

What Makes It Wild?

Visitors' Constructions of Wildlife and Wilderness in the Greater Yellowstone Area

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Where once Americans saw wilderness as a hostile, barren, and uncivilized environment needing development, many now see it as an unspoiled natural area that should be protected from human manipulation (Callicott and Nelson 1998; Cole 2003; Cronon 1996; Nash 2001). These divergent perceptions reflect collective human experiences used to construct and reconstruct the meaning of wilderness.

Intellectual histories, travelogues, and philosophers have provided a qualitative tradition defining this wilderness. Survey research has evaluated many of these claims among recreational visitors to natural areas, finding both biophysical variables and wildlife-related variables that shape perceptions of wilderness. Key wildlife species, particularly large herbivores and top-level predators, are often associated with wilderness.

We contend that wildlife and biophysical setting affect wilderness definitions only *contingently*, depending on the sequence of experiences and on group constructions of the meaning of wilderness. Rather than seeing “wilderness” as associated with “wildlife,” as is the case in some surveys, we trace a particular group’s construction of the meaning of various species. That construction of wildlife, which can vary by location, sequence of sightings, and other conditions, affects the sense of place, and more specifically, whether they identify a future location as “wilderness.” Wilderness is not merely “the place of wild beasts,” as Nash (2001) suggests, but the place of *certain* wild beasts – and different wild beasts at different times, in different places, for different people. This interactive construction of wildlife and wilderness falls within a broader social-construction tradition in leisure research (Kyle and Chick 2007). That tradition distinguishes how people construct the meaning of a place (place identity) and the utility they receive from recreation in a place (place dependence). Here we examine both the construction of place identity (or sense of place) and the construction of wildlife



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observed at that place, with wildlife observations helping to construct the sense of place.

As a result of this interaction between place and species, whether people see a place as wilderness depends on the sequence in which places are visited and the order in which they see particular species. Seeing a species first on the side of a road (see Figure 1) may make it “nonwild,” while seeing another species first in a wilderness may make it “wild.” Either way, early experiences change the definition of later experiences. Some of the factors that influence these meanings are (1) the species itself; (2) whether an animal was viewed from road or trail; (3) the context of previous sightings, whether sighted from road or trail; and (4) the ongoing group construction of each species’ meaning.

The Social Constructions of Wildlife and Wilderness

Previous studies have found many variables associated with wilderness. For example, surveys of recreational visitors find that a natural setting, few encounters with other people, little human influence, physically challenging access with few built features, and natural sounds all make hikers more likely to



Figure 1 – Students viewing bison from a roadside in Yellowstone National Park. Photo by Robert Pahre.

identify a location as wilderness (Hall 2001; Borrie and Birzell 2001; Farrell, Hall, and White 2001; Manning 2003; Manning and Lime 2000; Mergliano 1990; Roggenbuck et al. 1993; Shafer and Hammit 1994; Stewart and Cole 2003a, 2003b; Watson et al. 2007). Wilderness values are associated with some features of the landscape, such as barren lands, mountaintops, alpine habitats, dense forests, and deserts – and not beaches, grasslands and prairies, or savannas (Appleton 1975; Brown and Alessa 2005).

Interactions with wildlife can be important for perceptions of wilderness, and some species even serve as symbols of particular wilderness areas (Glaspell et al. 2003; Hendee and Matteson 2009; Roggenbuck et al. 1993; Watson 2004, p. 3). Wildlife can be part of the “connection with nature” that visitors may associate with wilderness (Watson et al. 2007).

Much of this literature on wildlife and wilderness relies on invariant associations between some marker species and the place. Much of the literature identifies ungulates and large carnivores at or near the top of the food

chain as key markers (Leopold 1933; Dasmann 1966; Hendee and Matteson 2009). Hendee and Matteson (2009, p. 324) suggest that “the distribution, number, diversity, and behavior of wildlife species can be used to measure the naturalness and solitude of a wilderness.” In particular, Hendee and Matteson (2009) suggest that large carnivores, large and migratory herbivores, and species that are dependent on wild habitat may serve as an indicator of the wilderness quality of a location. This tendency for invariant associations reflects the “overly behavioral” slant identified by Glaspell et al. (2003), by which research identifies stimuli that lead to a “wilderness experience” as response.

More recently, scholars have explored the interaction of visitors and place in the ongoing construction of nature (Brooks, Wallace, and Williams 2006; McIntyre and Roggenbuck 1998). Some have looked at the construction of this relationship over time in particular places in given “nature/person transactions,” while others examine how individuals and communities construct memories of wilderness. Like a few

others (Kyle and Chick 2007), we examine this interaction not for individuals in isolation but rather focus on a group’s construction of place.

Like Glaspell et al. (2003), we believe it best to engage in a more exploratory study first, examining qualitative narratives of wilderness before moving to a more structured research instrument. This strategy can identify how perceptions of wilderness are time specific and place specific. For example, Mullins and Maher (2007) note that the same place might be perceived differently at dawn and dusk – when animals are about – than in the heat of the day. In contrast, we emphasize *sequence* in determining how the temporal and spatial context shapes constructions of meaning. A trailside encounter with a moose has a different meaning before rather than after a roadside encounter. The context of the first encounter is incorporated into the meaning of moose for subsequent interaction at that site. Once viewed in a roadside encounter, moose may no longer be seen as a species only encountered in wilderness. This can make them a weaker indicator of the wilderness character of a location.

In addition to those questions of sequence, we must consider the *social* construction of both wildlife and wilderness. Participants did not construct the meaning of their experiences in isolation, as group interactions shaped each person’s perceptions of both wildlife and wilderness. With others (Brooks et al. 2006; Kyle and Chick 2007), we believe it important to give greater attention to social context in the construction of place-related constructs and to look at how those constructs change over time.

We expect that effect of wildlife on the perception of a location as wilderness will depend on four variables: (1) characteristics of each species and its

reported association with wilderness in the literature; (2) the context of the current viewing, whether an animal was viewed from road or trail; (3) the context of previous sightings, whether sighted from road or trail; and (4) the ongoing group construction of each species' meaning. The first three variables are amenable to objective measurement, whereas the fourth requires close observation. In addition, we were careful to note control variables from the literature, such as terrain, physical difficulty, and crowding.

Exploratory Research Project

Our subjects were 11 students from the University of Illinois at Urbana who self-selected into a field course entitled *The Politics of Wildlife and Wilderness in the Greater Yellowstone*. A prerequisite course provided background knowledge about public land management, ecosystem management, wilderness, and other environmental issues. Both courses emphasized the legal definition of wilderness in the Wilderness Act of 1964, while acknowledging that other, personal definitions were possible and legitimate.

The course spent eight days in Grand Teton National Park (GTNP) and Yellowstone National Park (YNP). Students engaged in hiking, wildlife viewing, meetings with experts, class readings, journal writing, and discussion. Hikes were a key element of the course design (see Figure 2). Table 1 codes the hikes in terms of factors the literature has associated with wilderness. Variables such as terrain, habitats, and distance from the road helped us interpret students' perceptions in light of the previous literature.

While on the trail, we asked students individually and collectively, "Is this wilderness (yet)?" and "Why or why not?" Perceptions of wilderness

were included in class discussions, and students wrote open-ended reactions to the experience in their journals. We took notes on student observations relevant to their perceptions of wildlife, wilderness, and the learning experience. These notes reflect formal class discussion, informal conversations on the trail, and written work in journals and worksheets. We report two groups of results. The first results compare predeparture and postreturn reflections on the experience overall. The second results are site specific from our notes on participants' reactions to particular places.

Compared to previous studies of wilderness perceptions, this participant-observation method most resembles an open-ended survey design (Hall 2001). Such methods are occasionally used in wilderness studies. For example, Watson et al. (2007) compile observations about wilderness in Alaska from writers, Native and non-Native residents, and visitors. Mullins and Maher (2007) report participants' reflections on experiential education, nature-human relationships, and other topics gathered over a multimonth paddling trip in northern Canada.

Our exploratory study findings

can guide future studies by revealing some attributes of the wilderness experience overlooked in previous research. As leaders of the group, we could observe in detail how participants perceive wilderness across locations experienced in a particular sequence, as well as the process through which individuals and groups jointly construct meanings of wilderness (Sharpe 2005). Knowing that this student group was unrepresentative of all wilderness visitors reinforces the need for a second stage of research.

Changing Constructions of Wildlife over Time

We reviewed the aggregate differences between students' predeparture and postreturn reflection papers to see how the group experience shaped perceptions of wildlife and wilderness. Because these were open-ended papers, there was no requirement that either term be mentioned. We coded mentions of particular themes.

Students' predeparture reflections tended to discuss nature (80%), wildlife (50%), and ecosystems (50%). Only 30% of the students mentioned wilderness, 20% mentioned bison, and no other species received more than



Figure 2 – Hiking toward the Beaver Ponds in Yellowstone National Park. Photo by Robert Pahre.

Table 1 – Characteristics of potential wilderness locations

| Hike, park* | Distance | Usage [†] | Terrain, habitats | Wildlife seen ^{††, §} | Perceived wilderness |
|---------------------|--|--------------------|---|---|----------------------|
| String Lake GTNP | 5.5 kilometers (3.4 miles) Loop | Moderate | Lodgepole forest Wetlands and lake | Marmots Elk | Low |
| Cascade Canyon GTNP | 14.6 kilometers (9 miles) Out and back | High | Spruce-fir forest Wetlands Talus slopes | Marmots, pika Moose Porcupine | Moderate |
| Ribbon Lakell YNP | 11.8 kilometers (7.3 miles) Loop | Low/High | Grassland Spruce-fir forest | Bison (close) Grizzly print | High |
| Upper Lamar YNP | 8.1 kilometers (5 miles) Out and back | Low | Grassland | Wolf, grizzly prints Bison herd Pronghorn | High |
| Beaver Ponds YNP | 8.3 kilometers (5.1 miles) Loop | High | Sagebrush Wetlands Open lodgepole forest Spruce-fir forest | Black bear (close) Elk (close) Gopher snake (close) | Moderate |
| Bunsen Peak YNP | 6.8 kilometers (4.2 miles) Out and back | Moderate | Montane Subalpine | None | High |

* Hikes are listed in chronological order.
[†] Use is measured by contact with other parties: Low 0–2, Moderate 3–6, High 7–10.
^{††} Wildlife associated with trail is limited to species the participants found charismatic.
[§] “Close” is less than 100 yards for bison, black bear, and grizzly bear; 25 yards for others.
^{||} The Ribbon Lake hike included extensive stretches through unmarked, unfenced thermal features. Usage was low in the backcountry, very high in front-country portion.

one mention. One anticipated a lot of spectacular scenery but didn't expect there to be much wildlife. Both nature and wilderness were often defined in terms of scenic beauty, unwittingly reflecting the theme of “monumentalism” found in the history of the national parks (Runte 1987). The concept of nature or natural was often contrasted to state parks, and both ecosystems and nature were described in scenic terms. The only terrain associated with nature in the predeparture reflections was forests.

The postreturn papers mostly addressed topics such as sustainability, trade-offs between tourism and preservation in the National Park Service mandate, and the advantages of experiential learning. Yet even while addressing those topics, half of the

students discussed wilderness, and everyone mentioned ecosystems. As an illustration of these connections, one essay on preservationism linked wildlife, ecosystems, and wilderness.

This shift to an ecosystem focus affected the choice of the animals they discussed. One connected the ecosystem role of the wolf to the nature of wilderness. Another constructed spawning cutthroat trout as a natural process found in wild nature, while a third constructed bears feeding on trout as the relevant natural process. One discussed amphibians feeding on insects as an important natural process in the region, although he did not connect this ecosystem concern to the concept of wilderness.

Although bison was the most-mentioned species before departure (at only

20%), postreturn papers mentioned wolves (70%), bears (50%), bison (40%), elk (30%), and trout (20%), in addition to the insect-amphibian connection. Close encounters with such species while “hiking in the deep wilderness” strengthened the link between some animals and wilderness. Yet, as we will see, the group constructed elk in a distinctive way. One paper, “A Case against Elk,” discussed bison, wolves, grizzly bears, and trout with reference to natural processes in ecosystems – conspicuously excluding elk. The tone of the group's construction is evident in a confession that, “Sure, everyone became somewhat jaded of bison and elk, but it was still amazing to be so close to such majestic creatures.”

Previous research would expect that many charismatic megafauna are

linked to wilderness, whereas other species, such as rodents and songbirds, have no association with wilderness at all (Hendee and Matteson 2009). Our findings are largely consistent with these observations, while adding this group's own, distinctive meanings of species. Most striking, cutthroat trout – which Hendee and Matteson (2009) list as a wilderness-dependent species but is generally excluded as a marker of wilderness – became constructed as a marker for wilderness because of its role in the natural processes of grizzly bear predation of spawning trout.

In contrast, elk became a marker of nonwilderness as a result of frequent roadside sightings. This group's emphasis on wolves, a clear marker for wilderness, also shaped perceptions of elk – the students did not see elk in the area where they saw a wolf. This construction of elk is noteworthy because it is a large, charismatic species that was unfamiliar to these Midwestern students before their experience.

Student Perceptions of Place

We were interested in how students perceived particular locations in these two national parks as wilderness or not. This question implies that each of these parks as a whole is too large to be classified either way, and that wilderness is a more local-level category. Because YNP encompasses more than 2 million acres (809,717 ha), certainly the park is big enough in principle to encompass many distinct wilderness areas.

Spatial and temporal context provided key elements of how students defined each wildlife species and thus how they interpreted the association between that species and place. While other variables found in the survey literature also played a role, we found that wildlife viewing most dramatically changed students' perceptions of wil-

derness. The students found wildlife sightings much more meaningful while on the trail. However, even this varied by species. Trailside encounters with bison remained interesting, perhaps because they were known to be more dangerous than other herbivores. Trailside sightings were especially meaningful if the animal was “close” (100 yards for bison and bears 25 yards for others).

The first example of wildlife sightings changing perceptions came on the Cascade Canyon Trail in GTNP. Students did not initially classify this location as wilderness despite the mountainous terrain, and despite encountering few other hikers beyond Inspiration Point. At the turn-around point (the Forks), many students reassessed their views. Variables that might have affected the reassessment here were a slight increase in physical challenge and a denser forest that began to block mountain views. On the return hike, several more students changed their assessment after a moose sighting – the first of the trip. This first encounter with a charismatic species transformed the outbound “nonwilderness” trail into “wilderness” on the return journey (Watson et al. 2004, p. 3). Without the moose sighting, the terrain on this portion of Cascade Creek had not been sufficient for students to classify it as a wilderness.

The Ribbon Lake hike in YNP illustrates the complexity of the wilderness construction process. The hike began among gentle hills on the north end of the Hayden Valley, with bison visible at moderate to far range. Participants did not classify this grassland as wilderness. Two trail experiences dramatically changed perceptions. Students found a fresh grizzly footprint on the trail and then had a close encounter with a bull bison that raised its tail in warning and wallowed in

front of us when we rounded a corner and appeared in its personal space. Leaving the trail to detour around the bison resulted in complete agreement that this location, as well as the rest of the trail, was indeed wilderness.

This change in perception occurred without any measurable change in terrain. Moreover, bison were by no means novel to the students, who had seen dozens of them along roads by that point. Factors such as the closeness of the encounter, being on a trail, not having the protection of a vehicle, and needing to take an off-trail detour, provided the key context. Students continued to cite the bison's closeness and the need for a detour as shaping their perceptions of place. The context of this close, trailside encounter and a sense of danger provided students with additional information, which they incorporated into their constructed meaning of this bison. As a result, the encounter transformed a location that had previously been non-wilderness into wilderness.

The full context of the sighting is critical for its interpretation. Bison were too common along the road to be a marker for wilderness. Interestingly, *distant* bison seen from a trail were also not a wilderness marker. Only “close” or “dangerous” bison could mark a site as wilderness – concepts that were constructed over a sequence of bison (and other wildlife) experiences.

Seeing a black bear on the Beaver Ponds trail also proved decisive for student perceptions. This heavily used trail begins behind the Mammoth Hotel, with clear views of the highway for much of its early portion and with close proximity to a radio/cell phone tower. The terrain is sagebrush savannah, followed by ponds and some open forest. None of those terrain features have strong wilderness associations in the literature, and the proximity of

a development center would normally make the site appear nonwilderness. Despite these conditions, most of our group perceived the site as a wilderness location after seeing a sow and cub on the trail. Yellowstone's bears were clearly marked as a wilderness species, and their presence marked the trail loop accordingly. Most students also saw this encounter as dangerous, strengthening the wilderness significance of the bear.

Some wildlife encounters *became* the context through which the rest of the experience was perceived and the quality of wilderness evaluated. Although the students did not classify the northern Hayden Valley as wilderness, almost all students identified a similar grassland, the Upper Lamar Valley, as wilderness, even when they were clearly in sight of a road. The key difference was that students had seen a wolf – barely identifiable with binoculars – across Soda Butte Creek from the trailhead. Spotting fresh wolf tracks on our trail, which the students immediately identified with “their” wolf, further strengthened the association of this site with wilderness. Viewing a wolf was so important for the students’ constructed notions of wilderness that it trumped other markers of nonwilderness such as a visible road. In this location, as at Hayden Valley, distant bison were insufficient to mark the site as wilderness.

The meaning of the wolf sighting reflected a group construction of wilderness that had occurred throughout the week. After watching a National Geographic program about Yellowstone's wolves while on the van, students came to identify with wolves, even referring to themselves as a pack. In contrast, elk became a nonmarker for wilderness – almost a nuisance species in the students’ view.

These examples are consistent with survey findings that viewing charismatic animals may affect perceptions of

wilderness. Our results differ in illustrating how variations in the context of such encounters affects perceptions of wilderness, a factor unspecified in the survey literature. The students’ definition of wilderness is context driven. The same group perceived the same animals or similar terrain differently depending on the experiential context, sequence of sightings, and group construction of meaning. Large animals seen for the first time on or near a trail marked an experience as wild, as did some close experiences.

To summarize, students’ constructions of wildlife varied (1) by species; (2) whether it was viewed from road or trail; (3) the sequence of sightings, in that viewing an animal from the road shaped the perception of later viewings from both road and trail; (4) associations with other species; and (5) over time, as the students shared their perceptions of wildlife with one another.

Using the Findings for Future Surveys

This study shows that the construction of a location as wilderness can be an ongoing process based on a collection of experiences. Without consideration of temporal and contextual factors, it is difficult to parse out which factors were most influential in the process. Moreover, generalizing across all users makes it harder to determine why *specific* recreational visitors perceive *particular* locations as wilderness. If, as some maintain, wilderness lacks a clear universal definition but is inherently personal and multivalenced (Watson 2004; Whiting 2004), more contextual definitions become essential to our analysis of wilderness.

Observing group constructions of meaning, such as our students’ construction of elk as a marker for nonwilderness, probably requires close qualitative study. Other research ques-

tions would be amenable to context-based survey questions (Roggenbuck et al. 1993). Instead of counting “wildlife sightings” or asking about the sightings of particular species, our findings imply that researchers should design questions around the sequence of sightings and respondents’ background beliefs about individual species. Surveys of groups should ask questions about the beliefs of other group members. Our wildlife sighting log provided another way to collect information about the context of respondents’ wildlife sightings. That log emphasizes the sequence in which animals are seen and whether they were associated with wilderness in past sightings or in current ones.

Context, operationalized in terms of time, place, and group constructions, shapes perceptions of both wildlife and wilderness. Moreover, these concepts may interact, causing new experiences to change perceptions of one or both. For example, the group’s construction of elk changed rapidly. Although initially unfamiliar to the group, frequent roadside viewings marked elk as a non-wilderness species. After that, even close trailside encounters with wild elk could not mark a place as wilderness. Species and place interacted, with meanings changing over time.

Changing visitor perceptions and standards pose significant problems for wilderness management. As Bacon et al. (2001) observe, management tends to assume continuity in perceptions. This justifies consistency in management. If, as we have argued, constructed perceptions of wildlife and wilderness are ongoing processes, management strategies must focus on cumulative experiences instead of isolated events or sites. Such strategies may enhance users’ experiences as well as strengthening a sense of wilderness stewardship among visitors.

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