

The Triumph of Politics Over Wilderness Science

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Abstract—The National Wilderness Preservation System reflects the triumph of politics over science. The history of wilderness allocation has reflected political rather than scientific sensibilities. The preeminence of politics over science extends to wilderness management as well and is illustrated here by representative examples from the modern history of Yellowstone National Park. To Americans, who don't think very highly of politics, the triumph of politics over science appears lamentable, but it is not so much lamentable as inevitable. As a discipline, science cannot address the fundamental questions of wilderness management, but citizen scientists must.

The history of wilderness management is replete with episodes that appear to pit politics against wilderness science. Time and again politics appears to triumph. To Americans, who don't think very highly of politics, the result appears lamentable. It is not so much lamentable as inevitable.

In the following pages, I will introduce two ways of evaluating wilderness and suggest that our wilderness system reflects political rather than scientific sensibilities. I will suggest that the preeminence of politics over science extends to wilderness management and illustrate this thesis with five examples selected from the modern history of Yellowstone National Park. Finally, I will assert that the triumph of politics over wilderness science is logically inevitable, and that the role of wilderness science must be distinguished from the role of the wilderness scientist.

The Triumph of Politics in Wilderness Allocation

Science and politics approach the issues of wilderness allocation differently. From the perspective of science, a good wilderness area is an ecosystem where nature takes its course without human manipulation or interference. For that to happen, you have to have all the ecosystem's natural plants and animals, and you have to have them in numbers great enough to support healthy genetic diversity. If a good wilderness area is complete and undisturbed, a good wilderness system includes representative examples of each ecosystem type. In short, individual wilderness areas should be

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natural. The composite wilderness system should be ecologically representative.

From the perspective of politics, a good wilderness area is one that garners more support if preserved in a relatively natural state than if devoted to some other use. A good wilderness is an area that has high value for primitive recreation and scenic appreciation, and low value for alternative uses like mining, power generation, farming, timber harvest, livestock grazing and golf. From the perspective of politics, a good wilderness system includes those areas which are more valuable when preserved as wilderness than when devoted to some other use.

So, which kind wilderness system do we have? The scientists' representative sample of complete natural ecosystems? Or the politicians' collection of areas not very valuable for anything else? To anyone acquainted with the National Wilderness Preservation System, the answer is obvious. Some years ago, George Davis, a leading advocate of ecological representation in the wilderness system, answered the question with some precision. Davis found the wilderness system adequately represented 81 of the nation's 233 ecosystems (Davis 1984). In their state-of-knowledge presentation, "The Contribution of Wilderness Areas to Conservation Goals—Now and in the Future," Barbara L. Dugelby and Dave Forman, reported that 157 of 261 ecosystems are now represented in the wilderness system, but only 50 of them in wilderness areas greater than 100,000 hectares. These data all confirm what history teaches: Wilderness areas have been designated from what is left over after areas valuable for other purposes have been exploited. As a result, our National Wilderness Preservation System is anything but systematic in its representation of American geology and biology. In short, wilderness allocation in the United States reflects the prescriptions of politics over the sensibilities of science.

The Triumph of Politics in Wilderness Management

The same thing is true of wilderness management. Science and politics value different things, and—when science and politics conflict—politics generally wins.

Management of Yellowstone National Park in the modern era provides numerous examples, five of which are discussed below. These examples do not constitute formal proof of my thesis, but they are both illustrative and representative of the apparent conflicts between science and politics in Yellowstone and elsewhere in the wilderness system.

Elk Management

Let's begin with a classic controversy: management of the Yellowstone elk. In the early years of Yellowstone Park, the

elk were hunted for food and sport, both inside the Park and in the surrounding area. Yellowstone was closed to hunting in 1894, but both hunting and development proceeded outside its boundaries. Within the Park, elk populations grew—eventually reaching levels considered dangerous by the Park Service. As a result, from 1934 to 1967 Park personnel removed elk to keep the herd from destroying its habitat. Some elk were trapped to restock other areas, but, as time passed there was less need for elk elsewhere, and many were simply shot (Haines 1977; Wright 1992).

Elk reduction became an issue in the 1960s, quite possibly because that was the first decade when Americans could watch it on television. However necessary, the spectacle of elk slaughter was an unappetizing accompaniment to dinner. The public discomfort with shooting put Interior Secretary Stewart Udall in a difficult situation. To defuse the issue, he established a blue ribbon panel of independent wildlife scientists to study elk reduction. The panel, chaired by A. Starker Leopold, issued its report in 1963. It concurred with Park scientists that overgrazing by elk was damaging the Park, and agreed that population reductions needed to continue—by shooting if necessary (Leopold and others 1963). Leopold made the report available to the public, and Secretary Udall declared it the official policy of the National Park Service (Sellars 1997).

Then, suddenly, in 1967, the shooting stopped, and the Yellowstone elk herd resumed its rapid growth (Boyce 1991). What happened? The Park Service eventually justified its new hands-off policy with language that sounds a lot like the scientific perspective on wilderness described above. The policy was called “natural regulation.” Its central arguments were that Yellowstone National Park is a complete ecosystem and that nature knows best. It followed that any action by Park personnel to manipulate the size of the elk herd was likely to be wrong (Boyce 1991). This argument had impressive historical support. In the 1920s, national park personnel had shot wolves and cougars on sight; for decades, they had fed garbage to grizzlies (Albright 1929; Albright and Taylor 1986; Wright 1992). The park managers who implemented these policies thought they were doing the right thing, but, by the 1960s, these earlier policies were perceived as perverse.

The policy of natural regulation has produced a tremendous scientific debate, but whatever the merits of the intellectual argument, it wasn't new science that brought a halt to the elk slaughter in Yellowstone. It was politics. The killing ended March 11, 1967, and was announced to the world at a congressional hearing that same day. In 140 pages of subsequent testimony and submissions—including statements by National Park Service Director George Hartzog, A. Starker Leopold and representatives of Wyoming and Montana fish and game commissions—no one spoke the words “natural regulation,” and no one representing any governmental agency disputed the proposition that sound wildlife management required active reduction of the Yellowstone elk herd (U.S. Senate. Committee on Appropriations 1967). The theory of natural regulation came later, although just how much later is hard to ascertain. Various experts place its beginnings in 1967 (Chadde and Kay 1991), 1968 (Coughenour and Singer 1991) or 1969 (Houston 1982). Its scientific merit is still hotly disputed, but its political merit is apparent. It gave scientific legitimacy to a policy decision

that had already been made. The interesting question is what motivated the policy shift? What really happened to change Park policy in 1967?

Despite the scientific consensus, there were two powerful interests very much opposed to killing elk in the Park. The first was the animal rights movement, ascendent and militant in the 1960s, opposed to killing on moral grounds and organized in national nonprofit associations like the Fund for Animals. The second interest was sport hunting. Hunters objected strenuously to the killing of elk by anyone other than themselves. Short of being allowed to hunt in the Park, they preferred that the Park serve as a nursery, producing surplus elk to populate surrounding areas. Politics makes strange bedfellows. Hunters and animal rights activists were agreed: the Park Service should not shoot elk.

The animal rights movement had the power to generate media attention, which it did, but by itself it did not have the political clout to change park policy. Hunters, however, had political clout beyond their numbers. They had support from state fish and game departments, whose budgets depended on hunting license fees, and from the local politicians in whose constituencies they lived and voted.

In October 1966, Yellowstone Park Superintendent John McLaughlin announced that the elk herd would be reduced by 3,000 animals, of which 600 would be killed by rangers (New York Times 1967b). Protests arose from animal rights advocates, hunters, and official friends of hunters including Wyoming's governor and state legislature, state game officials, and Wyoming's two senators (New York Times 1967a).

United States Senator Clifford Hansen introduced legislation in Congress to prohibit direct reduction of the Yellowstone elk, but passage was unlikely. Senator Gale McGee had better leverage. As chairman of the Interior Appropriations Subcommittee, he threatened to cut off funding unless the culling stopped (U.S. Senate. Committee on Appropriations 1967). The Interior Department was beaten. Secretary Udall had big plans for Park System expansion, and he could not afford to alienate McGee (Blair 1967). On March 11, Senator McGee announced that Secretary Udall and the Park Service Director George Hartzog had agreed to stop the shooting immediately (U.S. Senate. Committee on Appropriations 1967; New York Times 1967c). There can be little doubt that politics triumphed over science.

National Park Service historian Richard West Sellars (1997) has written: “The agreement to end the reduction program thus provided a quick solution to increasingly difficult problems: the angry crossfire of public alarm over shooting elk, the demands of hunters to participate in the reduction, and rising concern in Congress.”

Nor is this case an aberration. Additional examples are plentiful. I'll review four in reduced detail.

Grizzly Bear Recovery

In the 1970s and 1980s, Park scientists were very concerned about the continued survival of grizzly bears in the Yellowstone ecosystem. Their numbers were low, and so was their rate of reproduction. There was a very real possibility that fatalities exceeded births. Without any effective means to increase reproduction rates, any sensible plan to save the Yellowstone grizzlies required minimizing bear fatalities. That, in turn, required a degree of separation between bears

and tourists. Some wild areas were closed to backpackers and hikers. But the biggest problem was not in the backcountry; it was at Fishing Bridge (USDI-NPS. Yellowstone NP 1983).

Fishing Bridge was a major tourist destination at the outlet of Yellowstone Lake. There were a visitor center, a picnic area, an amphitheater, a store, a gas station and automobile repair facility, a 310-unit campground, a 360-unit RV park and other facilities—all located at what Park scientists then believed to be a kind of superhighway interchange in terms of grizzly bear travel. Giving priority to the needs of the bears, scientists from the Park Service and the Fish and Wildlife Service and the Park service Director all concluded that the public facilities at Fishing Bridge should be removed (USDI-NPS. Yellowstone NP 1984; Marston 1985; USDI-NPS. Yellowstone NP 1994).

However, Fishing Bridge was the most convenient tourist complex for visitors entering Yellowstone from the east through Cody, Wyoming. Cody merchants feared that substituting another complex for Fishing Bridge would discourage use of the Park's east entrance at the expense of Cody. The Cody Chamber of Commerce organized an assault on the Park Service's plan to close Fishing Bridge. The Wyoming congressional delegation intervened on behalf of Cody, and the Park Service agreed to prepare a formal environmental impact statement (EIS) before proceeding. By the time a full-fledged EIS had been drafted in 1987, however, the plans for Fishing Bridge had been compromised to the degree that they were praised as a "sound compromise" in a letter signed by the congressmen who had championed Cody's economic concerns (Barker 1987). The compromise called for closing the campground, gas station and auto repair shop but left the 360-unit RV park, visitor center, picnic area and amphitheater in place (High Country News 1988; USDI-NPS. Yellowstone NP 1994). Economic development interests around the Park had effectively trumped the habitat requirements of the Park's largest predator. Superintendent Robert Barbee admitted as much: "The political bottom line was underestimated. It's as simple as that. The parks are very much the children of politics. It is naive to think that politics doesn't have an influence on policy" (Barker 1987).

Wolf Reintroduction

During most of the 20th century, Americans have classified wildlife as good, bad, or irrelevant. The good species were hunted for food and sport, and we called them—tellingly—game. The bad species were—like us—hunters. They competed with us for game and preyed on our domesticated livestock as well. We called them varmints, offered bounties, and did what we could to shoot, trap and poison them into extinction (Albright 1929). For a time, even national parks hired hunters to kill predators, and by 1924 the last wolf had vanished from Yellowstone (Wright 1992). By the 1930s the Park Service had achieved a more enlightened attitude. The director announced that predators would not ordinarily be killed (Albright 1931). Of course, by then, there were no wolves left to benefit from this shift in park policy.

Forty years later, public opinion regarding wildlife had changed. Biological diversity was beginning to be recognized

as desirable and species extinction as something to be avoided. In 1973, the Endangered Species Act was passed, and the gray wolf was listed as endangered throughout most of its previous range. Scientists began studying the possibility of wolf reintroduction in Yellowstone. Wildlife scientists were unanimous that wolves belonged in Yellowstone. Indeed, wolves were the only native mammal not present in the Park. Their restoration would make the Park's ecosystem more natural and more complete. As the historic top predators in the Yellowstone Ecosystem, their return could help reduce excessive elk and bison populations. The only real issue was how wolves ought to return (McNamee 1997).

Environmental purists argued that, given enough time and the protection of the Endangered Species Act, a natural population of wolves from Canada would migrate down the Rocky Mountain chain and resettle Yellowstone much as they had already resettled Glacier National Park. Environmental pragmatists argued that an experimental population of wolves should be transplanted directly into the Park. In 1995, after two decades of study, 160,000 comments from the public and recommendations from wolf experts in and out of government, Canadian wolves were transplanted in Yellowstone (McNamee 1997).

To calm the fears of nearby ranchers, the reintroduction plan allowed them to shoot wolves that left the Park and attacked livestock and compensated them for livestock lost. In a tactic that makes sense only in the world of politics, the Wyoming Farm Bureau Federation filed suit to stop the wolf reintroduction on the grounds that the plan, which allowed its members to shoot wolves, failed to provide the wolves with all the protection to which they were entitled under the Endangered Species Act. In December of 1997, a federal district court judge agreed: Because the reintroduced wolves were not being well enough protected, they were required to be destroyed (Wyoming Farm Bureau Federation, et. al. v. Bruce Babbitt, et al. 1997). Appeals by the government and the Friends of Wildlife are pending, but whatever the result, it will be a triumph of politics. (January 13, 2000, the 10th Circuit Court of Appeals overturned the 1997 decision and allowed the wolves to remain in Yellowstone.)

Natural Fire

For most of the 20th century, government officials and the public agreed that wildfires were bad. If anyone doubted that conclusion, they had both Smokey the Bear and Bambi to set them straight. As taxpayers, we spent millions of dollars every year to detect and suppress fires. We built fire towers, flew aerial reconnaissance, and trained smoke jumpers. As technology developed, we got better at putting fires out, but we often seemed to be doing more harm than good. Forest and grassland ecosystems were becoming clogged with brush, and fires were getting worse (Pyne 1984).

In the 1970s and 1980s, government scientists across the West concluded that fire was a natural and, in many cases, a necessary part of ecosystems (Leopold and others 1963; Kilgore and Heinselman 1990). In national parks and wilderness areas, where naturalness is supposed to prevail, government forest managers increasingly concluded that natural fires should be allowed to burn as long as they did not threaten resources outside the wilderness (USDI-NPS 1968; Parsons and others 1986). In Yellowstone National Park and

the surrounding national forest wilderness areas, fire management plans were adopted that allowed natural fires to burn themselves out as long as they didn't get too large (van Wagtenonk 1978). President Reagan's Interior Secretary Donald Hodel supported this "natural fire" or "let burn" policy (Wuerthner 1988).

Then, in 1988, after years of inconsequential fires, significant fires began in and around Yellowstone. Over the course of the summer, they became national news. Reporters found the cataclysmic lamentations of motel owners in Cooke City and West Yellowstone to be far better copy than the dry pronouncements of Park scientists. As a result, the media portrayed the fires as destroying Yellowstone. The major news weekly, *Time Magazine*, reported as a matter of fact that "The fires have ruined 1.2 million acres of Yellowstone and adjoining national forests" (Time 1988, emphasis added). *Time* was one among many.

Like most other Americans, President Reagan heard about the natural fire policy from the news media. Like most other Americans, Reagan undoubtedly loved Yellowstone National Park, and he was not about to see it burned down. He proclaimed the natural fire policy "a cockamamie idea," and his political subordinates scrambled for cover (Satchell and Dworkin 1988). For his part, former natural fire supporter, Interior Secretary Hodel denounced the natural fire policy on ABC's *Nightline*. Then—after having publicly condemned the policy of Park scientists—he boarded a plane for a fact-finding mission to Yellowstone (Shabecoff 1988). Politics had defeated science yet again, although, in the case of the 1988 fires, nature probably defeated them both.

Bison and Brucellosis

No creature is more strongly associated with the pre-Columbian Great Plains than the bison or American buffalo. It has been depicted in Western art, on United States coins, and on the official seal and various logos of the Department of the Interior. It ranks second only to the bald eagle as a symbol of the American nation. It ranks second only to the passenger pigeon as a symbol of America's wanton destruction of its wildlife. In the 19th century, market hunting nearly extinguished the bison, and agitation on its behalf constituted an early episode in the politics of wildlife conservation (Trefethen 1975).

Buffalo were numerous in Yellowstone at the time the Park was created. Today's Buffalo Plateau, north of the Lamar River, received its name because "thousands of buffalo" were found grazing there in 1870 (Haines 1977). Thirty years later, the survival of the Yellowstone buffalo was very much in doubt. All figures are estimates, but the population was almost certainly less than 50. The buffalo crisis prompted vigorous action against poachers, as well as establishment of a captive herd of domesticated plains buffalo. The latter, of course, would be regarded as an exotic species today. The native bison survived, but they interbred with the exotics, creating the hybrid species that populates the Park today. Now well protected within the Park, the bison herd has flourished. There may well be too many for the range. When they attempt to leave the Park, however, they have been shot on sight, either by or with the approval of Montana State game officials.

The issue is brucellosis, a disease common to buffalo and cattle, which causes cows to abort their fetuses. The disease is so threatening to livestock that the Department of Agriculture requires cattle shipped in interstate commerce to be certified as brucellosis free. That means either testing, which is expensive, or a ranching operation within a state that has been certified as brucellosis free. Most scientists who have examined the issue have concluded that the risk of transmission from buffalo to cattle is small, but—since the consequences would be catastrophic—cattlemen, the Agriculture Department's Animal and Plant Health Inspection Service (APHIS) and the neighboring states are understandably adverse to even the slightest risk. Rigidity has been a common posture among the contestants. Indeed, public officials have come to blows over this issue (Rezendes 1997).

The Animal and Plant Health Inspection Service provoked the most recent crisis. In December 1994 it informed Montana that its brucellosis-free status would be downgraded unless action was taken against brucellosis-infected bison within its boundaries. The following month, Montana filed suit in federal court contending its brucellosis-free status was threatened by the conflicting policies of the Park Service and APHIS. To settle the suit, the participants agreed to an interim management regime, which allowed the State of Montana to eradicate any buffalo that intrude on areas of Montana used by cattle. The practical result was a great border buffalo slaughter: In the winter of 1996-1997, more than one thousand animals were slain or removed, perhaps one-third of the previous population (Rezendes 1997; Crosson 1997).

The slaughter of the bison was as poorly understood and as unpopular as the elk slaughter had been three decades earlier, and the Interior Secretary reacted in much the same way. Bruce Babbitt called for an investigation by the National Academy of Sciences and asked Montana to halt the shooting. Under pressure from the Interior Department, the Agriculture Department reduced its pressure on Montana, but the killing continued (Allen 1997). The National Parks and Conservation Association began a "Bison Belong" campaign aimed at tourist-dependent businesses (Crosson 1997). In June 1997, federal and state officials tentatively agreed on a management plan that includes live-capture, hunting of bison in certain situations, vaccination of bison when a reliable vaccine becomes available, and acquisition of additional winter range outside the Park from willing sellers (Rezendes 1997). As with wolf reintroduction, the controversy continues. Politics will decide.

The Triumph of Politics Is Inevitable

So our parks and wilderness areas are governed more by politics than science. This conclusion comes as no surprise to a political scientist, and it is probably no surprise to people who work in federal land management. This conclusion probably would surprise the millions of Americans who love their public lands but learn most of what they know about them at visitor centers and campfire talks, where rangers rarely discourse on how the Park Service got steam-rolled by the hunters, or the ranchers, or the business leaders of Cody, Cooke City or West Yellowstone.

Politics has routinely triumphed over wilderness science, and, in the rather unsophisticated sense in which I have used these words up to this point, that result may appear lamentable. In a somewhat more sophisticated view, the triumph of politics over wilderness science is not so much lamentable as inevitable. It is not in the nature of science to make the decisions I have been describing. Science asks and answers empirical questions, but the most fundamental questions about wilderness management are inevitably normative.

So, in the case of Yellowstone, science can tell us that an increase in the population of elk will reduce aspen, willow and beaver. It can even tell us that killing elk would produce a more natural biological balance. But science cannot tell us whether naturalness is more valuable than the sport of hunters or the sensibilities of animal lovers.

Science can tell us that closing the Fishing Bridge commercial complex will help preserve the grizzly bear, but it cannot answer the question: Which is more valuable, the preservation of the grizzly bear or the economic prosperity of Cody's merchants?

Science can tell us that the wolf is the historic top predator in the Yellowstone Ecosystem, that its reintroduction will make the ecosystem more complete, but it can't tell us that achieving that completeness is more important than the mental health of ranchers who fear and loathe the wolf as a threat to their livestock and their way of life.

Science can tell us that the Yellowstone National Park we know and love was created by fire, that lodgepole pine forests depend upon fire to recycle nutrients and to open their seed-bearing cones. Science can tell us that the historical pattern of fire in Yellowstone has been huge conflagrations spaced 200 to 400 years apart. But it cannot tell us whether we should prefer to see that pattern repeated. It cannot tell us whether we should cherish naturalness more highly than the beauty of an unburned forest.

Science can tell us that the risk of cattle contracting brucellosis from bison is small and that elk also carry the disease. It cannot tell us that a relatively natural, free-ranging bison herd in the Greater Yellowstone Ecosystem should be valued more highly than the cost savings and economic security afforded to cattle ranchers by Montana's certification as a brucellosis-free state.

In the final analysis, the real conflict is not between science and politics. It is between people with different attitudes, values and interests. It is most often between two identifiable constituencies: a national constituency that thinks about Yellowstone primarily in aesthetic and philosophical terms and generally supports the preservation of its wildness, and a local constituency that thinks about Yellowstone primarily in economic terms and prefers prosperity to wildness.

For the most part, the triumphs of politics over science described here are more accurately described as triumphs of local economic interests over national preservation interests. The Park's local constituents are a militant minority. They win because they care passionately, they work hard, their interests are easy to conceptualize and to quantify, they see themselves as having a lot to lose, and they command support from locally elected officials. These are precisely the characteristics rewarded in our political system.

The Park's national constituents are a vast and far-flung tribe, not nearly so well informed. As absentee landlords, they assume that Park Service experts are in charge and that nature is being served. They are a silent majority, only partially represented by the national environmental lobby, and that is a poor recipe for political success.

Local politics will always serve parochial economic interests. In the end, preservation of naturalness in Yellowstone and elsewhere requires that her vast national constituency find its voice. Science has no formal role in this process, but scientists do. Science, as a discipline, cannot answer the fundamental normative questions, but scientists are also citizens. Scientists should be educators and leaders and active participants in the political debate. The triumph of politics is inevitable, and in a democracy, it is appropriate. With the active participation of scientists, our politics has the potential to be elevated, informed and inclusive. If scientists opt out, our politics is doomed to be debased, ignorant and parochial.

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