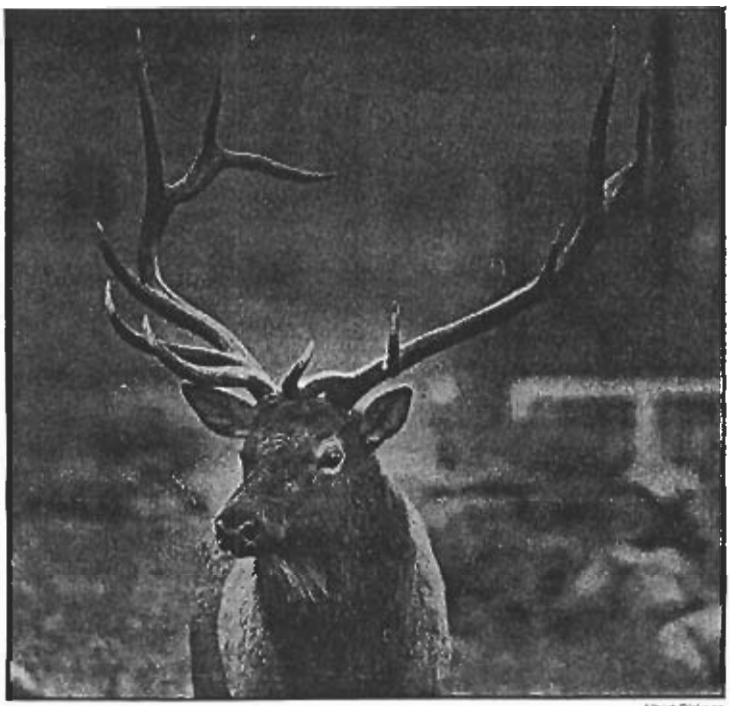
Park biologist Keigley has now stated publicly that no significant scientific evidence supports the park's position on natural regulation. Meanwhile, an increasing number of studies, some not funded by the park, are accumulating more and more evidence which challenges the policy.

In unguarded moments, some Park Service officials concede that natural regulation is a bust. But they, and supporters of the park, counter by saying the management protocol should be considered an experiment. One park publicity piece called it "The Great Experiment." National parks, they maintain, should be used for such ecological experiments.

But the scientific problem with this let's-see-what-happens-if approach is that no meaningful, clearly stated scientific hypothesis is being addressed. Nor does it follow the standard experimental procedures of setting up controls for comparison, carefully selecting parameters to be measured, and posing explicit criteria by which to judge whether the hypothesis is correct and when to end the experiment. The result is an open-ended, undirected operation that lets the public's resources drift or decline.

The policy problem with the approach is that it violates the agency's decrees. Its 1988 policy manual states that any management protocol which runs the risk of damaging park resources is to be avoided.

Park publicity likes to state that there is no significant demurral in the scientific community. The only nay-sayers are one or two biased contrarians who for some reason have a grudge against the park. If park officials believe this, they can't be reading or listening to the outside professional world. There is a chorus of criticism from eminent ecologists all over the country in academia, federal and state agencies, and private firms.



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It might be thought that wolf reintroduction will solve the problem. But computer modeling predicts that wolf predation will not lower the elk population significantly. Careful reading of park literature discloses no mention of elk control as justification for wolf reintroduction. Not only does the arithmetic not predict it, but officials can hardly hold out the virtues of elk control when for 25 years they have maintained that there is no problem with elk numbers in the absence of wolves.

There are vivid ironies in all of this. One range management professor in a Western university has written that the condition of the northern range looks about like public rangelands elsewhere in the West. Since the state of the northern range is claimed by the agency to be "natural" and presumably "healthy," we should quit criticizing the livestock industry for its destructive effects on public rangelands. Thus, the condition of the park ecosystem is being used to justify what livestock are doing to Western ranges.

The elk have eliminated riparian-zone vegetation, berry-bearing shrubs, and other low-stature woody vegetation. All are grizzly bear cover and/or food sources. In fostering destruction of bear habitat this park may be violating the Endangered Species Act.

Some in the environmental community are so concerned over cases of resource mismanagement on other public lands that they advocate no more advertent management. The assumption is that nature can heal its wounds better than humans. The northern range is now a stark object lesson on what happens with that strategy.

Officials point with justifiable pride to the fact that Yellowstone was the first national park in the world and started the worldwide movement to set aside natural areas. But to those who see Yellowstone realistically, it has become a hollow prototype.

What should be done? First, the park needs an effective and objective research effort. Although certain new projects are called for, there is no need for a massive program of new field research. There is now enough backlog of data to inform policy decisions, but these need critical, objective review and synthesis.

The transfer of agency biologists to the new National Biological Survey is not the answer. The park's researchers are simply in another agency, and entrenched park administrators are still calling the shots on what research the biologists will and won't do.

The planning, direction, execution and funding of the research should be independent of the agency. It would be a mistake to repeat the congressional error of asking the park to evaluate itself.

Second, the park needs to level with the public and bring it into the policy-making process. Other public agencies, like the Forest Service and Bureau of Land Management, are coming to realize this and are moving out of an era when they thought that they should set policy. But the Park Service remains the most inward looking of the federal land-management agencies and continues to think it should set policy.

The public needs to be apprised forthrightly of choices and their consequences. If people want a drive-through game park with large numbers of animals standing around to provide car-window photo ops, such as prevails today, then so be it.

But they need to know that the consequences of eliminating biodiversity are the ultimate conversion of the northern range into an elk pasture. The latter will be mostly exotic grasses, largely devoid of woody vegetation and its associated animal life, and with bare, sloughing stream banks.

If, on the other hand, the public wants its national park to contain a diverse, healthy, intact ecosystem in a sea of human-altered landscapes, then it will take active management of the type that the Leopold Committee and numerous other expert panels have urged. This will include reduction and control of the elk herd by one or more of the several means available, and quite possibly reduction of bison as well.

It is pretty clear that the National Park Service does not have the will to face up to this dilemma. The agency has avoided it for 25 years. In the process the public has been misled and the world's first national park is degraded and declining further. The public trust has not been upheld.

It remains to be seen whether the new administrators in Interior and the Park Service will demand change. If they do not, change will have to come from concerned persons in the Congress and from an aroused environmental community. ■

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