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Out of administrative control: Absentee owners, resident elk and the shifting nature of wildlife management in southwestern Montana

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Abstract

This paper describes the historical roots of an ongoing wildlife management dilemma involving decreasing opportunities for elk management via public hunting on private land in the context of an expanding elk presence on private land in southwest Montana. Our main focus is on the role of private ranchland in elk ecology, and the ability of land owners to set elk migration in new directions through cumulative decisions about hunting and tolerating elk. This takes elk management, traditionally the purview of the state, out of administrative control. We document connections between the region's historical and emerging land tenure patterns, and analyze associated changes in hunter access. Elk numbers expanded rapidly in the Upper Yellowstone Valley at a moment of significant transition in ranchland tenure. New owners more interested in natural amenities than in livestock production encouraged the elk and discouraged hunting. This reinforced the spread of elk, and further weakened the ability of the state and other ranchers to manage elk (which interfere with livestock production in numerous ways). Though elk and cattle use the landscape in similar ways, elk became more effective agents of landscape change in a reflexive relationship with ideas of land that stress natural amenities over production.

Keywords: Land tenure; Elk (*Cervus elaphus*); Yellowstone National Park; Ranching; Hunting; Access; Private Property; Wildlife management; Animal geography

> "When hobby ranchers buy properties for their exclusive playground, resident hunters find themselves locked out of ranches and farms they grew up hunting on, the places that were opened to them with just a knock on the ranch house door…"
>
> —Ron Tschida, *Bozeman (Montana) Daily Chronicle* (Tschida, 2003)

1. Introduction

Never lacking for complexity and difficulty, the management of the large elk herds of the Greater Yellowstone Ecosystem (GYE) has grown increasingly challenging over the course of the past three decades. In the portion of the GYE that lies within southwestern Montana, the number of elk (*Cervus elaphus*) that migrate to, or reside on, privately-owned ranchland has increased dramatically since the mid-1970s (Burcham et al., 1999; Lemke et al., 1998), while, simultaneously, changes in the human landscape and ideas of appropriate land use have reduced the effectiveness of longstanding elk management tools, in particular hunting. Expanding elk populations on private ranchlands create conflicts for some livestock ranch operators, while the state's well-organized hunting groups—fiercely protective of their opportunities to harvest publicly-owned wildlife—resent losing hunting access to private ranchlands. Both aggrieved groups demand solutions from state wildlife managers who, for their part, find that certain landscapes are "out of administrative control," to use their managerial

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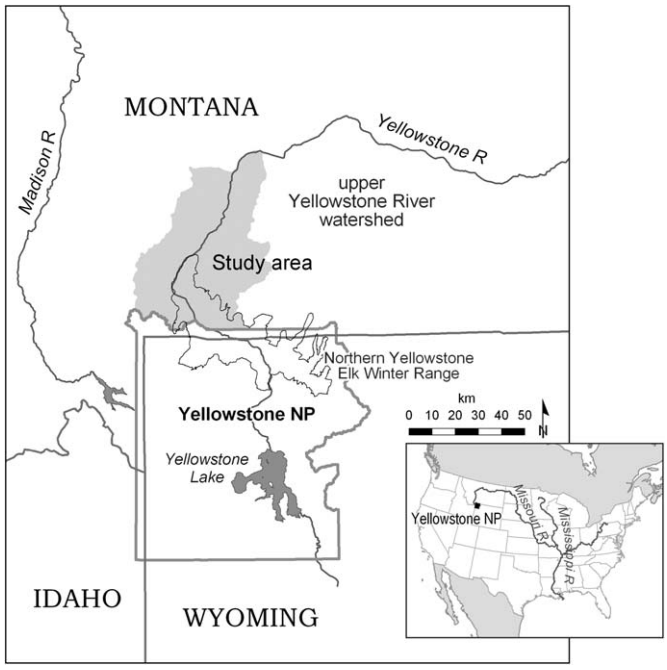

Fig. 1. Location of study area in southwest Montana.

colloquialism. This paper examines the historical circumstances shaping the loss of "control" in southwest Montana's Upper Yellowstone Valley, located directly north of Yellowstone National Park (YNP) (Fig. 1).

1.1. The Upper Yellowstone

The Upper Yellowstone Valley reflects the complexity and dynamism of rural systems in the contemporary American West. From the mid-1960s through the early 2000s, the area's ranching landscape, the historic expression of both economic fundamentals and social constructions of appropriately-Western rural life, experienced extensive conversion. Whereas the majority of ranch owners were resident, full-time livestock producers as recently as the early 1960s, today the majority of ranch owners are part-time residents seeking the amenities of ranch ownership rather than production and most ranch operations are subsidized by substantial wealth earned outside of the livestock sector (Haggerty et al., 2002; Gosnell et al., forthcoming). Along with extensive exurban development, ownership change reflects a substantial transformation of local socio-economics and demographics, in keeping with trends observed by others (Johnson and Beale, 1994; Riebsame, 1997; Beyers and Nelson, 2000; Rasker, 2000; Nelson, 2001). An emerging theme of geographic research, with which this study is engaged, is how changing land tenure regimes affect the intertwined cultural, political and physical ecologies of the rural West (Sayre, 2002; Walker and Fortmann, 2003; Lage, 2005; Gosnell and Travis, 2005).

The Upper Yellowstone area is also home to an ecosystem process at once iconic and perennially troublesome: the migration of elk from summer habitat in northern YNP onto the lower-elevation private and public lands that make up the Northern Yellowstone Elk Winter Range (NYEWR) (see Pritchard, 1999). This phenomenon, the largest migration of terrestrial mammals in the continental US, puts Yellowstone in league with Serengeti. The NYEWR comprises public lands managed by the US National Park Service, the US Forest Service, and the Montana Department of Fish Wildlife and Parks (MT FW&P) as well as extensive privately-owned ranchlands. Elk moving through the landscape are thus a classic example of the challenges of managing mobile nature in a fixed grid (cf. Wilson, 2002). A variety of priorities distinguish not only the approaches of individual private landowners from one another but even those of public land management agencies. Yellowstone National Park operates as a wildlife preserve, while adjacent National Forest and state-owned land features are open to hunters (licensed by the State of Montana) as well as some reserve areas.

Significant public controversy has long surrounded the Northern Range and its ability to support Yellowstone's famous Northern Elk Herd. Since 1968, YNP has pursued a management policy known as natural regulation. When it comes to elk management, the gist of this policy is that the National Park Service avoids intervening in elk population dynamics within its boundaries, regardless of the consequences to rangeland resources within the park or the size and health of the elk herd, choosing instead to let "nature to take its course." While concerns about overgrazing the NYEWR led to feeding, culling and relocating elk from the early 1900s through the mid-1960s, from 1968 until the reintroduction of wolves in the early 1990s, park policies contributed to the expansion of the Northern Herd to numbers

unknown in *recent* history.[1] However, when elk leave the park in most winters—as they did in progressively larger numbers throughout the 1970s and 1980s as the herd grew in response to the implementation of the natural regulation policy—they encounter a different management framework.

MT FW&P has statutory jurisdiction over the state's wildlife and hunting has long played a significant role in the ecology of the Northern Herd. Elk are classified by law as "game animals" and throughout the 20th century and into the 21st, departmental operations have emphasized hunting by Montana's citizens as both a goal and a tool of elk management (Montana State Legislature, 2002). Historically, the effective management of elk by MT FW&P—providing sustainable and equitable hunting opportunities—beyond the boundary of YNP depended on three factors: the long-standing concerns by federal land managers about the carrying capacity of the NYEWR (and a corresponding commitment to mitigating elk damage through culling the population), ranch operators who were both intolerant of elk and tolerant of public hunters, and the migratory behavior of elk—it is their predictable movements between summer range (much of it in the no-hunting preserve of YNP) and low-elevation winter range that makes them accessible to hunters during the late fall-early winter hunting season. All of these interrelated contingencies of state wildlife management have undergone changes in the post-1968 period, though the political demands on wildlife managers to secure access for public hunters remained unrelenting. This article provides an analysis of the erosion in the specific relationships upon which "administrative control" depended: linkages among consensus about the appropriate place of elk on the ranching landscape, hunter access to elk winter range, and elk ecology and behavior.

1.2. Methods

In order to document historic and contemporary land ownership patterns in the Upper Yellowstone, we turned to archival records and a Geographic Information System (GIS). Contemporary land ownership information was obtained through Montana Natural Resource Information System (NRIS) in the spring of 2002. We created ownership histories for the Upper Yellowstone Valley through deed records held by the Park County, Montana Clerk and Recorder. We were able to take advantage of three existing historic land ownership maps, and used those as reference points to cross-check our records of ownership change based on title searches. We then added data that we gathered about changes in hunter access on private land in interviews and, from those attributes, generated some basic quantitative information about changes in hunting access for a subset of the landscape, the southern half of the Upper Yellowstone Valley. Archival research in state Fish and Game publications provided insights into changing elk management regimes and the information upon which decisions were based.

Information about individual management decisions was collected in a series of informal and in-depth interviews with past and present landowners as well as land and wildlife managers—conducted over the course of three years between the winter of 2002–2003 and the winter of 2004–2005. We conducted ten semi-structured interviews with representatives of the US Forest Service, US Natural Resources Conservation Service, USDA Cooperative Extension Service, and MT FW&P aimed broadly at obtaining interviewees' perspectives on the effects of changes in private land management, including those relevant to elk hunting. We focused on the 30 ranch properties that provided desirable hunting access because of the size (usually greater than three sections, 1920 acres or 777 ha) or location; MT FW&P personnel and other local contacts helped us determine the properties that fit this description. We attempted to contact and interview all of the owners or their proxy. We conducted thirteen sets of in-depth interviews with land owners or ranch managers covering many dimensions of ranch management including wildlife and hunter issues, and touching on all of the major ranch properties in the study area. This included eleven oral histories with long-time ranching families made in the course of multiple interviews.

Non-resident ranch owners were not represented in equal number with resident ranchers in our sample because they proved difficult to access. However, our interviews took in at least one or more properties in each of the valley's ranching "neighborhoods" (typically organized around tributary drainages). By drawing upon information provided by neighbors and local informants when landowners were unavailable, we were able to document the status of hunting access on all of the area's large ranch properties at three distinct points in time, the late 1970s, the early 1990s and early 2000s, for the area most closely linked to the NYEWR: the southern half of the Paradise Valley and Tom Miner, Cinnabar, and the Gardiner Basins (total area 97,125 ha).[2]

[1] Numerous inquiries have addressed the Northern Range and questions about the number of elk it could and can support. Most recently the issues were considered in National Academy of Sciences investigation (National Research Council, 2002). (See also Tyers, 1981; Houston, 1982; Pritchard, 1999; Schullery, 1997; NPS Yellowstone National Park, 1997.) However, most scientific and policy analyses of the Northern Range focus on YNP and adjacent public lands: the role of private ranchland has received little attention from researchers.

[2] Our interviews and observations also build on one of the author's experiences interviewing over 75 ranchers, ranch managers, realtors, and other members of the agricultural community in amenity landscapes throughout in the Montana and Wyoming zones of the GYE as part of the Center of the American West's ongoing research on the social and environmental implications of ranchland ownership change (see http://www.centerwest.org/ranchlands). The ranchlands team recently (2005) returned to the GYE area to conduct focused interviews with new ranch owners—these interviews confirmed a strong link between amenity ownership and closure to public hunting which will be described in forthcoming reports.

To untangle the many threads of explanation, to reveal the connections between elk and their humanized landscape, we first document the connections between the region's historical land tenure patterns and elk ecology, emphasizing the ways in which access to private land determined the level of "administrative control" exercised by wildlife managers. We then tackle the relationship among ranch operations, elk, and elk hunting. Here we uncover a historical development that influenced the privatization of elk: the functional collapse of an existing commons due, in part, to changing techniques in public hunting. We then take up the question of how recent ranch ownership change and shifts in elk behavior have changed the options for elk management through public hunting. We provide quantitative evidence that recent trends in ranchland tenure have indeed yielded significant changes in elk management and explore the qualitative social and ecological dimensions of this phenomenon.

1.3. Private property and administrative control

Paul Robbins laid the foundation for a political ecology of the Northern Elk Herd in two recent articles. Describing recent developments in the politics of wildlife management, he argues that both collective action on the part of hunters and emergent disease ecology have proven to be effective obstacles to privatization of the commons in Montana (Robbins, 2005). In contrast to many other Western states, Montana has resisted the cession of any formal legal control over wildlife to private landowners despite repeated and well-organized efforts by landowners to acquire certain formal rights to wildlife (e.g., some control over hunting permits). The state has also banned captive farms due to fears about the potential spread of Chronic Wasting Disease. Both developments, Robbins argues, must be understood and documented as evidence of significant resistance to privatization not only by local people and managers but also by non-human nature. (Robbins, 2005, p. 17) Focusing on elk management in the Montana portion of the GYE in another article, Robbins finds evidence that despite this resistance, exclusivist ideologies of property and nature have contributed to disenfranchisement of the state's non-elite hunters (Robbins, 2006).

This study complements Robbins' findings. Our immediate goals for this research were to identify the causes and extent of changes in hunting access and relate them to a shifting management context in a specific landscape. We found conclusive evidence of a loss in access and developed an understanding of the causes and course of this decline. Meanwhile, our larger analytic project involved exploring the historical socio-ecological contingencies that have encouraged particular conceptualizations of nature and property, ideas which in turn inform decisions with significant implications for existing wildlife management regimes.

A longstanding theme in scholarship about the environmental history of the American West involves the ways that the mobility and trans-boundary characteristics of "nature" belie the region's cultural preoccupation with private property, often leading to unexpected coalitions among people (Limerick, 1987; Fiege, 2003). Fiege (2005) suggests that farmers in Montana facing invasive weeds in the early 20th century "began to think about the landscape less in terms of its bounded and privatized parts than in light of the links that weeds drew between those parcels" (p. 26). We argue that "administrative control" of elk on private land in the Upper Yellowstone Valley was in fact historically predicated on a particular socio-ecological space that fits closely with the environmental historian's notion of an ecological commons—a construction of mobile nature as an "environmental problem" that demands a collective response.

However, we go on to show that the place for and role of elk on the landscape have changed in ways that defy the previous ecological commons and the management regime predicated upon it. We analyze ranchers' testimonies to describe how landowners arrived at, understood, and sometimes shifted their understandings of the legitimate places of hunters and elk on the ranch landscape, subsequently eroding the ecological commons. Close attention to such household-level experiences with elk lead us to conclude that elk have challenged and reconfigured the contours of the managed landscape in their own right, findings in keeping with emerging themes in animal geography (Wolch and Emel, 1995; Philo and Wilbert, 2000). Their behavioral plasticity challenged fundamental assumptions about the dominance of livestock ranching on the landscape, while their movements also suggest that practically speaking, there is a far greater convergence between ecology and enclosure in this case than either Robbins's ideas about an inherent biological resistance or the concept of the ecological commons allow. Our findings raise serious concerns about the viability of approaches to wildlife management on private lands that presuppose or depend on the presence of an ecological commons.

2. De facto enclosures: land tenure and local ecology

De facto, non-institutional enclosure was a widespread and inexorable outcome of the overlap between ranchland tenure dynamics and elk ecology in the Upper Yellowstone Valley. Robbins argues that the political ecology of elk in the GYE offers convincing evidence that political and natural processes can resist the enclosure of common resources, even in places and times in which property rights and ideas of capital seem inevitably to yield resource capture by individuals. Yet in contrast to captive game farms that require a license and have a documented link to the spread of infectious disease, there are multiple factors that encouraged the "enclosure" of elk on private ranchland in the Upper Yellowstone region.

Like the domesticated sheep and cattle that Euro-American settlers imported to the landscape, elk migrate seasonally between high- and low-elevation landscapes in search of nutritious forage. As Fig. 2a illustrates, private land

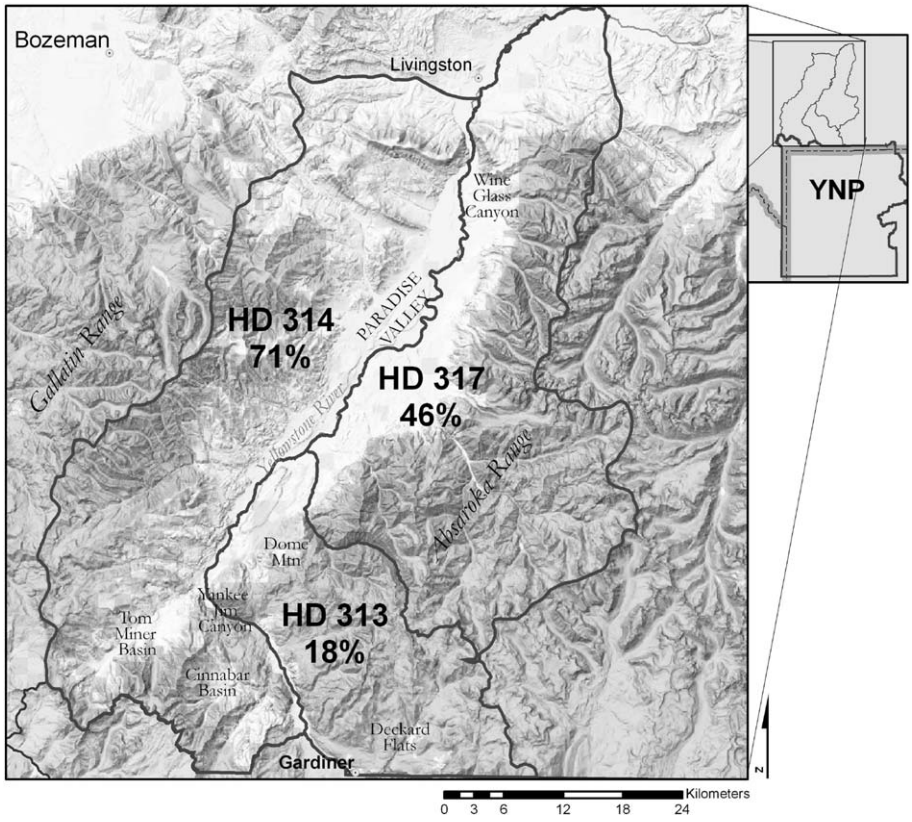

Fig. 2a. Hunting districts in the Upper Yellowstone Valley. Darker gray color indicates public land, light shades and white are private land. Percentage figures describe the amount of elk winter range found on private land in each district. See Fig. 3 for exact boundaries of private parcels.

constituted about half of the elk winter range in the Upper Yellowstone in 2002.[3] The overlap of private land and elk winter range thus creates a private landscape attractive to both elk and elk hunters. Conflicts with private land use on the border of public lands have been decisive factors shaping the strategies of both federal and state wildlife management in Yellowstone; in fact, elk management in the region has often focused on converting private land to public land. In Hunting District (HD) 313, which has been designed to encompass most of the NYEWR, two efforts by public land agencies to acquire private ranches—in the 1920s and again in the 1990s—expanded the amount of elk winter range in the public estate (Whittlesey, 1995; Rocky Mountain Elk Foundation, no date).[4]

While these efforts were successful at putting large amounts of winter range in public hands, nearby areas of the Upper Yellowstone Valley are equally attractive to elk and feature distinctly different ownership regimes. While just 18% of the winter range in HD 313 is privately-owned (Fig. 2b), districts 314 and 317 reflect a more typical configuration of the valleys of southwestern Montana, in which the majority of the low-elevation riparian and grassland habitat is in private hands (along with some higher elevation timbered slopes). Thus 71% of the winter range (and some 45% of summer habitat) in HD 314 belongs to private holders; 46% of the winter range in HD 317 is in private hands.

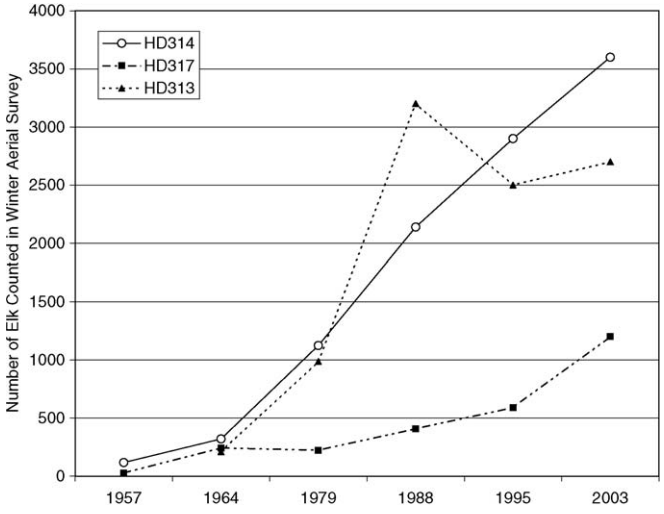

Fig. 2b. Population growth in wintering elk in the hunting districts of the Upper Yellowstone Valley. Years shown for HD 317, values for HD 314 taken from 1957, 1968, 1978, 1985, 1991, 2003, values for HD 313 from 1964, 1979, 1988, 1995, 2003 (MT FW&P data; Lemke, 2003).

[3] Elk continue to expand the boundaries of "winter range" through their (re-)colonization of new territory on private land. The data upon which Fig. 2a is based were rough maps of winter range established by MT FW&P in the mid-1990s and therefore the total area of elk winter range is probably conservative.

[4] Significantly, while much of the land acquired in the 1920s is off-limits to hunting because it falls within the YNP boundaries, land acquired during the 1990s remained open to hunting and is now held either by the USFS or MT FW&P.

2.1. Implications for management

From the early 20th century through the 1960s, ranchers, federal land managers, and state wildlife managers operated in functional consensus—perhaps better described as a stalemate—about the appropriate spatial distribution of elk. This consensus relegated elk to publicly-owned land, in numbers small enough to avoid what managers feared might be catastrophic episodes of starvation in severe winters and related "damage" to the range resources of YNP. In fact in the 1950s, efforts to control elk numbers included not just extensive public hunting but also the culling or live trapping and relocating of elk within the park. These circumstances ensured a role for public hunters as harvesters who kept the elk population in spatial and numerical check on both private and public ranch land.[5] Within the contours of this agreement, MT FW&P could set targets for elk population numbers in various hunting districts and through the allocation of hunting permits, achieve those targets: they had "administrative control." These circumstances encouraged the viability of collectivist tenets of wildlife management (public hunting) while simultaneously recognizing the particular demands of private property (livestock ranching).

Trends in local elk populations demonstrate clear differences in the relative influence of hunting as a management tool between the districts that feature mostly publicly-owned winter range and those with mostly privately-owned winter range. While wildlife managers have been able to utilize a combination of general and late season hunts to achieve population targets in HD 313, both HD 314 and HD 317 proved increasingly difficult to manage.

Wildlife managers have conducted annual aerial surveys of elk wintering in the three hunting districts since the mid-1950s. In March of 1966, when MT FW&P conducted an aerial survey of Hunting District 314, the biologists in the plane counted just 148 elk. In 1967, participants in a January flight observed 337 animals in the same area. A 1969 report noted that "the elk herd in this area is increasing." By way of explaining this trend, the report continued, "Much of the elk winter range is on private land and hunter access is somewhat restricted" (Egan, 1969, p. 44). Interestingly, reporting on HD 317 in 1967, the same manager wrote "Much of the winter range is in private land, precluding the possibility of wintering large numbers of elk. Hunter success has been good the past three years" (Egan, 1967, p. 12). His comments suggest that ranchers were effectively deterring elk through hunting, or possibly because intense cattle grazing left little forage.

Within a decade, deterring elk on private land was becoming increasingly fraught. Aerial surveys in the winter of 1978–1979 tallied 1124 elk in HD 314. The accompanying report stated that "complaints from landowners… were again numerous this past winter." The report went on to offer up public hunting as a solution, noting that "due to the increase in number and complaints an increase in either-sex permits is warranted" (Chrest, 1979, p. 42). Despite this response, the number of elk came close to doubling within a few years–2139 elk were registered in the 1985 winter aerial survey in HD 314. The number observed increased to 3570 in 2003. Similarly, the number of elk counted during winter in HD 317 doubled between 1991 and 2003. Elk populations in these districts are among the fastest growing in Montana.

In contrast, since the mid-1990s, annual elk counts on the Northern Range (in which HD 313 is located) have shown declining populations, an effect of management efforts to reduce elk wintering in this area from the 1994 high of over 19,000. As the coalition of federal and state land managers that make up the Northern Yellowstone Cooperative Wildlife Working Group remind the public each year when they report declining elk numbers on the Northern Range—along with a decrease in the availability of hunting tags, "the Gardiner late season elk hunt was designed to reduce elk abundance outside Yellowstone National Park so that elk numbers do not cause long-term changes in plant communities or decrease the quality of the winter range" (Northern Yellowstone Cooperative Working Group, 2003). Due to the guarantee of hunter access in HD 313 that occurred through targeted public land acquisitions in the late 1980s and early 1990s, agencies have had little trouble in reducing the population of elk wintering on the public and private land within the HD 313.[6]

The strategies that ranch owners choose and the social relations they encourage have real implications for wildlife managers. Consider the contrast between the Northern Yellowstone Cooperative Working Group's success in bringing elk numbers down in HD 313 and the situation in nearby HD 314. In response to increasing elk numbers and damage complaints from ranchers in the 1990s, the district biologist for MT FW&P initiated a special program to facilitate public hunter access to private ranches in HD 314. He offered a special late season cow hunt designed not to conflict with the outfitting season. The agency even provided a booking service that freed ranch operators from the hassles of responding to requests and enquiries from the public. The program existed for three hunting seasons in the early 1990s and included between six and nine ranches in Hunting District 314, depending on the year. However, the effectiveness of the program hinged on the cooperation of the majority of landowners—or to put it another way, on the absence of elk "safe harbors." When several of the participating ranches changed hands and the viability of the

[5] For example, a late hunt near the town of Gardiner in January of 1947 resulted in the harvest of 3000 elk (nearly one-third of the total Northern Range herd) in just six days (Pritchard, 1999).

[6] Undoubtedly the tremendous success of the reintroduction of wolves to YNP has helped the cause of limiting the number of elk wintering on the NYEWR (see Smith et al., 2003). Nonetheless, managers consistently emphasize the strong role of hunting in curbing the expansion of the Northern Herd (see McMillion, 2005).

program as a population management strategy faded, MT FW&P abandoned it. There have been no subsequent opportunities to orchestrate public access to hunt in this increasingly exclusive landscape.

3. Ranchers, elk, and hunters: shifting associations

We turn now to a more detailed accounting of how changes in land ownership and land management converged with the expanding elk presence on the landscape. We argue in this section that ownership change has exacerbated changes in hunting access and elk management that were *already* underway on some ranches with long-time owners. What elk first experienced as an increase in tolerance of their presence on private land originated through the advent of commercial outfitting that began to eliminate public hunting on ranches, particularly during the general season. Public hunters themselves encouraged this shift through hunting behavior that contributed to a perception on the part of ranchers that public hunting was incompatible with livestock ranching. Ownership change that replaced veteran ranchers with newcomers not only amplified these trends by creating more tolerance of elk and less tolerance of public hunters, it also introduced the phenomenon of the private ranch as game preserve, off-limits to hunting. What clearly emerges from this story is a persistent potency on the part of elk as shapers of the landscape. We tell this complex story via the testimonies of ranch owners.

3.1. Nature as (re-)colonizer: the elk invasion

Veteran ranchers of the Upper Yellowstone Valley came of age in an era when elk were rarely seen outside YNP. A third generation ranch owner we interviewed described the history of elk in the Cinnabar Basin this way:

> Elk is sort of a new factor in our lives here. We never had elk here. My Dad loved to hunt and if we had an elk stray through here and he saw the tracks, he'd pursue it, I mean he's gone… fifteen twenty miles away to pursue an elk that went through. We just started getting elk in the last twenty years.

The absence of elk from ranchlands was a function of a concerted management regime—just as their "return" was the legacy of the adoption of the "natural regulation" policy.

While ranchers were aware of—and influential in—the larger policy context, their first encounters with elk nonetheless transpired in an arena quite apart from politics. Our interviews elicited carefully-tended memories of the first time ranchers saw an elk on or near their property. One rancher described the arrival of elk in the lower Tom Miner Basin in detail. "I can remember that [my husband] went down to milk the cow one morning," she said. "[one of our daughters] had company that week-end. [My husband] came back to get the kids to show them the elk on the Rowe place, a bunch of elk. And that was the first time I can remember seeing them in the early spring." Another ranching family correlated the first elk in their meadows with the year their son started junior high, a prioritization of memories that suggests the strong impression the returning elk made. Other recollections of the ranchers we interviewed mimic this pattern in both specificity and content; ranchers were awed and pleased at their first encounter with elk.

As elk numbers increased quickly, however, the ranchers we interviewed typically began to feel less reverence towards elk. Another Tom Miner Basin resident described an image of her husband excitedly reaching for his binoculars to observe the first elk that they noticed on their property. She promptly juxtaposed that image with a description of how she and her husband came to see the elk as "vermin" threatening the viability of their ranch operation.

Elk interfered with the successful execution of ranching practices; they broke through irrigation dams and fences or foraged in the hayfields and stacks. Ranchers, rarely having as much control over their environment as they preferred, felt victimized by this competition from elk. The common term "game depredation," though it did not originate in the Upper Yellowstone, is in itself evidence of the rhetorical devices at work in constructing the relationship between agriculturalists and wildlife. Game depredation refers to unwanted foraging by elk (and other wildlife) in ranchers' hay stores and pastures. In many western states such loss is partially covered by game damage payments covered by hunting license fees. (The term depredation, imbued with connotations of ransacking and pillaging, seems more than a little ironic in its description of human-wildlife relationship in which elk have historically been prey, not predators.)

3.2. Early responses: hunting

Allowing the public onto ranches to harvest elk during hunting season represented the most immediate way to manage the nuisance that elk posed for ranchers who preferred to feed the forage and hay they cultivated to cattle. In the late 1970s and early 1980s, ranchers in the Upper Yellowstone Valley commonly allowed anyone who asked onto their ranch properties to hunt. A rancher who lived on a ranch on the slopes of Dome Mountain from the 1940s through the 1990s allowed public hunting because a dead elk was "just one less critter taking the range away from the cattle."

Allowing public hunting put ranchers in the somewhat unique position of opening their private property to the public, a situation that created a bond with the public hunters.[7] Sometimes those bonds were actively understood and

[7] Local support for hunters—and its complexity—is one of the subjects of Karl Jacoby's work on Yellowstone National Park's early history of game management. See specifically Jacoby, 2001. He suggests that some locals were supportive of hunting (poaching) in Yellowstone inasmuch as they understood that poor people depended on it for a living.

appreciated. One rancher suggested that in her memory of the 1960s and 1970s, hunters who asked to hunt on their ranch consisted primarily of "railroaders," the employees of the Northern Pacific Railroad, who constituted a significant portion of the nearby town of Livingston's working class. She and many of her neighbors understood the important role that elk and deer played in the household budgets of such townspeople of modest means.

Documenting the experiences of working class hunters in the middle to late 20th century fell outside the scope of this research, but some testimonials are available through local histories. This following quotation is an excerpt from the *History of Park County*, a compendium of family biographies. It gives a sense both of the conditions at the infamous Gardiner late hunt (conducted on public land just over the Park's boundary), and of the value of elk to local townspeople. The description probably describes the early 1950s.

> Lewis and Bill [son and father] went up to Gardiner, put on chains, and went on up to Jardine, around the mountain, in two feet of snow to Decker's [sic] flat. This was called the firing line where the hunters went to meet the elk as they came out of Yellowstone Park. At daylight the elk would be on Decker's flat and hunters all around. Eight AM was shooting time and bullets would be flying all around. Bill ducked behind a rock but Dad Lewis stood up and had a cigarette shot out of his mouth. They got three elk and Dad and mother made mince meat and canned the rest as they did not have freezers at that time. They ate a lot of wild meat and fish and would give meat and fish to friends. Dad never wasted meat or anything else. (Park County Historical Society, 1984, p. 295)

While the hunt in question took place on the National Forest land at Deckard's Flat, the quotation describes the value that local hunters put on the elk harvest. Given the chaotic circumstances described at the "firing line" it is not unreasonable to speculate that hunters appreciated access to private ranchlands, especially as opportunities for successful hunts became increasingly reliable in the 1970s.

Sharing the ranch with hunters had the additional benefit of minimizing isolation and some ranchers formed long-term friendships with hunters who used their land. As one rancher described, the friendship could unfold serendipitously:

> That's how we met Carmichaels [a family of hunters with whom the ranchers had a long relationship]. We didn't take them out [on a guided hunt]. They come hunting and there wasn't anywhere for them to camp.… These people stopped, they wanted someplace to hunt. And [my husband] says well you just stay here for a few minutes and told him that I'd be there and I'd open the gates for them (we had the gates locked). So they went up to the sawmill and camped. Ever since then they come to our place every year.

The relationship between these two families was not unusual. Ranchers appreciated having hunters who kept the elk presence in check, whose company they enjoyed and whom they could trust not to disrupt or damage the ranch operation. For their part, hunters enjoyed what was sometimes exclusive, free access to good hunting.

However, the situation began to change in the 1980s and today, local hunters are rarely welcome on ranches in the Upper Yellowstone Valley. Ranchers complain that since the early 1980s, non-paying hunters have wanted it "easy." In the words of a Cinnabar Basin rancher, "Local meat hunters are messy. You can't let people hunt unsupervised." Another rancher complained, as many of her neighbors do, that hunters left gates open, and that they often would return to the ranch house after their hunt asking for help to retrieve their elk from remote ranch locations—a situation that led to at least one broken axle in her family's operation. A ranching family from the lower Paradise Valley, who maintained a strong tradition of public access despite difficulties with public hunters, found it impossible to enforce the rules they established to minimize vehicular traffic on the ranch. In their experience, there was always one hunter who was unable to resist the temptation of using his or her dirt bike, four-wheeler, or four-wheel drive truck to get to the elk more quickly. As a result, ranchers increasingly limited hunting access to friends and family in the 1980s and 1990s. The practical experiences of ranchers with public hunters diminished the willingness of ranchers to utilize public hunting as a solution to their problems with elk.

3.3. New institutions: outfitting

Equally influential in the decline of public access was the fact that enlarging elk herds encouraged ranch owners to capitalize on the potential to sell exclusive access to their ranches. Most of the local large ranches owned by traditional operators either initiated their own outfitting operations or entered into lease agreements with existing outfitters in the period 1985–1995. Decisions about changes in operation and hunting access were rarely easy for the ranchers we interviewed. Outfitting represented a significant change in the ways that ranchers approached not only their work, but in the ways that they interacted with the community. Some ranchers continued to provide a reduced level of public access, or to give friends and family a chance to hunt on their ranch, but leasing a ranch to an outfitter or opening an outfitting business represented a final turn away from a sense of community interdependence that linked ranchers to their urban-dwelling neighbors, such as the townspeople of Bozeman and Livingston who put meat in their freezer by hunting on private ranches in the Upper Yellowstone during the 1950s, 1960s, and 1970s. A non-mercantile thread of community was lost.

Some ranchers maintain that they did not choose outfitting, but that it chose them. They describe a process of essentially capitulating to the presence of elk in ways that included resigning themselves to operating with diminished productivity or even by abandoning conventional livestock production altogether. In a particularly striking case of capitulation, a Cinnabar Basin rancher described the problem this way: "We had elk this year that calved in our fields, so up until the first of July we had elk in our fields, so they didn't leave me much to hay. So that's part of the reason we've changed our operation as we have to a hunting operation."

3.4. When a cow is not a cow: elk and livestock

This rancher's statement raises another complicating factor: what long-time residents we interviewed believe is a marked shift in elk behavior. They perceive a trend of increasing numbers of "resident" or non-migratory elk. This is somewhat in contrast with a longstanding focus in wildlife studies on the persistence of migratory behavior (Boyce, 1991; Van Dyke et al., 1998; Irwin, 2002). Local observers report that elk use of private land has been increasing not only in winter, but also in spring and fall over the past 15–20 years. In particular, ranchers we interviewed feel that brief fall and winter visits to their ranches by migratory elk have been replaced with "resident" elk that arrive earlier in the fall and stay longer into the winter and spring. In their opinions, whether or not these were originally elk that returned to YNP in the summer, they no longer make the return trip to the park. Rather, the elk circulate along elevation gradients within small drainages.

Conflicts on the ranch raise the question of another powerful force in the political ecology of ranching: the domestic cow. While ranchers seldom express this directly, many of their actions suggest a strong affiliation for the work of animal husbandry on which livestock production centers. The uncannily overlapping behavior of elk and cattle troubled ranchers from the standpoint of production (elk and cattle compete for forage)—but the interviews suggest that elk were also problematic for ranchers because of the ways they were so much like, and yet so much unlike, domestic cattle. While cattle—especially the modern cow of the late 20th century—are dependent on humans for their survival, requiring medicines, assistance in birth, and supplemental feed and vitamins, elk graze, reproduce, and raise their young with little or no direct assistance from ranchers or other humans. And as they do that, they repossess the landscape that ranchers worked long and hard to perfect for cattle production, displacing the cows.

The experiences of one ranching family speak to the complicated interplay between wild and domestic cows. When asked to describe the resources on their ranch, these producers had a difficult time separating the resources relevant to cattle production and those that the elk "discovered" and colonized.

Question: What made that ranch a good ranch in its day? And from a producer's perspective, how would you describe the resources that you had on the ranch?

Rancher 1: It was much easier [in the 1950s and 1960s] than it turned out to be later on, primarily because a herd of elk moved over from Dry Creek, up around our summer pasture and they decided that was the place they'd been looking for all those years. And so, there developed a resident herd there of somewhere between two to three hundred head. And they not only summered there, they wintered there. I guess that was the beginning of the hand writing on the wall that we…

Rancher 2: We couldn't compete with them.

But 30, 35, 40 years ago, once in awhile you would see a stray elk come through there. And then the last few years, as he said, finally the Fish and Game said that it was a permanent herd. And we were always out looking for extra summer pasture and having to buy hay.

Rancher 1: … we were working with the Soil Conservation Service and on range improvement and they did two or three surveys such and they come up with the conclusion that we weren't running enough cattle. [laughing] After they stood back and looked at it awhile, why there just wasn't enough grass. The elk weren't leaving… any time we'd put a section out to let it rest, why the elk would clean it up, so by spring why it looked just like the rest of it. And I guess that was the beginnings of when we kind of tried, laid the ground work for finding another place.

Question: … what did the elk like about your ranch in particular?

Rancher 1: The shelter. Basically all around it was just a good place to winter.

Rancher 2: Sure. Because we could keep them [she is describing cattle now] all winter and we had a feed ground up there… up the draw…

Rancher 1: We used to calve up in here. As you can see, there are a lot of aspen groves along the creek for shelter. We practiced range calving. We had them all out away from the pen.

We had a lot better luck through the years when scours was so prevalent amongst the new calves up the valley. We were up on higher ground and it seemed to drain better.

Rancher 2: … on those warm winter days, the cows would take their calves up and away.

Rancher 1: They would spread out so you didn't have the concentration of the bacteria and stuff in the ground.

> Question: … Was yours a particularly productive ranch relative to others?
>
> Rancher 2: Earlier it did [sic]. But I think economics have changed things. We were having to look for more and more summer pasture. We were having to look for more hay because one hunting [season], the elk found our hay ground, or our hay field. And once they find it, that's it. … once they found it, they would be back.

By this account, typical of many conversations with ranchers in the valley, elk are canny and determined, their colonization of the landscape inevitable and "natural." Ranchers describe elk as exploiters of the same geographic features that benefited the ranch operation—calving in the sheltered aspen groves, feeding in the productive hay meadows, and spreading out. The elk did all of these cow/cattle-like things, except offer ranchers any handle to participate in their lifecycle. One rancher put it plainly when he noted resignedly, "You can't manage elk. You can manage cattle."

3.5. Selling the ranch

Some producers who were reluctant to add outfitting to their list of chores sold their ranches in the Upper Yellowstone Valley in order to purchase ranches elsewhere in the 1990s. One of the large ranch operators who frequently complained about elk damage in HD 314 relocated to Meeteetsee, Wyoming. Another family sold their large ranch and helped their son and daughter-in-law establish a new operation in western Nebraska. In a third example, a family with adult children sold some of their high elevation land that was especially marketable for its amenity value and used the proceeds to buy an entire ranch in central Montana for their daughter. They retain a small base in the Paradise Valley for cattle and horses, but the family has essentially reduced their exposure to elk by integrating the GYE ranch with the central Montana property.

Elk were of course just one dimension contributing to significant shifts in the demographics and socio-economics of the Upper Yellowstone region, themselves part of the larger changes in the Greater Yellowstone Ecosystem and the West more generally (Rasker, 2000). Beginning in the late 1960s and continuing through the 1970s, the region witnessed the marginalization of extractive industries by an expanding services, tourism, and recreation-based economy.

An important marker of these changes was the development of a frenetic market in large ranch properties in the Upper Yellowstone Valley. A spate of speculative ranch buying began in the late 1960s, ending a three-decade period of devaluation and depressed agricultural land values that originated in the depressions of the 1920s and 1930s. Since the 1960s, the majority of ranch buyers have been non-residents who drew upon capital generated outside the livestock industry to acquire ranch property. Some were developers who sold the land in 40-acre lots (a size encouraged by state and local land use laws and large enough for many urban transplants to imagine themselves proprietors of a sizeable spread), others were investors who appreciated the opportunities to use their ranches for recreation as well as to shelter their considerable assets in an agricultural financial sheet. Sellers were typically full-time ranch operators, many of whom had multi-generational tenure in the area.

While speculation in land and the influence of outside capital are as much a part of the history of ranching as are sheep and cattle (see Sayre, 2002), two aspects of the real estate dynamics that emerged in the post-1965 period stand out as remarkable. The first is the increasing importance of amenities like wildlife and scenery in determining the appeal and price of ranches—or to put it another way, the diminishing importance of livestock productivity in the ranch real estate market (Gosnell and Travis, 2005). The second is the unprecedented level of absentee ownership that developed in the late 20th century. Although absentee ownership existed in the late nineteenth century, it was the exception rather than the norm from the early through the mid-20th century. Fig. 3 illustrates the advance of absentee ownership over the course of the period 1965–2005.

Interviews and analysis of land ownership records indicate that the transition in favor of absentee owners developed along three tracks. In the 1960s and 1970s, buyers typically were of two types. Some were speculators investing in ranch real estate with the goal of short-term profits. Often the ranches they bought changed hands three or four times within a decade, with buyers and sellers often members of an ever shifting arrangement of the same investors. Land speculation leads logically to liquidation, and absentee investors were more likely than other buyers to subdivide ranches into residential and commercial properties (three of the valley's largest ranches were subdivided during the 1970s). During the same period, wealthy individuals who sought a longer-term investment in ranch properties were also active in the market. These buyers—media mogul Malcolm Forbes was one—purchased ranches as tax shelters and kept them intact: the losses they experienced in ranch operations offset their gains in other industries. Both groups, the speculators and the executives, were truly absentee, spending very little time on their properties or engaged in their management. This group has been documented in contributing to range and resource degradation through the practice of unsupervised leasing and basic neglect of ranch operations in a nearby landscape (Wyckoff and Hansen, 1999) and locals often described their practices in these terms. Most of these buyers sold their ranches when ranch values increased dramatically in the 1990s (see Haggerty, 2004).

Buyers in such sales constituted the third group of wealthy owners in recent years, a group that has been identified alternatively as "trophy ranchers" (Gentner and Tanaka, 2002) and "amenity buyers" (Gosnell and Travis, 2005).

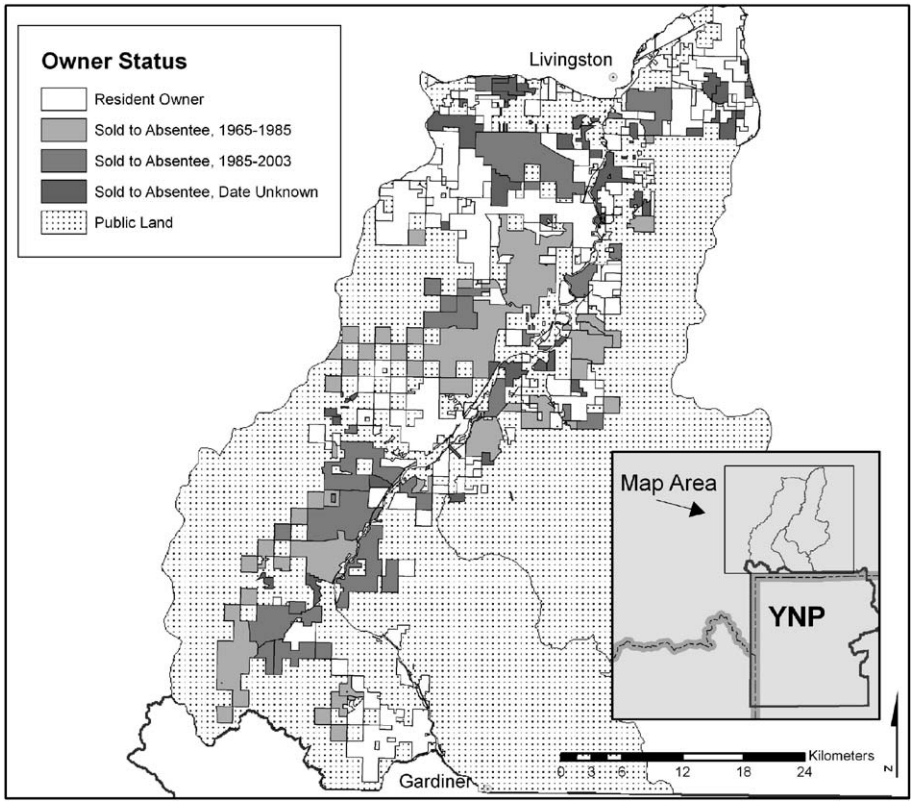

Fig. 3. Ranch sales to absentee owners in the Upper Yellowstone Valley, 1965–2003. (We use the term absentee to describe any ranch owner who does not live on the ranch he or she owns full-time.)

These buyers value investment opportunities but are also strongly interested in the ranch operation and seek to manage the property in order to protect or enhance its assets. For this group, the most important assets on a ranch were not related to livestock production but could include things like scenery, recreational opportunities, and wildlife habitat. Their absenteeism has a different quality than that of their predecessors: they are more active in decision-making about ranch management, or at the very least, less tolerant of degradation of the ranch's resources.[8]

The outcome of these trends included an increase in the overall hospitality of the private landscape towards elk and a corresponding decline in the viability of conventional wildlife management strategies. Indeed, many individuals purchased ranches in the Upper Yellowstone Valley between 1970 and 2000 with a primary rather than accidental goal (as with longtime ranchers) of hosting wildlife. Scotty Chapman, who purchased rural land north of Gardiner articulated the position of wildlife-friendly land owners very clearly in his contribution to the area's self-published local history volume, "Our property, bordering the park and the river and being very close to national forest land is key access [for elk trying to migrate out of the park to seasonal feeding grounds]. We don't allow hunting on our land and despite occasional violations of our wishes, the elk and deer seem to understand their status here" (Park County Historical Society, 1984, p. 181). One absentee owner who maintained a ranch in the Cinnabar Basin from 1978 to 2004 gained local notoriety by irrigating and cultivating hay that he left standing to attract and feed elk.

The dynamics of ranch sales in the 1970s, 1980s and 1990s created an immediate link between the acquisition of a ranch and the acquisition of wildlife. Elk movements in the valley encouraged landowners to think of themselves as having their own private herd. When a Mill Creek couple put the ranch that had been in the family since 1923 on the market in the late 1990s, they were stunned by the way realtors marketed the ranch. When a realtor scheduled a visit with a perspective buyer, the ranch owners would offer to take them around to show them the irrigation improvements, corrals, and the other developments on the ranch that he saw as the ranch's major assets. The realtors declined and instead asked where they should drive to give their clients a view of the large elk herds that often frequented the ranch. The buyer was acquiring elk as much as buying a ranch.

For some buyers, the exclusivity of access presented an opportunity to profit from wildlife. Two hunting lodges were developed in the late 1980s and early 1990s on properties that had been multigenerational family ranches:

[8] In the GYE, the best-known member of this group is media magnate Ted Turner who has used his two ranch properties in southwest Montana (which together total more than 60,704 ha (150,000 acres) in size) for many conservation-focused projects, including wolf reintroduction in the 1990s (see Hitt, 2001).

Hubbard's Yellowstone Lodge and the Dome Mountain Ranch. Most other sales, however, have resulted in the elimination of hunting from the landscape. One after another, ranches have sold to buyers who oppose hunting outright or limit it to the very occasional special hunt by a friend or family member.

We quantified changes in hunting access by combining information on land ownership with information gathered through interviews about hunting access on private ranches. Fig. 4 presents this information for the south half of the Upper Yellowstone Valley, an area of about roughly 97,125 ha (240,000 acres) that encompasses all or part of each of the three hunting districts. Most importantly, the data indicate a substantial increase in the amount of land closed to any hunting at all, from 8% in 1979 to 22% (plus) in 2003. The amount of public access in the area similarly declined, from 63% in 1979 to 49% in 2003. The land area reserved for "exclusive access"—including fee access hunting as well as hunting limited to friends and family—rose to a high of 30% of the area in 1991, but declined to 19% in 2003. This decline involved ranches that changed hands and became "refuges" with no hunting allowed.

The acquisition of ranches for the purposes of exclusive access to wildlife helped to further erode the already weakened ecological commons. Here the fracture was not between hunters and ranchers but rather among ranchers: new owners made management choices that affected the viability of elk management strategies adopted by their neighbors. One family that operated a commercial and purebred livestock operation from 1919 until 1997 responded to the growing elk herd on their land with mixed commercial and public hunting. With this strategy, they hoped they "could keep that herd in check and also provide some extra income to cover the grass they were eating. It didn't work that way primarily because our neighbors … didn't believe in the hunting. So, … when the hunters began to put pressure on the elk, they'd jump over the fence."

In another example, a local rancher who had long leased the neighboring ranch to use in his family-run outfitting business lost his lease when the neighbor sold to an absentee owner. That owner willingly spoke of the effect his management decisions have on his relationship with his neighbors. When asked about the most important thing he had learned since purchasing his ranch in 1996, the new owner remarked: "I guess, as good a neighbor as I try to be, you're probably by the native population always going to be considered an outsider. … you're never going to be totally accepted in the community, you're always going to be looked upon as … 'that rich kid from Texas' and those things cut, like that." He went on to suggest that it was his decision to disallow hunting that most worked against his ability to integrate with the local community:

> …[M]y position with hunting is very unpopular… Because in the fall of the year, these fields are full of elk because they come down and eat on the alfalfa, there'll be two hundred head of elk right out here by the highway. … [P]eople want to come hunt them. And the prior owner allowed hunting. … probably the biggest point of conflict that … my former ranch manager and I had was [hunter access]. He said, 'It's so hard for me to tell these people no.' And, I'd say, '… that's just the way it has to be.' … He had [neighbors] talking about how we ought to run these elk off and we ought to hunt them and push them back up in the hills.

The owner was also very clear about his reasons for disallowing hunting. For him, elk are an integral part of the property, a primary reason he bought the ranch, and he wants to attract and keep them on his ranch.

> If we hunted, I wouldn't have the elk. I mean it's simple, you start shooting and they're going to go somewhere else. … I enjoy seeing them, I mean there are times when there are 300 head of elk right out here in the front yard, I like that. I'm not a pacifist, I grew up hunting. I bow hunt today. I don't hunt big game anymore. I've been to Africa hunting. I'm not a gun control person, it's not that, it's just, I don't want *my* elk being shot. [emphasis added]

This owner clearly felt somewhat conflicted about the implications of his management decisions for his social relationships, especially with the group of people he called "the old school," locals who work as full-time ranchers or ranch managers. Acceptance from this group was important to this banker and part-time rancher, who grew up exposed to rural agricultural communities and appreciative of their rituals. He hosts a big catered meal every fall during branding in an effort to demonstrate his neighborliness. Still, he maintained, "Everybody has their priorities. And the wildlife are a bigger priority for me than these cattle."

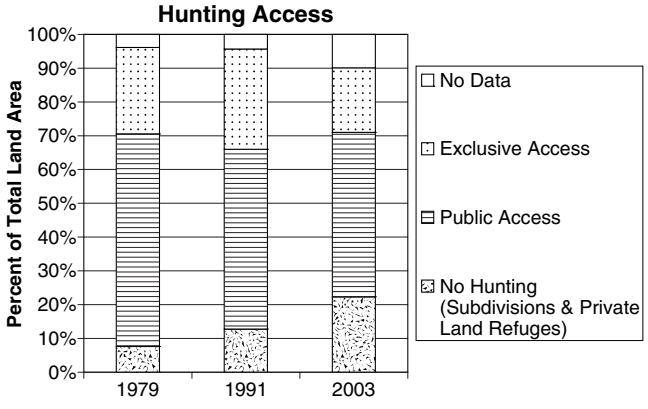

Fig. 4. Types of hunting access on all land (public and private) in the southern half of the Upper Yellowstone Valley, shown as a percentage of total area (approx. 97,125 ha).

3.6. Elk ascendant: nature's agency and the ecological commons

For all that land management choices may or may not engender social conflict, the characters in this story most

affected by trends in ranch management in the Upper Yellowstone Valley are those whose perspective remains the most opaque to researchers: the elk. Elk populations expanded in geographic extent and number in the late 20th century, suggesting a positive response to a changing human landscape. Ecological studies might be one way to track their responses, but there are substantial lacunae in expert understanding of how and why elk change migratory behavior or re-colonize habitat.

The interplay between elk behavior and human land use suggest questions that might complicate the stories told by researchers as well as those by locals. These are questions that have not yet been substantively documented in ecological literature. For example, how powerful are the "pull" factors for elk such as changes in vegetation and forage on private land? Two studies recently documented a substantial conversion to intensified alfalfa production during the 1960s and 1970s (Brelsford et al., 2004; Haggerty, 2004). Elk habituation to intensively developed landscapes, such as residential subdivisions, remains a poorly understood, but documented phenomenon (Thompson and Henderson, 1998; Lee and Miller, 2003) that will be increasingly relevant in the rapidly developing Paradise Valley. A recent study of elk in the town of Estes Park, Colorado, found that some part of the herd that traditionally migrated in and out of adjacent Rocky Mountain National Park founded a separate population that simply stayed in town, enjoying what the researchers euphemistically referred to as "the annual fertilizations and irrigations of altered grasslands in the town sector": that is, the elk frequent on lawns and the golf course (Lubow et al., 2002, p. 20).

Paramount among these issues is the question of "resident" elk. In the Cinnabar Basin, local ranchers believe that they have watched as elk gradually adapted their movements to the reliable food source provided by the absentee owner, described earlier in this paper, who cultivated hay to feed elk. Neighbors now observe elk on their properties virtually year round, except during two months at the height of fly season. Further down the Yellowstone River near Pine Creek, FW&P has observed elk adaptation to the protection and forage supplied on a luxury horse property. A small herd (about 200 elk) has taken up fall and winter residence on the property. FW&P personnel would like to use hunting to manage this group of elk, but do not have access to them because the land owner does not allow hunting. The ease with which elk appear to adapt to a shifting cultural landscape works against the already eroded ecological commons; private landowners who wish to "harbor" elk encounter animals with a strong incentive (fear of hunting) to comply. In fact, the reliable presence of elk may make it possible for some amenity ranch owners to conceive of themselves as the sole proprietors of certain elk populations: a recent ranch advertisement boasted of a ranch that felt "like a national park." Several large ranch owners in HD 314 have pursued land acquisition strategies that allow them to enclose entire tributary drainages; "resident elk" populations give those holdings herds that are functionally linked to the ranch property as long as the elk choose to stay.[9]

4. Conclusion

The combination of elk spending more time on private land, and more private landowners tolerating elk but not elk hunters, has placed a significant portion of the NYEWR "out of administrative control." Wildlife managers have little ability to achieve elk management targets in hunting districts 314 and 317. Historically these goals were to limit elk population to levels that minimize conflicts with livestock production while providing sustainable hunting opportunities. The urgency of minimizing conflicts with ranchers has diminished in the Upper Yellowstone Valley with the departure of many of the full-time commercial livestock operations and with it, the functionality of an "ecological commons." Hunter access remains a problem because despite growing elk numbers, there are declining opportunities for (non-fee-paying) hunters to access and harvest elk. This paper has provided evidence that ranch sales over the past three decades have encouraged this loss of access, but that the loss of access also occurred on ranch properties in multi-generational ownership. The historic relations linking (and later separating) private land owners and public hunters is an area that merits further research.

Our focus on ranch ownership change during a period of substantial shift in regional demographics and rural residency patterns relates to studies of the recent history of rural land tenure (Fortmann, 1995; Walker and Fortmann, 2003) and especially to work that attempts to make connections between contemporary land tenure dynamics and the ecology of western landscapes (Gosnell and Travis, 2005; Gosnell et al., forthcoming; Lage, 2005). We submit that this case study illuminates a broader problematic in the emerging contemporary land tenure regimes in high-amenity ranchlands of the Rocky Mountain West.

Ranch sales have had the strongest influence on this management dilemma in terms of the new ideas about property they have introduced. The presence of elk—and exclusive access to them—has been a major factor driving ranch sales and values for the past 15–20 years. New land owners conceive of the possession of elk as part of what they pay for when they acquire large ranch properties. This perspective typically precludes a conceptualization of public access to private land for the purpose of harvesting elk as part of the necessary human ecology of elk management—the

[9] The re-introduction of wolves into the GYE represents another complicating factor, particularly in terms of the unanswered questions regarding the linkages between elk habituation and changing social values of landowners. Space constrains us from elaborating on the issue, but we can briefly mention that it may be some time until it is possible for wolves to have a sizable impact on the kinds of trends we describe here on *private* ranchlands given that a variety of factors discourage wolves from spending much time on the private ranch landscape.

ecological commons in which hunters played the role of top predator has dissolved.

Our study suggests that emerging ideas about ownership present real obstacles to collaborative management, so often touted as an equitable and practical solution to resource management debates (Wondolleck and Yaffee, 2000). Much of the contemporary rhetoric of private land conservation venerates the enlightened management of wealthy, absentee owners, but fails to engage difficult questions about access, justice and class (see Hitt, 2001; The Nature Conservancy, 2002; Rogers, 2004). The re-definition of wildlife as an object for passive rather than active consumption detailed in this study (and its concomitant definitions about the legitimacy of hunting and access) complicates the notion of amenity or conservation ranch buyers as facilitating a progressive ecology of ranching landscapes. The absence of a consensus about elk as a nuisance has meant the erosion of an ecological commons and with it, an access regime upon which this construction of elk was built.

This environmental history of the Upper Yellowstone also reveals the power of an aggressive, charismatic animal to affect the human and natural landscape along with the importance of recognizing animal behavior and its dynamism in the stories we tell and the questions we ask about ecological histories. Indeed, several trends in ranch management and ownership are driven by the increasing presence of large elk herds on private land. Simultaneously, in a way that speaks to the reflexive relationships between humans and wildlife, changes in land tenure, and the shift from production of physical goods to the consumption of amenities on the Yellowstone landscape, are, in a sense, re-adapting the land for elk.[10]

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[10] Another chapter in political ecology of elk is being written with the successful re-introduction (starting in 1995) of wolves into the Greater Yellowstone Ecosystem. It will be several more years before the landscape outcomes of this experiment can be assessed. Wolf predation on elk on private land may encourage a re-constitution of the ecological commons—one that makes space for wolf hunting, for example. Future research should address how constructions of ranches as elk preserves gel with the expanding presence of predators in the GYE.

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