
Greater Yellowstone Wildlife in Science and Myth: We are from Mars; They are from Earth

Mary Ann Franke

125 Spotted Fawn Court, Sedona, AZ 86351 (928-284-2774, maryannfranke@aol.com)

Abstract

The diverse wildlife management policies witnessed in Greater Yellowstone over the years reflect changes in both the scientific knowledge and the myths that affect how we relate to wild animals. During his 1903 visit, big game hunter Theodore Roosevelt found Yellowstone's "semi-domesticated" grizzly bears "delightful" and "quite harmless" if "reasonable precaution" was taken. The myth of the harmless Yellowstone bear was eventually overtaken by the belief that wildlife management should be based on ecological concepts rather than entertainment value, but advances in scientific knowledge did not mean that we abandoned myths altogether. On the contrary, the pursuit of scientific rationales for wildlife policies continued to feed existing myths and give rise to new ones, including the mythic ideal that values wildlife for its wildness. But not everyone agrees, whether the animals in question are bears, bison, wolves, or cutthroat trout. Is there anything inherently more "natural" about wildlife that is unaffected by humans, one of Earth's keystone species? In traditional views still held by many American Indians, the relationship between humans and other species is one of interdependence. All interest groups in a wildlife controversy are apt to claim that science is on their side, but what really fuels the debates are the myths that we want to believe about animals in Greater Yellowstone.

Introduction

Although myths are often thought of as traditional stories that came into being to explain some natural phenomenon, to call something a myth in modern parlance has become a way of dismissing it as a fallacy unsupported by scientific or historical fact. According to one dictionary definition, the term "myth" may refer to a "recurring theme that appeals to the consciousness of a people by embodying its cultural ideals or by giving expression to commonly felt emotions" (Woolf 1980). In that sense, a myth is not inherently false; what makes something a myth is its cultural resonance or emotional appeal. My use of the term "myth" therefore refers not just to specific stories, like how the pronghorn got its stripes; it's also a way of looking at different assumptions that affect how we live with wild animals in Greater Yellowstone.

John Gray, who wrote *Men Are From Mars, Women Are From Venus*, didn't literally believe that men are from Mars, but by framing the issue that way, he appealed to an emotion commonly felt by women (Gray 1992). For much of Euro-American history in the New World, we've treated wildlife as if we believed that we are from Mars—as if we were a species from another planet that extracts what it wants and can eventually close the door on Earth and leave the mess behind. As Aldo Leopold said,

"we abuse land because we regard it as a commodity belonging to us" rather than "a community to which we belong" (Leopold 1949).

The pristine myth

Sometimes one generation's science is dismissed by the next generation as myth, but the gradually evolving story we tell about the past incorporates changing myths as well as new empirical evidence. A striking example of this is the myth that North America was "virgin" land until Europeans arrived to live here. Until relatively recently, it was widely assumed that the continent's aboriginal inhabitants were too few in number and too primitive in their civilization to have had any significant impact on their environment. For centuries this assumption has helped support myths that encouraged Euro-Americans to view themselves as a superior race, as discoverers with a manifest destiny. It also allowed Euro-Americans to view American Indians either as inconsequential heathens or as noble savages who lived in harmony with nature and left no mark upon the land. John Craighead (1991) has written that "pre-Columbian Yellowstone was indeed a pristine wilderness. . . . and native Americans were an important member of the biota," a view that seems to regard pre-Columbian American Indians as a species of wildlife.

But now the increasingly popular view is that

the North American population in 1491 was far larger and more technologically advanced than previously thought, and that European diseases swept through the Americas so much in advance of Europeans themselves that what the settlers discovered was a post-apocalyptic landscape in which American Indians were no longer present in sufficient numbers to engineer the landscape through hunting, fires, and agriculture as they had in the past. While this view can be supported by certain archeological and anthropological evidence, it also appeals to certain contemporary myths about the superiority of American Indian culture and the need for human manipulation of wilderness areas. Instead of trying to preserve some mythical Eden in such places, this reasoning goes, we should emulate traditional American Indian practices to make our environment a more accommodating home (Mann 2005).

The myth of species extirpation as a distinctively Euro-American transgression has also been overturned by scientific research. According to the overkill theory, human predation was at least partly responsible for the extinction of the largest mammals that were present about 15,000 years ago, including mammoths, mastodons, and cheetahs (Martin and Klein 1984). After learning at a tribal consultation how obsidian points are dated, Elaine Quiver, an Oglala Sioux elder, advised National Park Service archeologists to look for “a big sliver of obsidian” that was used, she said, to “take care of the dinosaur”; then, we could figure out “when the dinosaur disappeared” (Quiver 2003). The overkill concept has also been extended to Greater Yellowstone by those who cite evidence that hunting by American Indians kept pre-Columbian ungulate populations low (Kay 1994).

Historians like William Cronon have called the idea that humans can leave nature untouched by their passage “the myth of wilderness.” Cronon claimed that the removal of American Indians to create an “uninhabited wilderness . . . reminds us just how invented, just how constructed, the American wilderness really is.” Charles Kay has also referred to wilderness without human influence as a “myth,” and believes that it was “created, in part, to justify the appropriation of aboriginal lands and the genocide that befell native peoples.” In noting that the National Park Service has referred to Yellowstone as “America’s Serengeti,” Kay wrote, “It’s true. They’re both unnatural systems. The Serengeti is a romantic, European, racist view of what an ecosystem should look like. What’s more unnatural than an ecosystem

without human predators?” (Hanscom 1997).

In “Greater Yellowstone’s Native Ungulates: Myths and Realities,” Joel Berger regarded comparisons of Greater Yellowstone to the Serengeti as a myth because the Serengeti has 31 native ungulate species, whereas Greater Yellowstone has been “impoverished in terms of its ungulate fauna” since the Miocene epoch, having only seven ungulate species, five of which migrate to lower elevation areas beyond park boundaries where “enormous ecological changes have occurred.” Berger pointed out that the conservation of Greater Yellowstone will be influenced more significantly by what occurs in areas outside its two parks than by what occurs within them (Berger 1991). Humans will continue to alter the ecosystem by interfering with wildlife in various ways. It’s a question of which interferences are socially acceptable at a given point in time because they are compatible with the dominant myths.

Dancing flies and gentle bears

In the nineteenth century, images like those of the Grand Canyon of the Yellowstone created by Thomas Moran and William Henry Jackson helped shape the myth of the Yellowstone area as a primeval wilderness on which neither American Indians nor wildlife had left visible footprints. These paintings and photographs, from which wildlife were usually absent, do not qualify as scientific evidence that wildlife was rare when Yellowstone was established in 1872, but the way artists chose to represent the area does suggest that wild animals were not regarded as the iconic part of the landscape that they are now. Big game animals were still commonplace in much of the country as a source of food, fur, and hides, and carnivores were still commonly regarded as a source of trouble.

The first vision of Yellowstone as a wildlife refuge came primarily from hunters who wanted protection for game species in the park so that the animals would multiply and leave its boundaries. This desire led to certain myths about “good” and “bad” animals, but species have been switched back and forth between these categories as opinions have changed over time. When Secretary of the Interior Henry M. Teller prohibited the killing of certain animals in Yellowstone in 1883, bears and other predators were not included (*Forest and Stream* 1883). But as tourism increased, the emphasis shifted from protecting the animals most popular among hunters to those popular with park visitors. Even the wildlife species that were considered “good” were valued for

reasons that weren't entirely the same as those of today. Whatever John Muir's virtues as a naturalist and proponent of wilderness preservation, his anthropomorphic descriptions of nature may strike modern readers as a Disneyland-style Fantasia. "Gladly we see the flies dancing in the sunbeams," he said of Yellowstone in 1898, "while the whole wilderness is enlivened with happy animals." He described Yellowstone's bears as "gentle now, finding they are no longer likely to be shot," and claimed that "no town park you have been accustomed to saunter in is so free from danger as the Yellowstone" (Muir 1898).

The bears became "good" when they became habituated to the proximity of humans. Decades later, Yellowstone National Park naturalist Merrill Beal thought that one reason why the U.S. Army began enforcing the hunting ban in Yellowstone was that "lonely" soldiers "in remote stations had formed enjoyable companionships with wilderness creatures," and "were delighted by the universally charming wild life trait of responding with confidence and alacrity to friendly human advances." When park managers realized that "Yellowstone birds and mammals would quickly recognize overtures of friendship and protection," they thought that "nearly every species in the Park might become as tame as range cattle if given an opportunity to move safely within rifle shot for several years" (Beal 1946).

Wild animals as livestock

In early concepts of wildlife preservation, an animal's "wildness" was often regarded as an undesirable trait, an excusable reason for an animal's demise, and something to be overcome if possible. In 1902, when Secretary of the Interior Ethan Allen Hitchcock requested funding from Congress "for the purchase of buffalo and the corralling of them in Yellowstone Park," he pointed out that by keeping them "under government supervision, it is believed that a herd of pure-blooded American bison may be domesticated" (Hitchcock 1902). Yellowstone's acting superintendent Major John Pitcher thought that the small herd of wild bison remaining in Pelican Valley "may possibly die out completely," but he expected that the 17 bison obtained from ranchers could "become very tame" if kept fenced in Lamar Valley. It was his intention "to feed and handle the new herd of buffalo in the same manner that domestic cattle are handled in this country, and . . . to brand them U.S. in such a way that they can always be identified as United States property" (Pitcher 1904).

Even Theodore Roosevelt, who took pride in

his adventures as a big game hunter, regarded the habituation of Yellowstone wildlife as synonymous with tameness and something to be encouraged. After his 1903 visit to the park, he wrote, "To any lover of nature it could not help being a delightful thing to see the wild and timid creatures of the wilderness rendered so tame. . . . At times the antelope actually cross the Park line to Gardiner . . . and feed unmolested in the very streets of the town; a fact which shows how very far advanced the citizens of Gardiner are in right feeling on this subject." He described bears "boldly hanging around crowded hotels for the sake of what they can pick up," and considered them "quite harmless so long as any reasonable precaution is exercised" (Roosevelt 1905).

Twenty years later, Yellowstone National Park naturalist Milton Skinner described the grizzly bear "as a peaceful, self-respecting animal," and claimed that "there is no danger of the Yellowstone bears attacking or hurting people," although he admitted that "we often have some very exciting encounters with them when they are after our food" (Skinner 1925). Horace Albright, who was Yellowstone's superintendent in the 1920s before becoming director of the National Park Service, also regarded the value of wildlife as being directly proportional to the delight the animals could provide park visitors. But for Albright, this meant disputing the notion that the bison in Lamar Valley were "tame," which sounded rather dull. He had the park rangers stage roundups, which he described as "about the last opportunities to see . . . the fearful and impressive buffalo stampedes." In this way, Albright used a large bison herd that was accustomed to being corralled to portray the myth that these were wild animals. The real herd of wild bison in Yellowstone wouldn't have been so cooperative. As Albright saw it, the Lamar bison herd was "not tame at all except that it was provided with hay in winter and was kept under control by the gamekeeper" (Albright and Taylor 1928).

Elsewhere in Wyoming, the only reason to feed and tolerate large herds of wild ungulates was so that the animals could be hunted. "The time has finally come, and I can see whereby it is necessary to handle our game herds the same as a stock man handles his stock," said Wyoming Fish and Game Commissioner Bruce Nowlin in 1927. "The stock man knows just the number of stock he must sell each year in order to make provision for the number he can care for during the winter months." Nowlin's successor, Robert Hocker, expressed the same view four years later: "Game management is identical with livestock man-

agement,” Hocker said. “The number of animals you have winter range for, and . . . the number you can afford to feed, determines the numbers at which you wish to hold your herd” (Blair 1987).

By the 1930s, the growing opinion that wildlife management should be based on ecological concepts rather than public recreation was starting to affect some wildlife policies in Greater Yellowstone. But instead of lessening the hold of myths, the trend toward scientific rationales for wildlife policies continued to feed existing myths and give rise to new ones. Science has often been used to put old wine into new bottles—to help support archaic myths such as those about creationism, racial superiority, and the balance of nature.

Like the concept of intelligent design, the balance of nature idea is so appealing that it has continued to affect how people explain natural phenomena despite considerable evidence to the contrary. Under this model, design flaws or imbalances in the natural environment are often attributed to what humans have done or failed to do. In 1946, Yellowstone manager Rudolph Grimm stated, “It is our responsibility to maintain in a natural condition the range plant cover as well as the wildlife population of this range. In order to attain such a state, we must bring about and maintain an equitable balance between the amount of range forage produced and the number of animals using this range” (Grimm 1946). The expectation that “natural condition” and “equitable balance” could be achieved through the right human manipulations was evident as the National Park Service culled thousands of elk in Yellowstone until the late 1960s.

The 1963 Leopold Report (i.e., “Wildlife Management in the National Parks”) agreed that the National Park Service should “manage the habitat to achieve or stabilize it at a desired stage,” and that “population control becomes essential” when “animal populations get out of balance with their habitat and threaten the continued existence of a desired environment” (Leopold et al. 1963). However, the report recommended that the park service obscure in every possible way any “observable artificiality,” because the goal was to create “the mood of wild America” and “a reasonable illusion of primitive America.” That meant sustaining certain myths about what primitive America was like.

Natural regulation as a myth

The myth that Euro-Americans discovered a pristine wilderness in the New World may have ex-

pired, but the story of Greater Yellowstone told by most ecologists, historians, and American Indians continues to be one in which the Indians did not have a long-term effect on wildlife as we know it until they acquired horses. The favored story changed in the 1960s, however, after the only apparent effect of reducing the elk herds was to increase public resistance to the practice. Some biologists began to question whether elk could destroy their habitat through overpopulation, proposing that forage limitations and starvation in winter would keep the herd below the range’s ecological carrying capacity, a process referred to as “natural regulation.” According to this view, Yellowstone had only marginal habitat for aspen and willow, browsing by a large elk herd was to be expected, and any changes in Yellowstone flora and fauna that occurred in the twentieth century were primarily the result of climate variability and fire suppression (Yellowstone National Park 1997).

Ecological and historical evidence can be mustered to support this belief, but it also attracted those who, especially prior to the reintroduction of wolves, liked to think Yellowstone was “natural” just the way it was, as a wildlife sanctuary with large, unmolested ungulate herds. As one National Park Service naturalist explained, “the removal of the wolf probably didn’t have much effect on the elk or deer, because in Yellowstone wolves seem never to have served the function of controlling populations” (Schullery 1984). The doubling in size of the northern elk herd after culling ended cast more doubt on the idea that the range was overgrazed, but the unexpectedly large fluctuations quashed the idea that natural regulation would lead to some kind of sustained balance. Wildlife managers began to realize that balance was a largely subjective matter; people were apt to consider a species out of balance if it caused property damage, if a favored species declined, or if some animals died because they could not survive the winter. But some critics of National Park Service policies continued to dismiss natural regulation as a myth—“nothing more than a policy of waiting for bad weather” (Chase 1986).

The concept of natural regulation as it’s been used in Greater Yellowstone is also regarded as a myth by some American Indians. A Salish from the Flathead Reservation has said, “Although the park claims it is managing for natural regulation, it is not natural to shoot buffalo in the winter. It is necessary to harvest animals when they are in good condition” (Ravndal 1997). Winter is “the time the animals should be at rest,” Haman Wise of the Eastern

Shoshone agreed. “The buffalo should have a rest period someplace to revise their spirituality” (Wise 2000). Historically, the Indians did sometimes hunt buffalo in the winter when they were hungry, or because they preferred fresh meat to dried pemmican, or because that’s when the buffalo were wearing their warmest robes (Isenberg 2000). What matters about these Indians’ beliefs is not their historical accuracy, but that they appeal to emotions commonly felt by Indians.

Some people believe that humans have altered Greater Yellowstone too much for park managers to realistically consider leaving nature to itself, and that without interventions to compensate for human disturbances, something “unnatural” or otherwise unacceptable happens to ungulate populations and their habitat. By the early 1990s, an increasing number of people believed that what Yellowstone really needed was human intervention in the form of wolf reintroduction.

The new wolf

The wolves of Greater Yellowstone have, at least in much of the mainstream press, undergone a complete image makeover since they were eradicated from the area in the 1930s. Once the embodiment of all that was bad about untamed wilderness, now they are widely regarded as the savior of the little wilderness that remains. In his 1978 book, *Of Wolves and Men*, Barry Lopez wrote, “biologists have given us a new wolf, one separated from folklore. But they have not found the whole truth. For example, wolves do not kill just the old, the weak, and the injured. They also kill animals in the prime of health. And they don’t always kill just what they need; they sometimes kill in excess. And wolves kill each other. The reasons for these acts are not clear. No one—not biologists, not Eskimos, not backwoods hunters, not naturalist writers—knows why wolves do what they do” (Lopez 1978).

Although nearly 30 years have passed since Lopez wrote that, biologists still haven’t found the whole truth, and some people believe that biologists are still trying to perpetuate old myths, like the one that regards the wolf as an endangered species, or that wolves never attack humans. Most wildlife managers have done their best to separate the wolf from its folklore, but because we still can’t always explain why wolves do what they do, and because we don’t always like the results, the folklore persists. The myths of wolf restoration in Greater Yellowstone in 1995 as either a great conservation triumph or a co-

lossal blunder are still very much with us.

Although Rick Bass disdained Yellowstone as “prey-infested” in his 1992 book, *The Ninemile Wolves*, he opposed the release of wolves in the park. He believed it was as phony as the park’s buffalo purchase of 1902—something done for the sake of tourism rather than for ecological integrity. In 1997, those willing to donate \$5,000 to the cause could “become a full partner in Yellowstone National Park’s historic wolf recovery program in a special and personal way.” In an advertisement in *Wolf Tracker*, the Yellowstone Wolf Foundation offered to “inscribe your name—or the name of a loved one—onto a new radio-telemetry collar just before it is placed on a wild Yellowstone wolf.” When the collar was “retrieved” in three years, it would be “shipped to you for your family’s permanent safe-keeping and education.” In *The New Wolves*, Bass compared the transport of wolves from Canada to a shopping trip undertaken “to fill in the emotional blanks of a fractured landscape” (Bass 1998), and he would probably feel the same way about spending \$5,000 to get your name inscribed in a radio collar. Bass is loyal to the cause of wolves, which he regards as offering the best chance of erasing the boundary lines that fragment the West, but he wanted them to be allowed to return to Yellowstone on their own, without the intrusion of radio collars and intensive monitoring.

Rather than support John Muir’s myth that national park boundaries provide a safety net for wild animals, wilderness advocates like Bass see the boundaries as strangling wildlife. Yet Bass has joined those who believe in the nearly miraculous transformation of Greater Yellowstone as a result of wolf reintroduction. As Bass saw it in 2005, the wolves “have reshaped huge sections of an awkwardly leaning ecosystem;” now “there is color in the land again” (Bass 2005). Those who thought there was color in the land before wolves returned must have been looking at it through rose-tinted glasses, and that would include the National Park Service staff who co-authored a 1986 book that stated, “it remains open to question whether the ecosystem ‘needs’ wolves in some absolute sense” (Despain et al. 1986). Less than two decades later, a park service biologist was claiming that “wolves are to Yellowstone what water is to the Everglades” (Thompson 2003).

Diligently protected species

The labeling of good and bad animals changes over time, and a species may continue to be favored in one part of Greater Yellowstone after it has be-

come a pariah in another. After 1994, when the National Park Service began spending millions of dollars to save the native Yellowstone cutthroat trout by removing non-native lake trout from Yellowstone Lake, the state of Wyoming continued to put thousands more lake trout into Jackson Lake every year. And when the Wyoming Game and Fish Department announced plans last year to phase out this stocking program, their primary stated reason was the apparently deleterious effect of the program on the lake trout, not on the native cutthroat (Wyoming Game and Fish Department 2004).

Although both elk and bison are native species, elk continue to be treated more like “good animals” throughout Greater Yellowstone. The recent *Draft Bison and Elk Management Plan for the National Elk Refuge and Grand Teton National Park* included a section that explained “The Role of Elk” in the Jackson area. Elk were described as “diligently protected,” “important to residents and interest groups,” “important to backcountry users as well as to people that never leave the road,” and “at the mercy of sometimes severe winters” (U.S. Department of the Interior 2005). The document made no mention of elk’s depredation of ranchers’ haystacks, the cost of the feedgrounds and vaccination using biobullets, or the role elk presumably had in transmitting brucellosis to Wyoming livestock in recent years.

The next section of the plan, “The Role of Bison,” described the problems caused by the Jackson bison herd, which has been at the mercy of more critical thinking than the elk. “All of the adults were destroyed” in 1963 because of brucellosis. Not only do these animals currently pose a “risk of disease transmission to elk and livestock,” but they also “disrupt feeding operations” for the elk, “displace and injure elk,” “eat supplemental feed provided for elk,” cause “damage to habitats,” “damage to private property,” “conflicts with landowners,” and pose a “risk to human safety.”

American Indians have challenged the myth of bison as the bad guys at consultation meetings the National Park Service began holding in 1996 because of the tribes’ objections to how bison were being treated at the Yellowstone boundary. Haman Wise from the Wind River Reservation has felt obliged to repeatedly explain what he calls “the part nobody understands.” “You really don’t know why the buffalo leaves, do you?” he says to park staff. “The buffalos leave the park because they have to eat that certain medicine plant. That takes care of all the ailments in their body. . . . That’s why you don’t see

very much aborting in buffalo” (Wise 2000).

The park service believes it knows better, but “scientific” explanations for why bison leave the park can get as bogged down as a snowshoe in spring slush. According to one authoritative analysis, bison leave the park because of “population dynamics . . . influenced by density-independent winter stress conditions . . . social behaviors, . . . learned behaviors, . . . [and] a combined winter severity index including a weighted measure of snow (40%), temperature (40%), and rain (20%). . . . [O]ther variables seem to be dampened or compensatory with natural mortality. . . .” (Cheville et al. 1998). Another report concluded that “Bison move beyond park boundaries in winter in response to forage limitation caused by interactions between population density, variable forage production (driven by spring/early summer precipitation), snow conditions, and herbage removal primarily by bison and elk” (Gates et al. 2005).

As for abortions in Yellowstone bison, the scientific consensus is that they are infrequent because the abortion rate drops in any ungulate herd that has become chronically infected with brucellosis (Cheville et al. 1998). Yet until the 1990s, the National Park Service’s defense of its bison management policy routinely suggested that abortions were infrequent because the bacteria may have co-evolved with bison in North America (Yellowstone National Park 1972). The park service’s critics couldn’t prove that *Brucella abortus* was an exotic species brought by European livestock, unless you believed American Indian reports that brucellosis and undulant fever were previously unknown on this continent. But the idea that the bacteria were native to Greater Yellowstone was appealing to people who didn’t like the idea that Yellowstone bison were susceptible to some lowly livestock disease and who opposed taking drastic measures against the bison. As National Park Service Director William Mott explained in 1987, the agency’s responsibility to future generations “extends to disease organisms such as those causing brucellosis . . . when they are a natural component of the park ecosystems we are mandated to protect” (Mott 1987).

Beyond scientific measurement

Some American Indians believe they have a special responsibility to a certain animal because its spirit appeared to them in a dream or during a vision quest and granted them a special power. An Indian visited by the pronghorn spirit, for example, might receive the power to call pronghorn and keep

them spiritually captive until they could be killed. But this partnership with animals comes with a set of obligations, including rituals to be performed. In Shoshone traditions, a slain pronghorn was placed with its head to the east and addressed with respect. The hunters would offer the animal's eyes and skull to the spirit world by suspending them from trees (Dramer 1997). In ceremonies to honor their guardian spirits, the Assiniboine bear dreamers may paint black circles around their eyes and mouths, wear necklaces made of bear claws, and tie their hair into two clumps to resemble bears' ears. In battle, these bear dreamers confronted the enemy holding knives made from a bear's jaw bone, and they imitated the sound of a bear, believing the power of the bear would protect them (Rockwell 1991).

When we hear stories that express the connection between people and wildlife in terms of sacred rituals, we may feel some condescension toward beliefs so lacking in any scientific basis, or we may envy the apparent intimacy of the relationship. But our view of wild animals continues to be colored by myths, even if we're unaware of them, and by taking the long view of human history in Greater Yellowstone, we can see that myths have served a purpose by enabling people to explain what cannot be satisfactorily understood or justified based on scientific evidence alone.

For example, consider the killing of bison by licensed hunters in Montana for the first time in 15 years that is scheduled to commence in less than a month [November 2005]. In its environmental assessment, Montana Fish, Wildlife and Parks described its proposed hunt as both a means of removing "persistent problem animals" and a "fair chase." Although the definition of fair chase lies largely with the hunter, it's generally understood to mean that the balance of power is such that the hunted animal has some chance of eluding the hunter. It's difficult to imagine that a system could be fair or at least logical in which long-range plans call for the bison to stand still and take their medicine when approached by a wildlife biologist shooting biobullets at them, but to run away and behave like wild animals when approached by a hunter. However, the idea of a fair chase bison hunt in Montana may be considered mythical not because it could never happen, but because the concept of fair chase has become "a recurring theme that appeals to the consciousness of a people by embodying its cultural ideals." Many people in Western culture, few of whom are hunters, have come to assume that when a game animal is shot

on public land in circumstances that do not qualify as fair chase or self-defense, the killing is somehow unethical. As stipulated in the bill passed by the 2003 Montana Legislature, any hunting season for bison was to be "conducted under ethical hunting conditions, i.e., fair chase" (Montana Fish, Wildlife and Parks 2004).

The concept of a fair chase has some ecological basis, because the behavior of a prey species that knows it is prey and defends itself accordingly resembles the natural selection process in which the species has evolved. But from an ethical standpoint, the use of fair chase as the defining characteristic is quite arbitrary. Although opponents of hunting bison that have learned no fear of humans tend to claim the activity is "as sporting as shooting a parked truck" (McMillion 2005), for some American Indians it is sport hunting that is inherently unethical or even sacrilegious. From this perspective, what makes killing a wild animal ethical is not the difficulty of the pursuit, but the respect and relationship of mutual obligation that you share with the animal. According to many traditional Indian beliefs, an animal that is approached in the right spirit will give itself willingly to the hunter.

The flip side of the myth that we are separate from the rest of nature is the idea that we are just a species like any other or, as Aldo Leopold put it, that "men are only fellow-voyagers with other creatures in the odyssey of evolution" (Leopold 1949). J. Baird Callicott has suggested that if the "works of man" are "entirely natural and the products of evolutionary phenomena," then they may be "symbiotically integrated with other contemporaneous evolutionary phenomena; they may in principle be beneficial to the biotic communities" we inhabit (Callicott 1991). Seeing ourselves as part of the continuum of nature can give us a sense of kinship with other animals, but it can also offer a rationale for all our predatory behavior. Other animal species must adapt to their environment to meet their biological needs, whereas humans can far more rapidly and extensively alter their environment to meet both their needs and desires. Humans are also, as far as we know, the only species that can create myths about other animals rather than simply learn facts about them. As the philosopher Holmes Rolston III has pointed out, if we did not interfere with and rearrange nature, we would have no human culture (Rolston 1994). Instead of regarding ourselves as fellow voyagers with other creatures, or as their masters or stewards, Henry Beston suggested that we need "perhaps a

more mystical concept” of animals:

We patronize them for their incompleteness, for their tragic fate for having taken form so far below ourselves. And therein do we err. For the animal shall not be measured by man. In a world older and more complete than ours, they move finished and complete, gifted with the extension of the senses we have lost or never attained, living by voices we shall never hear. They are not brethren, they are not underlings: they are other nations, caught with ourselves in the net of life and time, fellow prisoners of the splendour and travail of the earth (Beston 1928).

References

- Albright, H. M., and F. J. Taylor. 1928. *“Oh, Ranger!” A book about the national parks*. Stanford, Calif.: Stanford University Press.
- Bass, R. 1992. *The Ninemile wolves*. Livingston, Mont.: Clark City Press.
- _____. 1998. *The new wolves*. New York: Lyons Press.
- _____. 2005. Wolves return to Yellowstone. *Orion* (August). <<http://www.oriononline.org/pages/om/05-4om/Bass.html>>.
- Beal, M. D. 1949. *The story of man in Yellowstone*. Caldwell, Idaho: Caxton Printers.
- Berger, J. 1991. Greater Yellowstone’s native ungulates: myths and realities. *Conservation Biology* 5(3):353–363.
- Beston, H. 1928. *The outermost house: a year of life on the great beach of Cape Cod*. New York: Doubleday.
- Blair, N. L. 1987. *The history of wildlife management in Wyoming*. Casper, Wyo.: Wyoming Game and Fish Department.
- Callicott, J. B. 1991. The wilderness idea revisited: the sustainable development alternative. Pages 237–266 in J. B. Callicott and M. P. Nelson, eds., *The great new wilderness debate*. Athens, Ga.: University of Georgia Press.
- Chase, A. 1986. *Playing God in Yellowstone: the destruction of our first national park*. New York: Atlantic Monthly Press.
- Cheville, N. F., D. R. McCullough, L. R. Paulson, N. Grossblatt, K. Iverson, and S. Parker. 1998. *Brucellosis in the Greater Yellowstone Area*. Washington D.C.: National Academy Press.
- Craighead, J. J. 1991. Yellowstone in transition. Pages 27–38 in R. B. Keiter and M. S. Boyce, eds., *The Greater Yellowstone Ecosystem: redefining America’s wilderness heritage*. New Haven: Yale University Press.
- Despain, D., D. Houston, M. Meagher, and P. Schullery. 1986. *Wildlife in transition: man and nature on Yellowstone’s northern range*. Boulder, Colo.: Roberts Rinehart.
- Dramer, K. 1997. *The Shoshone*. Philadelphia: Chelsea House Publishers.
- Forest and Stream*. 1883. An important Park order, Jan. 18, 1883. 19(25): 481.
- Gates, C. C., B. Stelfox, T. Muhly, T. Chowns, and R. J. Hudson. 2005. *The ecology of bison movements and distribution in and beyond Yellowstone National Park: a critical review with implications for winter use and transboundary population management, April 2005*. Calgary, Alberta: Faculty of Environmental Design, University of Calgary.
- Gray, J. 1992. *Men are from Mars, women are from Venus: a practical guide for improving communication and getting what you want in your relationships*. New York: HarperCollins.
- Grimm, R. 1946. Quoted in minutes of Absaroka Wildlife Conservation Committee meeting, September 21–22, Yellowstone National Park Archives.
- Hanscom, G. 1997. Politics tangles with science. *High Country News* 29(17):3.
- Hitchcock, E. A. 1902. Letter from the Secretary of the Interior, transmitting to the Senate facts in relation to the preservation of the American bison in the United States and Canada, July 1, in U.S. Senate, American bison in the U.S. and Canada, 57th Congress, 1st session, S. 445. Washington, D.C.: Government Printing Office.
- Isenberg, A. C. 2000. *The destruction of the bison: an environmental history, 1750–1920*. Boston: Cambridge University Press.
- Kay, C. 1994. Aboriginal overkill, the role of Native Americans in structuring western ecosystems. *Human Nature* 5(4):359–398.
- Leopold, A. S., S. A. Cain, C. M. Cottam, I. M. Gabrielson, and T. L. Kimball. 1963. *Wildlife management in the national parks*. Washington, D.C.: Advisory Board on Wildlife Management.
- Leopold, A. 1949. *A Sand County almanac*. New York: Oxford University Press.
- Lopez, B. H. 1978. *Of wolves and men*. New York: Scribner.
- Mann, C. C. 2005. *1491: new revelations of the Americas before Columbus*. New York: Knopf.
- Martin, P. S. and R. G. Klein, eds. 1984. *Quaternary extinctions: a prehistoric revolution*. Tucson: University of Arizona Press.
- McMillion, S. 2005. Bison hunt gets go-ahead. *Bozeman Chronicle* (September 9). <<http://www.bozemandailychronicle.com/articles/2005/09/09/news/01bisonhunt.txt>>.
- Montana Fish, Wildlife and Parks. 2004. *Draft bison hunting environmental assessment*. Helena, Mont.: Montana Fish, Wildlife and Parks.
- Mott, W. P. 1987. Letter to U.S. Senator Steven Symms. May 29. Yellowstone National Park Archives.
- Muir, J. 1898. The Yellowstone Park. *Atlantic Monthly* 81:15–28.

- Pitcher, J. 1904. Annual report of the acting superintendent of the Yellowstone National Park to the Secretary of the Interior, 1903. Washington, D.C.: U.S. Government Printing Office.
- Quiver, E. 2003. Statement made during Yellowstone National Park tribal consultation meeting, Mammoth Hot Springs, Wyo., June 5.
- Ravndal, V. 1997. A general description of the social and cultural environment surrounding the bison/brucellosis issue in the greater Yellowstone ecosystem. Vertical files, Yellowstone National Park Library.
- Rockwell, D. 1991. *Giving voice to bear: North American Indian rituals, myths, and images of the bear*. Niwot, Colo.: Roberts Rinehart Publishers.
- Rolston, H., III. 1994. *Conserving natural value*. New York: Columbia University Press.
- Roosevelt, T. 1905. *Outdoor pastimes of an American hunter*. New York: Arno.
- Schullery, P. 1984. *Mountain time*. Schocken, New York: Nick Lyons Books.
- Skinner, M. 1925. *Bears in the Yellowstone*. Chicago: A. C. McClurg & Company.
- Thompson, N. 2003. Wolves bring a surprising ecological recovery to Yellowstone. *Boston Globe* (September 30).
- U.S. Department of the Interior. 2005. *Draft bison and elk management plan and environmental impact statement for the National Elk Refuge, Grand Teton National Park, and John D. Rockefeller, Jr., Memorial Parkway*. Lakewood, Colo.: U.S. Fish and Wildlife Service.
- Wise, Haman. 2000. Statement made during Yellowstone National Park tribal consultation meeting, Mammoth Hot Springs, Wyo. April 26. Haman Wise and other American Indians made similar statements about bison use of medicinal plants at other consultation meetings, including those on October 11, 2000, April 24, 2001, and October 15, 2002.
- Woolf, H. B., ed. 1980. *Webster's new collegiate dictionary*. Springfield, Mass.: G. & C. Merriam Company.
- Wyoming Game and Fish Department 2004. *Angler Newsletter* (Jackson Region) 1 (May):1.
- Yellowstone National Park. 1972. Brucellosis and the Yellowstone bison. Information Paper No. 17, April 5. Yellowstone National Park Archives.
- Yellowstone National Park. 1997. *Yellowstone's northern range: complexity and change in a wildland ecosystem*. Mammoth Hot Springs, Wyo.: National Park Service.