RANCHING WITH WOLVES: REDUCING CONFLICTS BETWEEN LIVESTOCK AND WOLVES THROUGH INTEGRATED GRAZING AND WOLF MANAGEMENT PLANS

Julie S. Thrower, Esq.*

I. INTRODUCTION

Prior to European contact, an estimated 60 million bison roamed the great grasslands and plains of North America, and over 200,000 wolves followed closely on their heels.1 Nowhere else was there such a concentration of prey and wolves.2 Since the coming of “civilized” man to the West, bison that had co-existed with and abundantly supported Native American tribes for perhaps thousands of years were destroyed in less than 150 years and replaced largely by livestock. This shift to a livestock culture in the West also resulted in the deliberate extermination of wolves from the lower forty-eight states.

The wolf had gained the notoriety of a ruthless killer and the “beast of waste and desolation.”3 Strong political pressure from public land ranchers led to government-sponsored programs that ensured the wolf’s demise. Some states recognized the misfortune of the disappearing bison just in time to pass some minimal legislation to protect it. However, when the last wolf was killed in Yellowstone in 1926, in Wyoming in 1940, and in the Southwest by 1960, there was no outcry from the public.4 The great American West would remain without wolves for over thirty-five years.

The environmental revolution and the enactment of the Endangered Species Act5 (ESA) in 1973 brought life to the idea that the wolf could once again roam the great vast landscapes of the American West. Wolves began to symbolize wild nature, a lost heritage, and were considered a keystone species—the missing link—to a functioning ecosystem. On the flip side, wolves also became a symbol for deep-rooted rural sentiment against issues over federal control of public land and

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* © 2009 Julie S. Thrower, J.D. Boalt Hall School of Law, University of California, Berkeley 2007; Ph.D. Johns Hopkins University 1999; B.S. University of the Pacific 1994. Ms. Thrower is a Trial Attorney with the U.S. Department of Justice, Environment and Natural Resources Division. The opinions and views expressed in this Article are solely the author’s, and do not necessarily represent the official position or policies of the United States, the Department of Justice, or any other governmental agency.

2 Id.
how its use is prioritized. Despite federal laws that attempt to emphasize “multiple-use” management of public lands, both livestock interests and environmental groups view it as a mutually exclusive choice—it’s either cows or wolves. Both groups have had a profound impact on wolf reintroduction. The fact that wolves were reintroduced can be attributed to environmental groups advocacy efforts. But as this Article explores, livestock interest have had a significant influence on how reintroduction plans are structured and carried out.

Today, the only significant obstacle to wolf recovery seems to be the limits of human tolerance. This Article explores the choice between cows and wolves, and whether they are mutually exclusive or whether there is room for co-existence. It is paramount to understand the needs of both ranchers and wolves so that we can better identify the complexities facing a wolf reintroduction program, and make a decision of whether ranching and wolves can co-exist.

First, in Part II, this Article describes some of the biological and social aspects of wolves and what scientists currently know about the wolf’s ecological relevance from studies done in two ecosystems—Yellowstone and Isle Royale National Parks—and continues with a discussion of the relationship between public land, ranching, and wolf habitat. Part III shifts to look at the public’s perception of wolf reintroduction and how history has shaped that perception. Part III reviews the history of the West and development of “livestock politics” that led to our modern range laws and government-sponsored programs to exterminate wolves, and concludes with a look at how the history of the West has shaped current controversies over wolf reintroduction and use of public land, which in turn put pressures on the Endangered Species Act and wolf reintroduction plans. Part IV examines current programs that have been used to attempt to ease wolf reintroduction by addressing one of the largest issues—conflicts between livestock and wolves. Current programs include compensation programs and grazing permit buyouts. Part IV discusses the limitations of such programs for wolf recovery in particularly troubled areas, like the Mexican wolf recovery in the Southwest. Finally, Part V suggests an integrated approach to ranching and wolf reintroduction in order to minimize conflicts between livestock and wolves and allowing wolf recovery and ranching to co-exist.

II. BIOLOGICAL AND ECOLOGICAL RELEVANCE OF THE WOLF

A. Wolf Biology

The wolf’s widespread historical geographic distribution is rivaled only by humans. Wolves survive the frigid winters as far north as the high Arctic, with temperatures dipping down to -70 °F. Wolves were also found in the roasting summer heat of the southwestern Sonoran and Chihuahuan deserts, as far south as

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central Mexico, with temperatures reaching 120 °F. One observation can be readily gleaned by considering the wolf’s expansive historical range: the wolf’s ability to adapt to different ecological conditions is phenomenal. It’s not just drastically divergent temperatures to which wolves can adapt, but they have also adapted to subsistence on a diverse array of food. Wolves hunt prey from the size of a two-pound hare to a 2,200-pound bison. Understanding how wolves adapt and survive in a particular habitat and how wolf packs are organized and interact with each other is central to designing a thriving reintroduction program with minimal human intervention and management. Understanding the ecological impact the reintroduction of wolves can have on the environment may also provide fuel for considering such programs in the future.

Because the Endangered Species Act (ESA) allows listing of subspecies below the rank of species, differences in how wolf subspecies are identified can have important policy implications. Most importantly, determination that a wolf population is a unique subspecies may allow it to receive legal protection under the ESA. The wolf’s ability to disperse and adapt to such divergent habitats, however, makes it difficult for scientists to determine which wolf populations are truly distinct subspecies that may be eligible for special protective status. Therefore, how taxonomy is determined by biologists at the U.S. Fish and Wildlife Service affects which populations will be protected or where reintroduction programs will be implemented. Contrary to what one might imagine, subspecies designation is not a straightforward process.

Scientifically, populations may not have bright-line distinctions, but vary on a continuum of different populations. When there are breaks in gene flow resulting in morphologically or genetically distinct subspecies due to, for example, geographic barriers, distinctions between subspecies are greater and easier to determine. However, with a species as geographically widespread as the wolf historically was, the difference can be small, yet may be important enough to warrant subspecific listing under the ESA. There are various methods and rules on how to determine how distinctive a population must be to be considered a

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7 Terry B. Johnson, An Overview of the Southwest: La Tierra del Lobo, 15 Int’l WOLF 5, 5 (Fall 2005).
9 Peterson & Ciucci, supra note 1, at 104.
10 Id.
11 See, e.g., David Frey, Wolf Reintroduction Plan Targets Flat Tops, ASPEN DAILY NEWS ONLINE, Sept. 27, 2008, http://www.aspendailynews.com/section/home/129557 (stating that a recovery plan for wolves would be helpful in Colorado areas such as the Flat Tops where elk herds are too big for the habitat to sustain).
12 C. Alexander Brownlow, Molecular Taxonomy and the Conservation of the Red Wolf and Other Endangered Carnivores, 10 Conservation Biology 390 (1996).
subspecies, yet none are used uniformly. Some biologists tend to lump subspecies together when the differences seem small, whereas others see those variations as precisely the reason to divide a species into different classifications. Science can answer questions about a species' physical and genetic traits, but how distinctive a population must be to warrant a subspecific name, and thus separate legal protection, ends up largely being a judgment call—sometimes subject to political motivations.

Wolf taxonomy has been hotly debated. Wolves' dispersal over great distances results in a high rate of gene flow, making discrete populations particularly difficult to determine. Some biologists consider wolves as a "series of intergrading populations." The North American gray wolf had once been divided into twenty-four subspecies. But more recent studies suggest that wolves should be lumped into only five subspecies. The five recognized subspecies are: Arctic wolf (Canis lupus arctos); Mexican wolf (Canis lupus baileyi); Eastern Timber wolf (Canis lupus lycaon); Great Plains wolf (Canis lupus nubilus); and the Rocky Mountain wolf (Canis lupus occidentalis). Although some scientists disagree about North American Gray wolf taxonomy, morphometric and molecular genetic data strongly support labeling the Mexican wolf as a distinct subspecies.

The high rate of gene flow that allows wolves to adapt quickly to extrinsic environmental factors also affects the formation and sociology of wolf packs, which is an important consideration in how reintroduction programs are designed and managed. Wolves in the upper northwest, for example, rely mainly on large herbivores, such as elk, for food. As the landscape changes from the mountains and

14 Id.
15 Id.
16 See, e.g., Christie Aschwanden, Is It or Isn't It (Just Another Mouse)?, HIGH COUNTRY NEWS, Aug. 17, 2006, at 12, available at http://www.hcn.org/issues/327/16445 (discussing the controversy over the subspecies listing of the Preble’s meadow jumping mouse).
18 Id. at 223.
19 Id. at 236.
23 Nowak, supra note 13, at 247.
24 For example, programs may need to look at the total number of reproductive units for a measure of population viability, and not the total number of individual wolves.
rolling hills of pine and juniper to the prickly dry deserts of the Southwest, the Mexican wolf adapted to eating smaller prey, such as hares, ground squirrels, and mice, as well as large herbivores. Morphologically, Mexican wolves tend to be smaller compared to their northern cousins. These differences in prey availability may affect how wolf packs are organized. Hunting large prey, for example, requires larger wolf packs working in an organized effort. Wolf packs have been known to use strategic cooperation, teamwork, ambushing techniques, and the use of decoy wolves in their hunting methods.

Packs also function in a deeper sociological context. Wolves are highly intelligent animals, have complex social behaviors, and have family structures that closely resemble human families—perhaps the reason why many people attach such emotional significance to wolves. A pack's basic social unit is a mated pair, and the natural extension of the pack is the collection of offspring. Offspring may remain with the pack anywhere from one to five years, and it is thought that maturity is measured by a wolf's breeding ability. However, just as the traditional nuclear human family may vary, packs vary in similar ways. Packs may have extended family live with them, be a disrupted family (one or both parents missing), or have step-family or foster kids. Most importantly, an individual’s relationship with other members influences access to food and mates.

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25 Janet E. Reed et al., Diets of Free-Ranging Mexican Gray Wolves in Arizona and New Mexico, 34 WILDLIFE SOC'Y BULLETIN 1127, 1127, 1130 (2006) (noting that little is known about the diet of the Mexican wolf prior to extirpation because of the lack of systematic diet studies at that time). Morphologically, the Mexican wolf is the smallest gray wolf subspecies in North America. See Michael Robinson et al., South From Yellowstone: What Remains to be Done, 16 INT’L WOLF 8, 9 (Spring 2006).

26 Chadwick, supra note 6, at 81.

27 Unfortunately, most of our current scientific knowledge about wolves comes from wolves born and raised in captivity, whose “wild” populations are closely and heavily managed by either the state or federal government. The wolves of northeastern Minnesota and Isle Royale, Michigan are the only remaining historically “wild” wolves in the continental U.S. today. Furthermore, wildlife management objectives, particularly when it comes to predator management, are often centered on unnatural objectives, such as keeping wolf populations low in order to maintain high elk populations to appease hunting interests, or limiting the wolf’s ability to expand its natural range to appease livestock interests. See Gray Wolf Biology: Questions and Answers, U.S. Fish & Wildlife Service, http://www.fws.gov/home/feature/2007/qandasgraywolfbiology.pdf (last visited May 12, 2009).

28 It is extremely difficult to determine whether pack size is really dictated by prey size. There is a huge variation within a given area and data are unreliable because wolf packs are subject to management controls. However, there is some support for this theory from Minnesota wolves. See L. David Mech & Luigi Boitani, Wolf Social Ecology, in WOLVES: BEHAVIOR, ECOLOGY, & CONSERVATION 1, 7 (L. David Mech & Luigi Boitani eds., 2003).

29 Peterson and Ciucci, supra note 1, at 121.


31 Mech and Boitani, supra note 28, at 1.

32 Id. at 2, 7.

33 Jane M. Packard, Wolf Behavior: Reproductive, Social, and Intelligent, in WOLVES: BEHAVIOR, ECOLOGY, & CONSERVATION 35, 40 (Table 2.1) (L. David Mech and Luigi Boitani eds., 2003).

34 Id. at 57-58.
The utility of the pack is not completely understood, but packs do seem to serve many functions. Packs allow parents to care for their young until they completely mature, which may take up to five years; packs may increase hunting efficiency where the size of prey tends to be larger; and packs with individuals of different ages act as a familial “hunting school.” The dynamics of relationships within a pack is influenced by age, births, adoption of new wolves into the pack, deaths, individual dispersal (individuals that leave to form new a pack), and individual behavioral profiles, or temperaments.

B. Wolf as a Keystone Species in Ecological Restoration

Prior to their expatriation, wolves undoubtedly had a widespread ecological influence as a top predator. Elimination of wolves and other large carnivores occurred quickly compared to the ecological timescale. Importantly, it occurred alongside the human-caused decimation of native ungulates and the introduction of livestock, farming and other major influences driven by a new and burgeoning human population in the West. Elimination of wolves alone undoubtedly had a large ecological impact, but it is difficult, if not impossible, to discern what that impact was. It has only been within the last few decades that biologists have begun to study and attempt to understand the complex relationship between wolves and their environment and anticipate how reintroduction will impact both local flora and fauna. Despite predictions of the ecological effects of wolf reintroduction, what is clear is that because of the variances between ecosystems, it is difficult to determine how a given ecosystem will respond to wolves. Complex interactions between predator and prey, predator and competing predators, predator and other non-predator, non-prey species, secondary effects on plant life, weather, disease, and human management all complicate even the simplest studies.

Two systems where the ecological impact of wolves has been the most extensively studied are Yellowstone National Park and Isle Royale National Park. Both parks had large wolf-free areas, and both parks have recently been exposed to wolf populations—Yellowstone through a reintroduction program and Isle Royale through natural colonization. However, the two parks provide the opposite extremes in complexity. Yellowstone represents a highly complex ecosystem with greater diversity of both prey and predators. Wolves compete for habitat and

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36 Id. at 7, 9.
37 Packard, supra note 33, at 51.
39 Packard, supra note 33, at 37, 55.
prey, such as mule deer, moose and elk, with coyotes, mountain lions, grizzly and black bears, and outside the park boundaries, humans. In contrast, because of its isolation, Isle Royale is a surprisingly simple ecosystem. Immigration and emigration of predators and prey are minimal to non-existent. Human influences, such as hunting, are not present. And the diversity of prey and predators is relatively low. Wolves are the only major predator on Isle Royale and rely exclusively on moose as their primary food source. Because of this simplicity, long-term studies of interactions between wolves and moose, and wolves’ secondary effect on other ecosystem components on Isle Royale, have clearer causal relationships and have become useful in interpreting more complex data from Yellowstone.

This Article can only begin to scratch the surface of studies from Isle Royale and Yellowstone, and attempts simply to highlight the complexities of the wolf’s relationship to other actors in its ecosystem, as well as point out the main effects that are thought to be associated with the presence of wolves. Three things are important to remember when looking at ecological data. First, wolves are not the only driving force for ecological change. Environmental conditions, such as weather and disease, can have a much more profound influence on species populations and the health of vegetation than any single predator. Second, prevailing environmental conditions place adaptive pressures on the wolf as well, and thus affect their populations in ways unrelated to biological factors, such as prey availability. Third, even in settings like Yellowstone, where the overall goal is minimal human intervention, wildlife populations are still be profoundly altered by human actions.

Therefore, it is probably not too surprising that conclusions about the impact of wolves on an ecosystem turn out to be complex, confusing, and at times contradictory. A historic chronology of the moose population on Isle Royale aptly demonstrates this complexity:

[W]olf predation tends to cap moose density. The growth in moose numbers peaked in the early 1970s and ended when severe winters affected vulnerability, and the resulting increase in wolves kept the moose population low for many years. The greater number of wolves indirectly allowed forest recovery by reducing browsing by moose. However, when wolves crashed in the 1980s—from 50 to 14 in 2 years—and were limited because of a canine parvovirus, a disease accidentally introduced by humans, moose numbers grew until

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43 Id.
45 Id. Technically, the Red Fox is the other predator on Isle Royale, which preys on small ground animals. See Smith, Peterson, & Houston, supra note 42, at 331.
46 Smith, Peterson, & Houston, supra note 42, at 331 (internal citations omitted).
47 Peterson & Ciucci, supra note 1, at 111.
48 Id.
49 Smith, Peterson, & Houston, supra note 42, at 330.
catastrophic starvation hit in 1996 (one of the most severe winters on record). . . . [T]rees flourish when wolf numbers increase and moose are reduced. The relative abundance of coniferous and deciduous trees, which is strongly influenced by moose browsing, further affects litter composition and nutrient cycling in the soil, so the ripple effect beginning with the arrival of wolves extends far and wide. But it is not that simple.\textsuperscript{50}

Some generalizations, however, can be made—with the caveat that anything can happen. First, several “primary” effects on prey populations have long been recognized: culling of inferior, old, sick, or diseased individuals; controlling prey populations; and stimulation of prey productivity.\textsuperscript{51} However, controlling prey populations with predators is tricky—wolves primarily kill juveniles or very old individuals that would soon die anyways, largely leaving the prey’s breeding population intact.\textsuperscript{52} And weather or disease may play a more significant role in creating large prey fluctuations than the presence of wolves. Moderate winters in Minnesota from the 1970s to 1995, for example, allowed deer populations to triple despite a rebounding wolf population.\textsuperscript{53} And although in Yellowstone the primary pressure on the elk population has been the presence of wolves,\textsuperscript{54} the data on the extent of the wolf’s effect on the elk numbers is unclear due to several severe winters that caused major migrations of elk out of Yellowstone and a large number of weather-related deaths.\textsuperscript{55}

Second, wolves can also have extensive impacts on non-prey species. For example, reintroduction of wolves has not only effected coyote numbers, but how coyotes organize into packs and which food they choose to eat.\textsuperscript{56} In the absence of wolves, coyotes have been known to shift from hunting smaller ground prey (hares, squirrels, etc.) to establishing pack behavior and hunting larger ungulates.\textsuperscript{57} After the reintroduction of wolves in Yellowstone, wolf aggression toward coyotes resulted in a 50 to 90 percent decline in the coyote populations, and a decrease in coyote pack size from six to less than four animals.\textsuperscript{58} Data show that a secondary effect of the presence of wolves is to increase pronghorn fawn survival—the coyote’s main food source.\textsuperscript{59}

Wolves have also had an impact on scavengers in Yellowstone. Wolf kills draw at least ten types of scavengers, including coyotes, wolverines, ravens,
magpies, eagles, and grizzly bears. And these wolf kills are an important food source, particularly during winter.\textsuperscript{60} Most recorded interactions between grizzly bears and wolves have occurred at kill sites, and grizzlies, able to drive wolves off of a kill, now appear to seek out these sites rather than hunt themselves.\textsuperscript{61}

Finally, one of the great debates is how vegetation is influenced by the presence of wolves.\textsuperscript{62} The data from Yellowstone indicate that there may be a trickle-down effect. Wolves either decrease ungulate populations or change their distribution,\textsuperscript{63} which seems to have resulted in increased growth of willow stands and recovery of woody plants, such as cottonwood.\textsuperscript{64} But research is ongoing. For those who believe wolf restoration is the greatest missing piece to ecosystem restoration, understanding such data is perhaps the most important aspect of wolf reintroduction and management. However, few concrete conclusions can be made from the Yellowstone experience. Wolf recovery has changed the park’s ecosystem, and initial patterns seem to be emerging, but predictions are still often wrong. Uncontrollable external forces, like weather and disease, are virtually guaranteed to influence—and possibly determine—the outcome of the great experiment of wolf reintroduction.

\textbf{C. The Relationship of Land, Ranching, and Wolf Habitat}

There are few places in the continental United States, such as Yellowstone National Park, that offer large swaths of public land where the primary goal is conservation and the protection of native species. Under their multiple use mandates, the Forest Service and the Bureau of Land Management (BLM) must manage public land for competing uses of conservation and natural resource extraction. Additionally, public land that is interspersed with private in-holdings creates further management difficulties where property lines are meaningless in an interconnected habitat. In areas like Yellowstone National Park, the wolf reintroduction program may escape many of the management problems associated with mixed uses of land, and may be one of the chief reasons why the program has been so successful. The Mexican wolf reintroduction program in the Southwest, in contrast, has effectively failed thus far, and many believe its failure can be largely, if not solely, attributed to the conflict between conservation and the use of natural resources advocated by local private landowners—in particular, livestock grazing.

About 107 million acres of private ranchland used for livestock grazing are dependant to some extent on the 254 million acres of public Forest Service and

\textsuperscript{60} Id. at 330, 36.
\textsuperscript{61} Id.
\textsuperscript{62} See generally \textsc{National Research Council, Ecological Dynamics on Yellowstone’s Northern Range} (2002).
\textsuperscript{63} For example, with predators present, ungulates may not loiter around rivers and streams where they are highly visible and the likelihood of an ambush is increased. The effect is that native vegetation recovers more rapidly, and with it, species such as songbirds and beavers. See Thomas McNamee, \textit{Tinkering with Nature}, High Country News, Mar. 31, 2003, at 1, \textit{available at} http://www.hcn.org/issues/247/13837.
\textsuperscript{64} Smith, Peterson, & Houston, \textit{supra} note 42, at 338.
BLM land. In some places, it is impossible to successfully ranch without public land. For example, a typical ranch in Arizona is about five to eighty acres of private land, nestled around thousands of acres of public land used for grazing. Many ranches in the Southwest depend on getting more than half their forage, some getting one hundred percent of their forage from public land. In the Northern Rockies, in contrast, seventy percent of the livestock are grazed exclusively on private lands for most or all of the year. Out of fifty-six counties in Montana, a state with one of the largest cattle industries in the West, only twelve counties rely on public lands for 10 to 30% of their forage and only one county gets more than 50% of its forage from public land.

The difference in the reliance on the use of public lands for grazing is highly dependent on the ecosystem and the forage productivity. For example, the southwestern landscape of pinyon-juniper, desert shrub and grasslands typically produces less than 1,000 pounds of forage per acre per year. A single cow consumes 800 to 1000 pounds of forage per month, requiring an average of 13.7 acres of rangeland in the Southwest to raise a cow/calf pair for one month. Economies of scale necessarily favor larger ranching units; the production cost of a weaned calf in herds of over 500 cattle are half that compared to herds of less than fifty cattle. Low carrying capacities of the land result in large ranches with few livestock. Ranchers with less than 200 head of livestock usually have another source of income. In contrast, prairies, annual grasslands, and wet grasslands of the temperate regions can produce four times as much forage per acre, allowing for large carrying capacities on much smaller farms.

The reliance of livestock grazing on large areas of public land in the Southwest is also due to the ecology and climate of the region. The extreme differences in summer and winter temperatures in the high desert forces not only cattle, but also native wildlife, to migrate over large areas of land in search of forage. By late March, most of the cattle have had calves at the base ranch and by

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69 NATIONAL PUBLIC LANDS GRAZING CAMPAIGN, supra note 67.
73 Martha J. Sullins et al., *Lay of the Land: Ranch Land and Ranching, in Ranching West of the 100th Meridian* 25 (Richard L. Knight, Wendell C. Gilpert, & Ed Marston eds., 2002).
Early April, cattle are herded off of the base ranch to public land allotments. As summer grows hotter and low-elevation forage dries out, the cattle move to cooler, high elevation allotments, where forage stays green and tender through much of the summer. During these months, the rancher irrigates his hay meadows and plants grain crops for late summer harvest. The resulting hay and grain is used to feed cattle through the upcoming winter months. As November draws near and cold weather begins to set in, cattle are moved down from the high elevation allotments to low elevation pastures or to private pastures on the base ranch, depending on permit allowances. As the pasture forage declines by late fall, the cattle start to feed on harvested hay and grain from the previous summer. With spring, a new cycle of calves are born and released onto the public range.

Native ungulates follow the same cycle as cattle while searching for forage, finding shelter from the hot summer sun in upper elevations, and escaping the cold desert by migrating to low elevations in the winter. And the wolves, in order to survive, must follow their prey. The result is that livestock, wolves, and native ungulates share much of the same territory.

III. HISTORY OF THE WEST AND THE DEVELOPMENT OF LIVESTOCK POLITICS

A. Conquering the Western Range and the Evolution of Modern Range Laws

The borders we know as the American west were born by the early 1850s. The broad expanse of prairie and steppe of the Great Plains were added to America’s westward expansion under the Louisiana Purchase in 1803; a large portion of Texas was annexed in 1845; California, Nevada and the Southwest were ceded by Mexico under the Treaty of Guadalupe Hidalgo of 1848; and the last piece of territory acquired in the contiguous United States was the Gadsden Purchase, a small wedge of land lying south of the Gila River to the present day Arizona border, in 1853.74 Wolves were a common sight to early travelers in the West, their abundance supported in the Northern and Southern Rockies and the Southwest by the massive herds of elk, deer, sheep, and in the Great Plains, by bison.75

From the 17th century to the mid-19th century, the Mexican land grants allowed and encouraged settlement throughout the Southwest, bringing haciendas with their cattle, sheep, and goats in increasing numbers to the rangeland.76 These herds were often poorly guarded and may have led to the increase in wolf

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75 ROBINSON, supra note 4, at 5. An estimated 20-60 million bison were present in the Great Plains. Id. at 7.
populations. However, wolves were not the Mexican ranchers’ greatest concern: Apache raids were more feared, and more deadly, both to cattle and to ranchers. Many of the haciendas, along with an estimated 100,000 head of soon-to-be feral livestock, were abandoned by the early to mid-19th century. There is debate about the extent of damage the roaming livestock had on the ecology of the region. Some suggest that the cattle left behind disappeared by the mid to late-19th century. Others believe that, regardless of the number of livestock left on the range, this period set the stage for the unfathomable ecological disaster that battered Western ranchers in the late 1880s.

Regardless of what happened to the abandoned livestock of the haciendas, another major development soon brought in numbers of livestock that made the hacienda-era pale in comparison. By the 1880s, the transcontinental railways began to connect east to west, linking Western ranches that once were limited to producing food for local settlements and mining villages to the markets of the Midwest, the East, and beyond. Vast ranges of the West that extended well beyond the Mexican land grants of the Southwest were rapidly settled. Cattle were once again widespread and abundant. Overgrazing was incessant. It was this movement that would eventually push the ecology of the sagebrush and grasslands into utter chaos, cause the creation of our modern grazing laws, and bring into existence the first government organized and funded program to kill wolves and other wildlife.

Early laws establishing range rights were not created out of the desire to protect the land from overgrazing. Rather, they were a product of cattle ranchers looking for protection from sheepherders and from each other. The Unlawful Inclosures Act of 1885 made self-help efforts, such as fencing off areas of public land to keep other ranchers off, illegal. Cattlemen were much more successful at protecting their interest in the rangeland under state laws, such as ones that made it

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78 White, supra note 74, at 54.
79 Robinson, supra note 4, at 14.
80 RMRS-GTR-176, supra note 76, at 54. See also Debra L. Donahue, The Western Range Revisited 31 (1999); White, supra note 74, at 223.
81 Gish et al., supra note 77, at 19; James A. Young & B. Abbott Sparks, Cattle in the Cold Desert 48-49 (2002).
82 Gish et al., supra note 77, at 19.
83 Although other species had also been practically wiped out by this time, these results were largely due to private enterprises. Beaver, for example, were nearly wiped out in the West by the 1840s due to the American fur trading industry. The species was saved only due to the fact that as their numbers plummeted and it became harder to locate them, it became also less profitable to do so. The bison’s close call with extinction was largely driven by the desire of livestock ranchers to make room for cattle, and probably more importantly, by the leather industry. Bison gained protection in 1874 when Congress passed legislation that made it illegal to kill a female bison or waste bison meat, attaching a $100 fine to any violation. See Robinson, supra note 4, at 24-25.
illegal to drive cattle onto the “accustomed range” of another. The United States Supreme Court, in 1918, upheld an Idaho state law that prohibited shepherders from allowing their animals to graze on land previously occupied by cattle. And until federal law would control the range, local customs and state statutes set range laws and rules between private parties. These local laws, of course, could never create a “right” to graze cattle on federal land.

Attempts to enact federal grazing laws struggled through the early 20th century. In 1906, the Forest Service managed to administer an unpopular program that regulated grazing on 100 million acres by establishing grazing fees and limits to the number of animals that could forage.

It wasn’t until 1926 that Congress considered a bill that would establish federal control over a leasing system for grazing on both BLM and Forest Service lands. But it would take eight more years, the Great Depression, and severe droughts before both chambers of Congress passed the Taylor Grazing Act (TGA).

The purposes of the TGA, as set out in the preamble that was never codified, were to “stop injury to the public lands by preventing overgrazing and soil deterioration, to provide for their orderly use, improvement, and development, and to stabilize the livestock industry, dependent on the public range.” As reform-minded as the Act may have seemed, it was heavily influenced by the livestock industry. The TGA authorized the Secretary of Interior to establish grazing districts and a permitting system to control livestock grazing within those districts. However, local interests largely ran these districts—interests that the Act was supposed to regulate. Ranchers retained practical control of how the range would be managed and grazing boards became a way for ranchers to exercise political power. The grazing boards’ power was so extensive that, in addition to their advisory capacity, they took on many functions of the land management agencies. The result was that grazing continued in much the same way it had been prior to passage of the TGA.

Other key provisions of the Act that still exist today make it clear that issuance of a permit “shall not create any right, title, interest, or estate in or to the lands” and give authority to the Interior Department to change permit conditions
or entirely revoke permits. However, the Act also directs that “grazing privileges ... shall be adequately safeguarded,” which to this day functions to ensure that permits will almost always go to existing interests at existing levels. The Act requires the permitee to own land, typically land that neighbors a grazing district, and engage in the livestock business. Importantly, what these provisions do is exclude newcomers by giving priority of permit renewals to previous permittees. The Act as a whole also confirmed, and some would argue continues to confirm, ranchers’ belief that the public range is dedicated to domestic cattle. Moreover, the fact that the particular permits are tied to ownership of specific ranch properties has emboldened the idea that grazing permits are a part of the bundle of private property rights of owning a small slice of private land. The banking and real estate systems perpetuate this idea by allowing ranchers to use their grazing permits as collateral for bank loans and valuing their ranch property based on the amount of livestock the permits allow.

Increasing national interest in public land resources in the mid-1960s, and the environmental revolution of the 1970s, allowed passage of federal legislation that impacted how the range was managed. The National Environmental Policy Act (NEPA), enacted in 1969, requires federal projects to at least recognize and consider environmental concerns. Although NEPA only applied to “major federal actions” and made no mention of grazing, the courts extended NEPA’s requirement for a detailed environmental impact statement (EIS) to BLM’s grazing program.

Recognition of the continued overgrazing and degradation of the rangeland led to grazing reform under the Federal Land Policy and Management Act of 1976 (FLPMA). FLPMA does not change any aspect of the TGA, but adds more regulation and coordination to the management of land under BLM’s control. Perhaps most importantly, FLPMA also declares that “public lands be retained in Federal ownership,” which resolves a controversy that is still not settled in many western minds to this day. As far as rangeland is concerned, FLPMA contains a multiple-use mandate that recognizes the broader uses of public land. It provides that lands are to be managed for the sustained yield of multiple resources, including wildlife and fish, watershed, recreation, scientific values, natural and

99 Id.
100 Id.
101 See, e.g., Robert H. Nelson, Wester Myths and Realities, Regulation 38, 42 (Summer 2002).
104 Wilkinson, supra note 84, at 96–97.
107 One of the most famous movements to sell off public lands post-FLPMA was the Sagebrush Rebellion of the mid-1970s that sparked several lawsuits alleging that the federal policy of permanent land ownership was illegal. See Wilkinson, supra note 84, at 99.
Two years later, Congress enacted the Public Rangeland Improvement Act (PRIA) that further modifies range management. Although neither FLPMA nor PRIA have managed to increase the traditionally low grazing fees anywhere close to market value, PRIA institutes new policies within BLM that identified range improvement as the highest management priority. New management plans are to be aimed at effective range improvement, and after PRIA was enacted, BLM began implementing stock reductions under PRIA policy mandates and court ordered EISs.

Despite FLPMA and PRIA, the strong political influence of the livestock industry, reminiscent of the 1880s, still controls public land management under BLM and the Forest Service. Although FLPMA and PRIA give agencies the tools to manage public lands for multiple uses and protect natural resources, livestock interests are often given preferential treatment on public lands over conservation, wildlife and recreation. Grazing continues—not just on BLM and Forest Service land—but on federal lands where popular consensus has managed to exclude mining and timber interests, but not livestock. Grazing continues to occur on wildlife refuges, wilderness areas, and national parks, impairing the land’s productivity and biodiversity.


Certain wildlife, particularly predators, were viewed as obnoxious animals and targeted for extermination by European settlers arriving to North America. Initially, conflicts between humans and predators were minimal and localized to inhabited regions. Predators were killed either for food or in the defense of the settlement, and such activities had little impact on predator populations in the uninhabited West. With the late nineteenth and early twentieth century, immense westward expansion occurred, resulting in the rampant decimation of native bison, sheep and elk populations. Predators were initially targeted for death in order to protect hunting interests. The second half of the nineteenth century, however, brought an emergence of the livestock industry, which caused a fundamental shift in the number and nature of conflicts between humans and predators. Predators

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110 The McClure Amendment, passed as a rider to an appropriations bill in 1979, requires a two-year phase-in period for any stock reduction of more than ten percent, effectively marginalizing much of the new FLPMA-PRIA mandates. See Wilkinson, supra note 84, at 99.
111 In the eastern United States, however, wolves were exterminated as early as the end of the eighteenth century. See Alliance for the Wild Rockies, The Eradication of the Wolf 1, www.wildrockiesalliance.org/issues/wolves/articles/history_of_bounty_hunting.pdf (last visited May 12, 2009).
such as wolves and bears began to find themselves with diminishing populations of bison, elk and other native ungulates, and amidst a growing sea of livestock drifting, often unattended, onto the open range.

Diminishing numbers of native ungulates assuredly didn’t help these wandering cattle from becoming prime targets and a ready substitute for a wolf family’s dinner. But developments in the economics of shipping cattle by rail also played a part in making livestock more vulnerable to being a wolf’s next meal. Laying down track, buying trains, and operating the railway was an expensive project, and railroads soon realized that they needed to ship massive volumes of goods per shipment to recoup their costs and provide returns to their Eastern investors. The traditional Texas longhorn cattle, with horns reaching a span of over five feet, were not immune from predator attacks, but they were much less vulnerable than their short-horned cousins. The livestock industry realized, however, that only half as many longhorns fit in a railcar as short horns, and the economies of scale, along with fear of disease from the longhorn, nearly eliminated their use on the Western range by the 1890s.113 Suddenly, wolves and other predators had an abundance of prey that did not evolve for millennia to develop mechanisms to fend off attacks.

Encouragement from the federal government to freely graze public land prior to the TGA led ranchers to believe that it was their right to make that land safe for their livestock. Predator eradication programs first began at the local level with livestock association-funded bounties, but soon extended to state legislation that provided bounties on top of the private ones, and thus greater incentive to hunt wolves, along with the profit from the pelts.114 Bounty hunters, as well as wolves, however, did not respond as expected. Wolf pelts never drew a great profit, so bounty hunting was unable to bring the wolf population down as it did with other species with more prized pelts, such as beavers.115 Wolves responded with their biologically adapted ability to have a higher reproductive rate when their numbers are down and more food and territory become free.116

The brutal winter of 1885 also played a large role in the growth of the wolf population. Cattle, not yet adapted to extreme weather and with low fat reserves from scratching out an existence on an overgrazed range, proved no match for the fierce winds and merciless cold that pounded the Great Plains. Bison, with their thick hair and instinct for survival, drifted northward against the storm, while domestic livestock turned and walked south following the storm, eventually getting trapped by fences designed to curb their southward movement.117 Thousands of cattle died, lined up against the fences, piled in snow, with nowhere to go. Eight-five percent of cattle in the Great Plains region perished in the winter storms, providing a banquet of fresh carcasses, as states across the West began reporting

113 ROBINSON, supra note 4, at 27-28.
114 Id. at 31.
115 Id.
116 Id.
117 Id. at 36-37; YOUNG & SPARKS, supra note 81, at 121.
increasing numbers of wolves.\textsuperscript{118} History would prove to repeat itself in the winters of 1886 and 1889.\textsuperscript{119}

The increased wolf population, which was growing wearier of humans, became harder to find and kill.\textsuperscript{120} And with newly imposed grazing fees for Forest Service lands,\textsuperscript{121} ranchers—the first group in the west with an organized political interest group—applied political pressure on the federal government to eradicate predators. It was unfair to collect a grazing fee for the use of wolf-infested land without additional federal protection from predators.\textsuperscript{122} And so the first federal federally sponsored program to kill wolves began in 1905 in the Bureau of Biological Survey.\textsuperscript{123}

The success of the federal government program in eradicating wolves from the West was primarily due to its employment of hunters, rather than just providing bounties. This changed the game. It was now a government objective to eradicate every wolf in the United States.\textsuperscript{124} The diminishing return for private parties of finding the increasingly scarce predator was no longer driven by the ability to reap a profit. Wolf hunters were paid regardless of what they did or did not bring in. Killing predators became—and continues to be—a government service.\textsuperscript{125} Extermination of the wolf was the paramount objective, and taxpayer support and seemingly unlimited government funding made wolf hunting take on a life of its own. In the state of Montana alone, almost $350,000 was paid out to hunters between 1883 and 1918, bringing in 80,730 dead wolves.\textsuperscript{126} By this time, western states together were paying over $1 million per year in predator eradication.\textsuperscript{127} The last known wolf in Yellowstone National Park was killed in 1926 and the last in all of Wyoming in 1940.\textsuperscript{128} Wolves disappeared from the Southwest by 1960.\textsuperscript{129} By 1973, when the Endangered Species Act (ESA) was

\begin{itemize}
  \item \textsuperscript{118} ROBINSON, supra note 4, at 36-37.
  \item \textsuperscript{119} YOUNG & SPARKS, supra note 81, at 119-132.
  \item \textsuperscript{120} It was not only normally difficult to find and shoot wolves, but wolves had also learned that carcasses left behind poisoned with strychnine had the lingering scent of humans. ROBINSON, supra note 4, at 39.
  \item \textsuperscript{121} See infra Part. III. A.
  \item \textsuperscript{122} ROBINSON, supra note 4, at 55.
  \item \textsuperscript{123} For a more detailed history, see ROBINSON, supra note 4, at 56-69.
  \item \textsuperscript{124} Horejsi, supra note 112, at 221.
  \item \textsuperscript{125} Dale D. Goble, Of Wolves and Welfare Ranching, 16 HARV. ENVTL. L. REV. 101, 104-05 (1992); Sharon Begley et al., Return of the Wolf, NEWSWEEK, Aug. 12, 1991, at 44.
  \item \textsuperscript{126} The Eradication of the Wolf, supra note 111, at 1.
  \item \textsuperscript{127} Id.
  \item \textsuperscript{128} ROBINSON, supra note 4, at 223.
  \item \textsuperscript{129} Joel M. Carson, Reintroducing the Mexican Wolf: Will the Public Share the Costs, Or Will the Burden Be Borne By a Few?, 38 NAT. RESOURCES J. 297 (1998). Other predators fared just as poorly as the wolf. By 1920, grizzly bears, which had been widely distributed in the West, shranked down to forty-three distinct populations. In 1935, grizzlies had become extinct in the Southwest when the last bear was killed in Arizona. By 1970, only five bear populations remained in the United States. Horejsi, supra note 112, at 222.
\end{itemize}
passed, the only known populations of wolves in the continental United States were in northern Minnesota.\(^{130}\)

By the early 1920s, with most wolves exterminated from their historical range, the federal agency previously charged with wolf extermination was anxious to fill the void created by the lack of wolves. The agency, concerned that without wolves its budget would be cut, quickly turned to the coyote problem.\(^{131}\) Coyote populations had been naturally kept low by the presence of wolves.\(^{132}\) Wolves and coyotes only occasionally compete for prey—wolves tend to hunt for larger ungulates while coyotes hunt smaller ground prey, such as rodents.\(^{133}\) Wolves, however, consider coyotes as competitors and would regularly kill them. Without wolves, the coyote population blossomed as coyotes began to establish cooperative hunting techniques that allowed them to hunt larger prey and take over wolves’ ecological niche.\(^{134}\) And as nature tends to unfold before our eyes, with each action, the government program encountered yet another twist and turn as it struggled to maintain its funding and keep ranchers happy. First, it turned out that magpies would get to the poisoned carcasses intended for coyotes. The poison bait being too big to swallow, the magpies would toss aside the poison bait from the carcasses, eat to their hearts’ content, and leave a safe leftover meal for scavenging coyotes. This led to a campaign against magpies that required development of special “processed magpie poison” to stop the birds from thwarting the coyote campaign.\(^{135}\) With both coyotes turning to larger prey because of the lack of wolves, and the decline in their population because of the government’s eradication efforts, the rodent population burgeoned—prairie dogs, porcupines, ground squirrels, gophers, hares, and other small animals that ate grass “entitled” to livestock were the agency’s new targets.\(^{136}\)

Government-sponsored predator extermination continues today under the guise of the Department of Agriculture’s Wildlife Services (WS),\(^{137}\) which is dedicated to controlling predators, as well as more unassuming wildlife, for ranchers.\(^{138}\) The federal government spends approximately $10 million dollars a year to trap and kill predators on both private and public lands, with over seventy


\(^{131}\) ROBINSON, *supra* note 4, at 169.

\(^{132}\) Studies in Yellowstone National Park in the 1990s reveal that the reintroduction of wolves in the park resulted in a dramatic decline in coyotes where wolf packs had established their territories. *Id.* at 170.

\(^{133}\) There is some crossover of prey between coyotes and wolves. Coyotes are unable to consistently bring down a large ungulate unless diseased, starved, or old, and therefore usually prey on rodents. Wolves readily prey on rodents, but have developed cooperative hunting behaviors allowing preying on larger mammals. ROBINSON, *supra* note 4, at 335-36.

\(^{134}\) ROBINSON, *supra* note 4, at 169.

\(^{135}\) *Id.* at 171.

\(^{136}\) *Id.* at 173-174.

\(^{137}\) This agency was formerly known as Animal Damage Control.

\(^{138}\) Ring, *supra* note 130.
percent of this money going to livestock protection.\footnote{Brooks Fahy & Cheri Briggs, \textit{A War Against Predators: The Killing of Wildlife Funded by Taxpayers}, in \textit{Welfare Ranching: The Subsidized Destruction of the American West} 247 (George Wuerthner & Mollie Matteson eds., 2002). Wildlife Services also kills prairie dogs and gophers. Myths established in the early twentieth century led ranchers to believe that these animals compete with cattle for forage, and that less than nimble livestock were threatened with broken legs from stepping in a prairie dogs burrow. There is no scientific evidence supporting these claims. See Why do ranchers believe that prairie dogs compete with cattle and need to be eradicated?, Frequently Asked Questions, Save the Prairie Dogs website, http://www.prairiedogs.org/faq.html#rancher (last visited May 12, 2009).} Trapping is indiscriminate, with coyotes suffering the brunt of the killing.\footnote{In 1999, over 95,000 predators were trapped and killed in the seventeen Western states. Over 85,000 of those animals were coyotes. Fahy & Briggs, \textit{supra} note 139, at 248.} But this indiscriminate trapping also kills animals the government intends to protect. In 2004, 190 Gray wolves and one Mexican wolf were killed.\footnote{Other protected animals are also routinely killed in traps, including bald eagles, along with hundreds of thousands of non-target animals. Federal agents have killed wolves as part of the reintroduction program in the Northern Rockies, but those kills are targeted and are usually limited to wolves that have been found to be preying on livestock. Such numbers are not included in trapping records. U.S.D.A. WILDLIFE SERVICES, \textit{NUMBER OF ANIMALS KILLED AND METHODS USED BY WS PROGRAM} (FY2004).}

Repeated attempts at cutting the funding of WS have consistently been met with opposition from the livestock industry. In 1998, Democratic Representative Peter A. DeFazio of Oregon introduced an amendment to the Department of Agriculture’s appropriations bill to cut all WS funds for lethal wildlife control.\footnote{ROBINSON, \textit{supra} note 4, at 335.} Although the bill initially passed in the House with a 229-193 vote, Representative Joseph R. Skeen, a sheep rancher, recipient of WS services and the chairman of the House agricultural appropriations subcommittee, organized his colleagues while the Farm Bureau worked the congressional offices, eventually defeating the amendment with a 232-192 vote.\footnote{\textit{Id}. at 335-36.} To be fair, it should be pointed out that the economics of livestock ranching in the West has always been a tight market, especially for the family rancher, whose livelihood from ranching constantly teeters on the line of economic success or failure. Estimates in the early 20th century suggest that wolves killed or injured a quarter of all cattle in the region.\footnote{\textit{Id}. at 71.} From this perspective, it is easy to understand why ranchers were so willing to invest both money and political capital in, and local residents were willing to support, predator eradication. Despite this seeming reliance of the livestock industry on predator control, statistics show that most pre-slaughterhouse livestock deaths today are not due to depredation by any type of predator. Over 95 percent of cattle deaths are a result of respiratory problems, digestive problems, birthing, weather, and other non-depredation causes, while depredation only results in 2.7 percent of all deaths.\footnote{Fahy & Briggs, \textit{supra} note 139, at 248.} In areas in the Northern Rockies, where wolf
reintroduction has seen staggering success, livestock losses due to depredation by wolves is still a tiny fraction of the total.146

C. It’s Not Just About Wolves Anymore: The West’s Struggle for Public Land Control

Organized Western ranching groups have been the most vocal and most powerful source of opposition to wolf reintroduction.147 The American Farm Bureau Federation (AFBF), which filed suit in 1994 to stop wolf reintroduction programs in Yellowstone148 and continues to oppose wolf programs, was voted by Fortune magazine as one of the most powerful lobbying groups in Washington, D.C.149 And, possibly because southwestern ranchers rely almost exclusively on year-round use public land to feed their livestock, conflicts between wolves and ranchers is at the most extreme in that region.150 Mexican wolf reintroduction in Arizona has been practically paralyzed by ranching interests, even though only 0.1 percent of Arizonians are ranchers.151 Some proponents of wolf reintroduction view the livestock industry as the main impediment that troubles restoration efforts of wolves throughout the United States.152 “Cows are the fundamental problem from which other problems stem.”153

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146 Ring, supra note 130. Data from the National Agricultural Statistics Service indicate that wolves in Idaho only accounted for 0.4 percent of total sheep kills and 0.6 percent of total cattle kills by predators. Domestic dogs accounted for about 8 percent of sheep killed by predators. Julie Cart, A Reason to Howl, HAMILTON SPECTATOR, Dec. 31, 2005, at D10. Depredation of sheep by domestic dogs was already recognized as a problem in the early twentieth century. See Robinson, supra note 4, at 231-32.

147 Martin A. Nie, Beyond Wolves 47 (2003); Ring, supra note 130. The traditional ranching community, however, may not have as strong of a built-in economic constituency in places of power as many may think. Paul F. Starrs, Ranching: An Old Way of Life in the New West, in RANCHING WEST OF THE 100TH MERIDIAN 5 (Richard L. Knight, Wendell C. Gilgert, & Ed Marston eds., 2002). Some of the most vocal opposition from the ranching community has come from big agribusiness or the “urban émigré” or hobby rancher—those who quit their urban business jobs and move to the West to pursue a rural lifestyle. Robinson, supra note 4, at 358.


150 Gish et al., supra note 77, at 1.

151 Nie, supra note 147, at 136. A 1988 study of New Mexican residents found that statewide 79 percent of residents supported Mexican Wolf reintroduction into New Mexico. However, among New Mexican ranchers, 79 percent opposed wolf reintroduction and only 21 percent supported it. A similar trend was found in Arizona as well. David R. Parsons, “Green Fire” Returns to the Southwest: Reintroduction of the Mexican Wolf, 26 WILDLIFE SOCIETY BULLETIN 799, 805 (1998).

152 See Nie, supra note 147, at 135; Michael J. Robinson, A West Without Wolves: The Livestock Industry Hamstrings Wolf Recovery, in WELFARE RANCHING: THE SUBSIDIZED DESTRUCTION OF THE AMERICAN WEST 227 (George Wuerthner & Mollie Matteson eds., 2002); Telephone interview with Michael J. Robinson, Center for Biological Diversity (Mar. 22, 2006). Return of wolves in Wisconsin, however, has been substantially less controversial, partly because grazing is done almost exclusively on private land. Nie, supra note 147, at 135.

153 Telephone interview with Michael J. Robinson, Center for Biological Diversity (Mar. 22, 2006) (discussing the wolf recovery program in the Southwest).
Much of the rhetoric from the livestock industry focuses on the economic argument that “wolves will ruin ranchers.” For example, in its request for an injunction enjoining the release of wolves into Yellowstone National Park, an area free of livestock grazing, the AFBF claimed that its members would suffer severe economic losses due to wolf depredation on livestock outside of the park. The threat to local ranchers is seen as a threat to rural communities that claim dependence on ranchers spending money in these small towns. Idaho anti-wolf groups, in 2002, for example, ran ads in newspapers throughout the state stating that wolves cause the “catastrophic slaughter of our big game herds, serious livestock predation, loss of wildlife viewing—causing unnecessary and extreme hardship to ‘mom and pop’ businesses.”

In an attempt to ease the hostility toward wolf reintroduction, wolf recovery plans, which do not provide ranchers federal compensation for lost livestock, have allowed private groups to establish programs that pay ranchers for their losses due to wolf depredation. Defenders of Wildlife, a national conservation group, paid out $665,805 in compensation due to wolf-caused livestock losses between the start of the program in 1987 until March 2006. These payments covered the loss of 683 cattle, 1,564 sheep, and 65 other animals (mostly guard or herding dogs). Programs, such as the Defenders’ Wolf Compensation Trust, are not guaranteed, and require ranchers to prove livestock losses were actually due to wolves, which has proved to be a difficult task for some ranchers. Despite the Defenders' program, and evidence that risk of loss from depredation is low, ranchers’ opposition toward wolf reintroduction has remained largely unchanged.

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156 There may actually be financial concern when considering the true family rancher. Small ranches today typically have a net profit of 1 percent. Many small ranchers already do work second part-time jobs to meet income needs. It is hotly contested, however, whether the economic viability of these small, rural towns really depends on ranching. See, e.g., DONAHUE, supra note 80, at 96 (discussing the “myth” that ranching is the economic mainstay of western communities and that “tourism vastly surpasses ranching in generating jobs and revenues.”).


159 Id.


All the rhetoric of rural town struggles to keep their only economic base alive might be just that—rhetoric. Most of the public range today is not run by family-based units, but is dominated by corporate operations or hobby ranchers that do not rely on ranching for income, but just like the lifestyle. One study showed that in eleven western states, only one dollar out of every $2,500 of income earned in those states was directly related to grazing on federal lands. Out of 102 total counties that were grazing dependent, only eleven were found to have more than one percent of total income associated with grazing on public lands. Small family-run ranches tend to be pushed out because the economics of ranching are just not favorable. “[T]he top 10 percent of grazing permit holders control 65 percent of all livestock on BLM property.” French-fry billionaire J.R. Simplot owns fifteen ranches throughout Idaho, Nevada, Oregon, and Utah. The second largest cow and calf operation in the United States, Simplot grazes over 2.3 million acres of BLM and Forest Service land. Simplot’s private ranch property consists of acreage one-tenth of the public land acreage used.

In addition to the economic argument, there is a larger issue at stake for both big business and small ranchers. Wolf reintroduction represents federal intrusiveness on the use and management of both private and public lands where ranchers have historically been given full discretion and the right to use the land practically as they see fit. The Executive Vice President of the Montana Farm Bureau finds that the “whole wolf program is a fraud. The real goal was . . . to expand federal land-use control.” Martin Nie, professor of natural resource policy, agrees that the land-use controversy is at the heart of the opposition to wolf reintroduction. Wolves are a threat to the livestock industry, private property, and the use of public lands because their presence may preclude other activities. Wolves have also been used as a springboard to launch greater opposition against

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162 Nie, supra note 147, at 51. Corporate interests include Anheuser-Busch Inc., hotel giant Barron Hilton, and potato billionaire J.R. Simplot. Id. Hobby ranchers include, for example, people that have come back to ranching after retirement from “urban” jobs. See, e.g., Erin Morrow, The Environmental Front: Cultural Warfare in the West, 25 J. LAND RESOURCES & ENVTL. L. 183, 210 (2005).


164 Id.

165 Nie, supra note 147, at 51. BLM has over 23,000 grazing permits. A 1992 Government Accounting Office report found that 500 of the largest permittees controlled 47 percent of all BLM allotment acreage while the 500 smallest operations grazed less than 0.01 percent of BLM allotment acreage. Just 16 percent of all permittees control over 76 percent of the AUMs available on BLM lands. GOVERNMENT ACCOUNTING OFFICE, RANGELAND MANAGEMENT: PROVIDE OF THE BUREAU OF LAND MANAGEMENT’S GRAZING ALLOTMENTS AND PERMITS 2, RCED 92-213FS (1992), http://archive.gao.gov/d32t10/146906.pdf (last visited May 12, 2009).


167 Rodger Schlickeisen, Farm Bureau vs. Wolves, DEFENDERS MAGAZINE (Spring 1998), available at http://www.defenders.org/rssp98.html (quoting the Vice President of the Montana Farm Bureau).

168 Nie, supra note 147, at 73.
the environmental agenda. The livestock industry has enjoyed decades of economic dominance and use of the public range with little intrusion from government that, for the most part, continues today.

Despite the small fraction of the total regional population that are public land ranchers, and despite the fact that ranchers are vastly outnumbered by other interests in public lands, ranchers have staggering influence in Congress, on national politics, and on regional BLM offices over how public lands will be used and managed. Debra Donahue, professor at the University of Wyoming College of Law, contends that even the most recent attempts at range reform by Bruce Babbitt, while Secretary of the Interior under the Clinton administration, were co-opted by the livestock industry’s “lifestyle” concerns despite a finding that elimination of grazing would provide the most benefit to western ecosystems and other public land users. The opposition, however, is not just about wolves, but extends to any endangered or reintroduced species and general federal control of land management. Reintroduction of even the most benign species has led to controversy.

The growing popularity of ecosystem restoration of public lands and a shift away from a paradigm that favors resource extraction is also central to the wolf reintroduction debate. County Supremacy and Wise Use movements, started in New Mexico have sprung up throughout western communities as shifts in federal land management have challenged the status quo. Craig Miller, a representative of Defenders’ Southwest wolf recovery plan, accredits Wise Use groups as fueling the main opposition to wolves. Although not totally opposed to some government control, these groups favor local control where the impact of regulation will be felt the most, essentially shutting out the public voice on public land management. Such a regime of self-regulation, however, does not take into account the larger public interest in federal land management and ecosystem restoration or the statutory mandates of governing BLM lands, such as the

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169 Id. at 74.
170 There are about 23,000 to 26,300 public land grazing permit holders. Nie, supra note 147, at 48; Donahue, supra note 80, at 67.
171 Donahue, supra note 80, at 67-68.
173 Doremus, supra note 160, at 34 (reintroduction of the California condor and the Bay Checkerspot butterfly both become controversial).
174 Morrow, supra note 162, at 216-17.
176 Morrow, supra note 162, at 216.
FLPMA\textsuperscript{177} that emphasizes the national interest in public lands. “Why should ranchers be the determinant of public policy on public lands?”\textsuperscript{178}

A salient example of the influence the ranching industry has in Congress comes from a lawsuit filed by Western Watershed Project (WWP), a conservation organization based in the Northern Rockies. WWP filed suit against BLM for not following management plans when it emphasized grazing over protection of the Sage grouse, a bird that has not yet been listed as endangered.\textsuperscript{179} A district judge in Idaho sided with WWP and ordered all cows to be removed from 800,000 acres of the Jarbidge Resource Area in Idaho until BLM prepared an environmental impact statement (EIS), a process that was predicted to take at least three years.\textsuperscript{180} Simplot, one of the largest cattle operations in the country, grazes most of the 800,000 acres.\textsuperscript{181} Simplot, however, has a longstanding relationship with former Republican Idaho Senator Larry Craig, who had been extremely successful in pursuing legislative remedies by attaching riders that favor the ranching industry.\textsuperscript{182} Despite the extremely favorable court ruling, WWP, worried that Simplot would call on its strongest backer in Congress for a favor, approached Simplot with a deal which allowed Simplot to keep cattle on the Jarbidge until the BLM prepared the EIS, provided it reduced the herd by 5–10 percent, adjusted the distribution of cattle to protect key grouse habitat, and most importantly, would not pursue legislative remedies contradicting the agreement or the court decision, or take advantage of later favorable legislative enactments.\textsuperscript{183} Simplot’s spokesperson, Fred Zerza, was confident that BLM “will confirm that [Simplot’s] management of the range has been proper.”\textsuperscript{184}

But why has wolf reintroduction provoked more opposition than any other recent native species reintroduction effort?\textsuperscript{185} Wolves have the added controversy of historically being viewed as the “beast of waste and desolation.”\textsuperscript{186} Despite the fact that the public is beginning to see the wolf as a symbol of wilderness and restoration of lands to their past pre-European settler glory, and that tourism dollars spent for a chance to experience the sights and sounds of a Yellowstone wolf has pumped over $20 million dollars per year into the local economy,\textsuperscript{187} and

\begin{footnotes}
\item[178] Ring, supra note 130 (quoting Jon Marvel, head the Western Watersheds Project, a conservation group based in Hailey, Idaho).
\item[180] Id. at 1229.
\item[182] Dunlop, supra note 181.
\item[183] Id.
\item[184] Id.
\item[185] Cart, supra note 146.
\item[186] ROBINSON, supra note 4, at 43 (quoting a 1905 article by President Theodore Roosevelt).
\item[187] Ring, supra note 130.
\end{footnotes}
that reports of favorable impacts on the ecosystem since wolves have returned,188 most ranchers and the ranching industry have steadfastly opposed the presence of wolves on private or public land. The status quo is hard to change. Wolf restoration means the end of agricultural dominance on public land.189 The federal government has encouraged and supported the rancher and rural communities based on extractive use of natural resources since the first expansion westward into a territory once richly abundant with land, timber, minerals, and wildlife. An attempt to restore what was taken “amount[s] to a public confession that the historic conversion of the wilderness to farms and ranches free of predators . . . the life work of early Westerners . . . was an unfortunate mistake.”190

D. The Law’s Reaction

Political opposition has clearly played a role in shaping the legal regimes, the reintroduction plans, and the methods by which wolves are managed. Despite the enactment of the Endangered Species Act191 in December 1973, and the subsequent listing of the Gray wolf in January 1974, it took over twenty years for the first wolves to be released into the wild—even though the first proposed recovery areas, Yellowstone and Glacier National Parks, are large tracts of land uninhabited by either human or cow. A set of concessions made by the federal government in an attempt to appease opposition finally allowed reintroduction in Idaho, Montana, and Wyoming.192 These concessions were: (1) creation and use of the ESA’s Section 10(j) “experimental” population provision and labeling reintroduced wolves as “nonessential”;193 (2) preference of reintroduction based on human land use over biologically favorable habitat; and (3) a promise to limit recovery to a small area of public land and extensive management control over the population. Are these concessions good or bad? It may be hard to say. Certainly, weakening ESA protection with the 10(j) provision has allowed reintroduction to

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189 The mining industry in Minnesota, which represents the main economic base in the region, has not opposed wolf reintroduction. NIE, supra note 147, at 135.


192 This doesn’t end the story, however. The state legislatures continued, and continue to this day, to oppose the presence of the wolf. For example, even after the reintroduction program was authorized, the state legislatures continued to try to defeat addition appropriations for the program even after two releases in 1995 and 1996 occurred. Defeating funding for the program looked good in 1996, but the wolves were doing so well at that point that wolf advocates, rather than face a political showdown that could have threatened the whole program, strategically backed down. Rodger Schlickeisen, Overcoming Cultural Barriers to Wolf Reintroduction, in WOLVES AND HUMAN COMMUNITIES 72–73 (Virginia A. Sharpe, Bryan G. Norton, & Strachan Donnelley eds., 2001).

go forward in the first place. However, basing reintroduction and management plans and choosing habitat on the ability of wolves to accommodate humans, rather than the other way around, may prove to be the main difficulty.

Section 10(j) of the ESA has been used to calm local opposition to species reintroduction since its addition to the ESA in 1982. Largely written to advance wolf reintroduction after strong rancher opposition, section 10(j) created a new category of regulation for introduced species, called “experimental” populations. “Experimental” populations are distinct from populations of the same species already in existence in another geographical area that may be listed as an endangered species. This label, however, carries with it significant consequences. First, experimental populations are treated as threatened species—not endangered species—allowing the Department of Interior to authorize a “take” of the species under certain circumstances. Second, an experimental population is designated as “essential” or “nonessential.” Essential populations are those that are considered “essential to the continued existence of the endangered species or threatened species.” For essential populations, under section 7 of the ESA, the Secretary is required to determine whether a listed species, a species proposed to be listed, or critical habitat occur in the area the project area. Such a finding, called a jeopardy opinion, established a high barrier for a proposed project to overcome. Nonessential populations do not receive section 7 protections. The Department of Interior has never labeled an experimental population as essential.

The practical effect of the experimental, nonessential designation is that there is no designated critical habitat—in other words, no restrictions on public or private land use because of the presence of the species. This provision provides flexible management of the introduced species, and in the case of wolves, allows a rancher not only to harass wolves that wander onto their property, but also to kill wolves that threaten livestock on private property, or apply for a permit to kill a

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194 Id.
195 For a good overview of the ESA and § 10(j), see Doremus, supra note 158, at 18-23; John Andrew Zuccotti, Note, A Native Returns: The Endangered Species Act and Wolf Reintroduction to the Northern Rocky Mountains, 20 COLUM. J. ENVTL. L. 329, 342 (1995).
196 ROBINSON, supra note 4, at 341. Although section 10(j) was enacted to deal with reintroduction of species outside of their current range, it real does seem to be a product of wolf reintroduction efforts. Professor Doremus points out the many instances where the Department of Interior has reintroduced species outside of its current range without the use of the section 10(j) experimental population designation. Among these are the California Condor, Peregrine Falcons, and several plant and small animal species. Doremus, supra note 160, at 22.
201 Id.
203 Doremus, supra note 160, at 21.
problem wolf on public land. Section 10(j) also gives federal agents authority to deliberately gun down problem wolves on private and public land.

The other two concessions the federal reintroduction programs have made can be seen through the stories of wolf reintroduction in both the Northern Rockies and the Southwest. Both local and state opposition in the Northern Rockies, for example, has led to a plan that imposes little, if any, land use control on public land, and has led to a high level of human intervention in controlling wolf dispersal outside of the limited core recovery areas. The recovery plan set up a concentric three-zone management scheme within each recovery area, with protection of wolves decreasing as they move out of the core area. Zones, however, are not defined based on the biologically valuable habitat for the wolf, but on land use. The core area, or Zone I, where wolves have the most protection but can still be killed if depredating on livestock, was defined based on having less than ten percent private land ownership and less than twenty percent grazed land—in other words, land that is likely to be the least productive and be the least desirable habitat for both the wolf and its ungulate prey. Wolf management recovery is promoted in Zone I. Management of land in Zone III, the least protective area where wolves can be killed if loitering around livestock, is given preference to existing land uses, mainly grazing. Habitat requirements for wolves in Zone III are not considered in management plans. Wolf recovery in Zone II, the buffer zone, will only be promoted provided it does not increase chances of conflict with livestock.

Mexican wolf release has met even stronger resistance, and this opposition has limited its recovery areas to small ranges and has thus severely retarded wolf recovery. Despite success of the captive breeding program, it took sixteen years from the completion of the Mexican Wolf Recovery Plan in 1982 to the release of...

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50 C.F.R. § 17.84(3) (2008).
Id.
Id.
Id.
Id.
Id.
the first wolves, all bred in captivity, into the Blue Range Wolf Recovery Area (BRWRA) in Arizona.\textsuperscript{214} Strong opposition from livestock operators initially led to problems of site selection and continues to limit wolves strictly to defined recovery areas. Livestock grazing is extensive and covers a vast range of land in the Southwest. Public land allotments are heavily grazed nearly year-round and the naturally less-productive arid environment results in high grazing pressure between cows and native grazers, and less wildlife density.\textsuperscript{215} Mexican wolves, therefore, must roam further to find enough food, making encounters with livestock more likely.

Recovery area for the Mexican wolf today is limited to about 4.5 million acres in the Apache National Forest in Arizona, and the Gila National Forest in New Mexico.\textsuperscript{216} In order to appease ranchers in southwest New Mexico determined to oppose any federal program, FWS decided at the start of the program that wolves would not be allowed to roam outside of the official recovery area. There is no concentric three-zone management area. If wolves leave the recovery area, they are automatically recaptured and taken back regardless of whether they have preyed on livestock or not.\textsuperscript{217}

Private wildlife conservation groups have also jumped in to ease the opposition and transition to the presence of wolves. Defender’s compensation program, discussed above, attempts to quell resistance by addressing economic hardship due to wolf depredation, while other groups are purchasing grazing permits or conservation easements from ranchers in an attempt to reduce or completely eliminate ranching activity on certain lands.\textsuperscript{218}

Despite the law in place to protect the wolf, and despite federal listing of the Gray wolf in 1974, and the Mexican wolf in 1976 as endangered species, it took over twenty years before the first wolves would be released into the wild.

\textbf{IV. PERMIT BUYOUTS—NEW SOLUTIONS TO OLD CONFLICTS?}

Current efforts promoting wolf reintroduction are either aimed at reducing ranchers’ opposition to wolf reintroduction, or are aimed at reducing actual conflicts between livestock and wolves. Although this section will concentrate mostly on the resolution of conflicts between livestock and wolves, I will first briefly describe the various compensation programs offered by both private and public sources.

\textsuperscript{214} Id.

\textsuperscript{215} Robinson, supra note 4, at 357.


\textsuperscript{217} Id.

\textsuperscript{218} The purchase of grazing permits and easements have not yet been part of any federal species reintroduction plan, and private efforts have been used in limited form to protect endangered species. Most private efforts are targeted at overall ecological restoration, which may key habitat for endangered or threatened species.
A. Compensation Funds

“The single most important action conservation groups could take to advance Yellowstone wolf restoration would be to start a compensation fund. It’s economics that make ranchers hate wolves. Pay them for their losses and the controversy will subside.”219 These were the words of President Ronald Reagan’s National Park Service director, William Penn Mott. And indeed, the Defenders of Wildlife’s Bailey Wildlife Wolf Compensation Trust is entitled to claim to be one of the most important factors contributing to the acceptance of a reintroduction program in Yellowstone National Park and the Northern Rockies.220

The Defenders’ program pays out the market price of stock once a rancher is able to provide proof that a wolf killed the animal. Payment is conditioned on the extent of proof that predation by a wolf occurred. U.S. Fish and Wildlife or U.S. Department of Agriculture (U.S.D.A.) Wildlife Services agents typically make these determinations. The well-known Defenders of Wildlife wolf compensation fund221 compensates 100 percent of market rate for confirmed kills, but only 50 percent for probable kills.222 The main concern is that only about one-eighth of total wolf kills are confirmed and compensated.223

A federally funded, state-run Idaho program goes slightly beyond the Defenders program in compensating for documented losses that are not covered by the Defenders program or by other sources. The Idaho program will compensate for dead livestock because wolves are in the area, although the death was neither designated as “confirmed” or “probable” wolf predation.224 The program presumes dead livestock are the result of wolf predation.225 Rather than being based on market value, a certain number of dollars is equally divided by the number of

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221 Id.
claims filed. Montana has created a compensation board, which is required under the federally approved state’s wolf management plan.

The criticisms of compensation funds are several-fold. First, in most states, only the Defenders program is available, which requires “confirmed” depredation by a wolf. This program may either overcompensate ranchers when they get paid for livestock that died for other causes but the carcasses were scavenged by wolves, or undercompensate ranchers because of the difficulty of determining with the required certainty that depredation by wolves actually occurred. The Defenders plan attempts to correct overcompensation to neglectful ranchers by denying benefits if there is evidence of long-term or habitual presence of dead or dying livestock in the area that attracted the wolves. However, it does not require ranchers to exercise certain practices to otherwise discourage interactions between wolves and livestock. The Idaho supplemental plan attempts to correct the undercompensation problem by paying for practically all losses on the presumption that it was the wolf’s fault. There are two issues with such a plan. First, a majority of cattle deaths are not due to depredation from any kind of animal. Statistics from the U.S.D.A. show that in 2006, only 4.7 percent of livestock deaths are attributable to depredation. The Idaho plan does attempt to exclude payment for nondepredation losses by requiring a rancher to submit documentation of the ranches or nearby ranches normal losses for the last three years, and will only compensate for losses above that average.

However, wolves are not the primary predators of livestock. In both cattle and sheep deaths, U.S.D.A. statistics show that coyotes make up the majority carnivore group—domestic dogs come in second. The Idaho plan does limit compensation of unconfirmed kills only when there are wolves in the area. Although there is data suggesting that coyotes took over the wolf’s niche for killing larger prey—thus turning from small ground prey to cattle and sheep—when wolves were exterminated, there is no data that separates out depredation numbers by carnivore type that is limited to areas where wolves are present. In other words, where there are wolves, there is no data suggesting that coyotes still do not make up a large percent of livestock depredation cases. On top of federal money spent by federal Wildlife Services to trap and kill coyotes and other predators for livestock protection, the Idaho program takes this even further by compensating ranchers for the predators that the traps missed.

228 Guidelines for Wolf Compensation in the Northern Rockies, supra note 222.
229 Out of 4.05 million head of cattle, only 190,000 head were lost from animal predators. The two leading causes of non-predator death were respiratory problems and digestive problems. U.S.D.A. National Agricultural Statistics Service, Cattle Death Loss (2006), http://usda.mannlib.cornell.edu/usda/current/CattDeath/CattDeath-05-05-2006.pdf (last visited June 8, 2009).
230 Id.
Second, compensation programs provide little, if any, incentive for ranchers to learn to live with wolves. The Defenders program limits eligibility if a rancher’s practices border on gross neglect, such as leaving dead or dying cattle out on the range. Idaho’s program does provide a “proactive program” incentive, a 50 percent compensation for out-of-pocket costs, for methods ranchers use to reduce wolf-livestock conflict, but does not require such proactive measures to qualify for compensation for depredation.232

Perhaps the biggest question is how long will compensation programs last. Defenders’ program traditionally used economic incentives to promote protection of endangered species. What will happen once the wolf is delisted? Will compensation funds disappear and opposition to wolves return? There is little data suggesting that compensation programs will have a long-term effect on the attitudes local ranching communities will have towards wolves. Compensation programs do not specifically target livestock-wolf conflicts. Perpetuation of a compensation program—especially one that compensates for all depredation in wolf country—threatens to reinforce that status quo that public lands are for livestock, and if the public wants wildlife on it, somebody other than the rancher has to pay for it.

Compensation funds function mainly to address the economic argument that ranchers just can’t afford to lose livestock to wolf predation. The economic argument should not be downplayed because it is a concern for the small individual rancher.233 However, the economic argument is but one argument among many. For nationally organized ranching groups, such as the AFBF or the National Cattlemen’s Beef Association, federal control over public land use and the continued existence of grazing is the predominant concern.

B. Grazing Permit Buyouts as a Solution to Livestock/Wolf Conflicts

Economists long ago recognized livestock grazing on federal public lands in the arid west resulted in short-term returns and long-term damage and deterioration of the resource.234 As early as the 1960s, proposals of transforming federal grazing permits into a sort of private property that can be bought and sold in the free market began to surface.235 Delworth Gardner, a leading U.S. agricultural economist, recognized that the prerequisites for holding a permit resulted in permits being tied to certain ranches or ranchers, making a free market-type

232 Id.

233 The Defenders’ plan, for example, limits eligibility for their program to non-publicly owned entities with the purpose of shifting economic responsibility from individual farmers and ranchers. Guidelines for Wolf Compensation in the Northern Rockies, supra note 222.


235 Gardner, supra note 234, at 113.
transfer to those who value the permits the most nearly impossible. Gardner proposed that instead of issuing permits for a limited time, the government should issue permits covering allotments—with a right to graze a given number of AUMs—in perpetuity. Those holding the permits could buy and sell them in the free market. Gardner’s proposal still granted the government the ability to reduce grazing, but would be required to compensate the permit owner for the loss of AUMs.

Gardner’s proposal did not gain wide acceptance. It wasn’t until the early 1990s that permit buyouts as a solution to public rangeland problems resurfaced. Professor Jerry Holecheck of New Mexico State University wrote that the most practical solution to the problem of major environmental degradation of riparian habitats caused by grazing and conflicts between recreational use and livestock grazing is for “the government to purchase the grazing permit from the rancher at fair market value on a willing seller/willing buyer basis.” Others, such as Robert K. Davis, former economist serving the Secretary of the Interior, advocated a similar approach to Holecheck’s, except that the market for grazing permits would be open to anyone, including environmentalists, hunting groups, other ranchers, and not just the government. Most recently, the National Public Lands Grazing Campaign, an anti-grazing group, pushed for federal permit buyout legislation. The legislation would compensate livestock operators “who voluntarily relinquish a grazing permit . . . on Federal lands where conflicts with other multiple uses render livestock grazing impractical.” Relinquishment of a grazing permit under this bill would permanently retire the grazing allotment. Depending on the status of funding, priority would be given to permits for areas with certain federal

236 Id. at 113-15, 117. Gardner’s article, however, focuses not on how to transfer permits from livestock grazing to conservation., but on how to allocate grazing most efficiently among ranchers so as to promote efficient grazing that is appropriate for the land in question. Id. at 114-15.

237 Id. at 117.

238 Under the Taylor Grazing Act, the permit holder would still have to graze livestock on the land for which the permit was held. In this scenario, the government is the only actor that could promote conservation efforts by eliminating livestock grazing in certain areas through compensation for loss AUMs. This also remains the case today with current private-party permit buyouts, although permit purchasers can change their livestock grazing practices to be more conservation and ecosystem oriented. See 43 U.S.C. § 315 (2006).

239 Gardner, supra note 234, at 116.


242 See Nelson, supra note 234, at 671.


244 H.R. 3166, 109th Cong. § 4(b) (2003). There are also site-specific bills. See, e.g., Central Idaho Economic Development and Recreation Act, H.R. 3603, 109th Cong. (2005); Arizona Voluntary Grazing Permit Buyout Act of 2003, H.R. 3337, 108th Cong. (2003). Arizona’s legislation was in response to severe drought that has plagued the Southwest in recent years that has led to government closures of certain allotments. A.J. Schneller & John Whitney III, Grazing Permit Buyout Fair Will End Range War, TUCSON CITIZEN, Feb. 27 2004, at 5B.
designations, such as within the National Park System. Critical habitat for species listed under the ESA falls in as the seventh priority of fifteen on the list.

Historically, attempts to get livestock off key wildlife habitat by private organizations proceeded through litigation under the ESA or other public land use laws. For example, the Center for Biological Diversity along with other environmental organizations sued BLM over failures to protect twenty-four listed endangered species, including the desert tortoise, in the California Desert Conservation Area. A settlement was reached to permanently close 43,596 acres of prime tortoise habitat and modification of grazing practices on another 498,662 acres. Because litigation is long, expensive, and adversarial, private organizations are looking to more compromising solutions outside of the courtroom.

Several private conservation organizations have made deals with specific ranchers to purchase their grazing permits, and some have targeted key wildlife habitats. Defenders and the Wyoming Wildlife Society’s Memorial Bear Fund paid $30,000 to retire 40,076 acres of allotments in key grizzly bear habitat in Idaho’s Caribou-Targhee National Forest that park officials had already earmarked for retirement, pending consent of the permittees. Another coalition of conservation

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247 Some examples where litigation was used to remove livestock for at least some period are listed. Permanent removal is not guaranteed. The federal law invoked, the prime organization(s) responsible for initiation of the lawsuit, and the term of removal are in parentheses: Blitzen River, OR (Wild and Scenic Rivers Act; Oregon Natural Desert Association (“ONDAd) and National Wildlife Federation; permanent by legislation); Owyhee River, OR (Wild and Scenic Rivers Act; ONDA, Committee for Idaho’s High Desert and Western Watersheds Project; future grazing contingent on court-ordered EIS completion); Hart Mountain National Antelope Refuge and Sheldon National Wildlife Refuge (National Environmental Policy Act; ONDA, Sierra Club Legal Defense Fund, Wilderness Society and Oregon Natural Resources Council; scheduled for review through management plan update in 2008); Lower Campbell Blue Grazing Allotment (ESA, NEPA, NFMA; CBD, Forest Guardians; through 2011; permanent); California Desert Conservation Area, CA (ESA, California Desert Protection Act; CBD; permanent); Peninsula Ranges Bighorn Sheep Critical Habitat, CA (ESA, California Desert Protection Act; CBD; permanent); Gila River Basin, AZ and NM (ESA; CBD and Forest Guardians; permanent). National Public Lands Grazing Campaign website, http://www.publiclandranching.org/ (click on the “Livestock Removal Successes” tab on the right side of the screen) (last visited May 12, 2009).


groups paid $250,000 for 87,680-acre allotment outside of Grand Teton National Park that had prime bear habitat and at least one resident wolf pack.\textsuperscript{250}

The wolf story, however, is drastically different in the Southwest, where Mexican Wolf reintroduction and recovery has had major setbacks compared to the Northern Rockies program. Progress for wolf reintroduction and recovery in the desert Southwest has been retarded by two facts. First, unlike in the Northern Rockies, ranchers in the Southwest are highly dependent on large ranges of public land for grazing, and often use public lands year-round. Second, large swathes of cattle-free land, like Yellowstone National Park, are unavailable to establish strong base populations of wolves. Wolves are released and contained in small recovery areas that are literally surrounded by livestock. The Center for Biological Diversity (CBD), a non-profit organization dedicated to making Mexican wolf recovery a reality, believes that site-specific permit buyout legislation, such as the proposed Arizona Voluntary Grazing Permit Buyout Act of 2003,\textsuperscript{251} may help minimize conflicts between livestock and wolves.\textsuperscript{252} The program, completely voluntary, was initiated not for wolves, but as a way for small ranchers to escape the severe drought that threatened their financial ruin.\textsuperscript{253} CBD doesn’t see the Arizona legislation as resulting in an end to all livestock ranching in the Southwest. Michael Robinson, Coordinator of Carnivore Conservation for the Center for Biological Diversity, views this legislation as a way for ranchers to use the money from selling their grazing permits not only to keep their private land but to purchase more private land for their livestock operations.\textsuperscript{254} CBD is waiting to see demonstrated success of the Arizona program, which could then be expanded to areas where conflicts between livestock and wolves take place.\textsuperscript{255}

\section*{C. Limits of Grazing Permit Buyouts}

Permit buyout programs have been introduced both on the national level in the form of new legislation, as well as on a smaller scale in non-profit organization-initiated deals with a limited number of ranchers. Federal legislation has gone virtually nowhere. From the perspective of the national livestock interests, a national permit buyout program—even a voluntary one—threatens the existence of livestock grazing on public lands.\textsuperscript{256} These groups with powerful opposition forces, financial backing, and strong relationships with many western

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\textsuperscript{250} Tom Kenworthy, \textit{Coalition Retires Grazing Area in Wyo.}, USA TODAY, Aug. 1, 2003, at 4A.
\textsuperscript{252} Telephone interview with Michael J. Robinson, Center for Biological Diversity (Mar. 22, 2006).
\textsuperscript{253} Schneller & Whitney, \textit{supra} note 244.
\textsuperscript{254} Telephone interview with Michael J. Robinson, Center for Biological Diversity (Mar. 22, 2006).
\textsuperscript{255} Id.
\textsuperscript{256} See, e.g., Jeff Eisenberg, National Cattlemen’s Beef Association, NCBA and the Public Lands Council Oppose Grazing Buyout Programs, http://www.beefusa.org/ goveGrazingPermitBuyouts.aspx (last visited May 12, 2009).
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congressmen, who themselves often are or were ranchers, virtually ensure that federal legislation will not pass.\textsuperscript{257} Private buyouts have been more successful, which at least partially can be attributed to the fact that private buyouts deal with a smaller number of individual ranchers, often times don’t involve government legislation, and therefore have less visibility and less opposition in the national circuit. The size of the program might be the key, as even government-initiated buyouts have worked when applied to limited grazing regions.\textsuperscript{258}

One of the largest drawbacks of private buyouts, however, is the lack of permanency. Under the TGA, non-profit groups that purchase permits from ranchers must either buy the associated ranch land and continue to graze (although a non-profit groups can graze the land in a way it thinks is most beneficial for the species) or relinquish the permit to BLM after it has convinced the office to write grazing out of the management plan for the specified allotments. The second solution, however, is not permanent. BLM can always reinstitute the grazing permits upon review of the management plan. Both the federal buyout legislation and allowing permanent retirement of grazing permits purchased by private organizations would require amendments to the TGA to ensure allotments would not be grazed in the future.

One of the most difficult issues in establishing a permit buyout program is how to target certain grazing allotments that happen to be prime wolf habitat. Previously proposed federal legislation makes buyouts completely voluntary and does not specifically target prime endangered species habitat or sensitive areas for the buyout program. The amount and location of land that would be retired from grazing would depend on the demand for selling permits and the amount of funding made available for the program by Congress. It is likely that ranchers who tend to have lower quality allotments containing little forage will have a greater incentive to sell their permits.\textsuperscript{259} However, these areas are also unlikely to support a high enough population of native grazers required for establishment of a stable

\textsuperscript{257} Western congressmen in both houses of Congress often race to chair subcommittees that oversee range policy, and thus exerting enormous control over federal grazing policy. Thomas L. Fleischner, Land Held Hostage, http://www.publiclandsranching.org/htmlres/ wr_history_politics. htm (last visited June 8, 2009).

\textsuperscript{258} One of the most successful programs occurred in Great Basin National Park. Grazing had been permitted for decades, and was mandated to continue in perpetuity in the original legislation that created national park status for the area in 1986. Park visitors’ complaints about cattle grazing sparked discussions with Senator Harry Reid (D-NV), which lead to an amendment of the original legislation that created the Park. See 16 U.S.C. § 410mm-1(f)(2) (2006). The amendments allowed ranchers to donate their permits to the National Park Service, after which the permits would be terminated. Ranchers were compensated from funds raised by non-profit groups and are allowed to graze on other nearby allotments that are outside of the park boundaries. Sheep continue to graze on portions of the park. Kurt Danielson, Grazing in the Great Basin: A Connection to the Land, (on file with the author).

\textsuperscript{259} Consider the support for state permit buyout programs in drought areas. See Tania Soussan, Buyout Plan Targets Ranchers; Grazing Permits Would Be Retired, ALBUQUERQUE J., January 23, 2005.
wolf population. If funding is limited, the proposed bill prioritized buying permits for allotments located in designated national parks and wilderness areas, with critical habitat for endangered species listed as the seventh priority.

Because reintroduced wolves have been designated as nonessential experimental populations, and because critical habitat designation is not required, the proposed federal buyout program bumps wolf habitat even further down the list. Site-specific legislation, such as the Arizona bill, could help narrow permit buyouts to key locations of prime wolf habitat, but have yet to specifically target such areas. Private buyouts, on the other hand, have the advantage of being able to target key grazing areas, but are still voluntary, and hold-out ranchers could result in habitat fragmentation.

But both federal and site-specific legislation suffer from the potential for fragmentation. Take, for example, the Arizona bill. Although there seems to be a fair amount of support for the Arizona bill, one Tucson newspaper predicted that only twenty-five percent of Arizona permitees are likely to sell their permits, and it is not known which allotments the relinquished permits would cover. Without linking a permit buyout program to site-specific areas targeted to prime wolf habitat, allotments might be retired, but in fragmented sections. Livestock-free allotments might be interspersed with grazed allotments. Although there would be a huge benefit to local species in livestock-free areas, the utility of a fragmented landscape for a species, such as the wolf, that requires extensive acreage for their home range may be limited in both providing large areas of suitable habitat and limiting conflicts between livestock and wolves.

Permit buyout programs also may not provide the right incentives for wolf recovery for many ranchers. Some conservation groups believe that a massive buyout campaign only antagonizes ranchers even more. Others believe that “most ranchers will resist a buyout because they like the lifestyle and they think grazing is a good use of public lands.” With most permit holders being either larger corporate operations or hobby ranchers interested in the ranching lifestyle, such “ranchers” are unlikely to be on the brink of financial ruin and therefore have no need to turn to a permit buyout program because of a few wolves. Hobby ranchers also enjoy agricultural exemptions from the federal and state tax codes for ranching and holding on to permits keeps their property value higher. When the arguments against wolf recovery turn away from the economic argument over to the debate about the control of public land, there is a stronger incentive for hobby ranchers to resist permit buyout programs.

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260 Consider the White Sands Missile Area that was originally cattle grazing land, and later found to be unsuitable wolf habitat.

261 Schneller & Whitney, supra note 244 (a representative from the Grand Canyon Trust, which has been negotiating private permit buyouts, feels that a federal campaign has polarized the situation drastically and has the potential to stymie the work of the Grand Canyon Trust).


263 Id. (quoting Mike Tracy, spokesman for the rancher-friendly Idaho Senator Larry Craig).
Permit buyout programs also do not address conflicts between livestock and wolves on private lands of the base ranches where wolves will inevitably collide with livestock. Proponents of permit buyouts point to the fact that the extra money may allow ranchers to keep their base land rather than sell out to developer, or use the money to buy additional private land to keep their ranching operation functional. But, there are at least two problems with this theory. First, in the Southwest, because the productivity of the land is low, a rancher cannot acquire enough private land to operate a profitable livestock operation without relying heavily on public land grazing. Second, private lands, important for livestock in the cold winter months, are also important for wildlife. More than ninety percent of all listed species have some or their entire habitat on nonfederal lands. Wolves depend on prey that migrate down to the valleys in the winter and depend on these lower elevation areas for denning and raising pups in the early spring. For wolf recovery to be successful, there must also be incentives for tolerance of wolves on private lands on which wolves depend.

V. A NEW APPROACH TO TROUBLED WOLF RECOVERY: SUGGESTIONS FOR THE SOUTHWEST

Change comes slowly. And whether we should end livestock grazing on public lands in the West is not the question that this paper attempts to answer or the position it wishes to advocate. One thing is certain, however—many ranchers have likely been uncooperative with wolf recovery because the message that many groups advocate—that it is either ranches or wolves, not both—threatens their very existence. And proposed permit buyout programs reflect the sentiment that such programs are just a means to an end—that end being the end of public lands ranching. Certainly, anti-grazing groups exist with just that goal (just as anti-wolf groups exist with the goal of once again exterminating wolves). And if history tells us anything, it is that Western skepticism of government regulation is strong. So how should one proceed in the future?

It’s time to move away from the “national” anti-wolf agenda of the AFBA and the NCA and work more directly with local rural communities and ranchers using a more cooperative effort that recognizes ranchers’ interest in continued livestock ranching and the environmental perspective that wolves belong on our public lands. If local ranchers are going to cooperate with wolf programs, there needs to be public support for these ranchers and their stewardship role in wolf recovery.

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264 NIE, supra note 147, at 94.
265 Defender’s of Wildlife has a Wolf Reward Program that awards a landowner $5,000 when a wolf pair breeds on private property. NIE, supra note 147, at 95.
266 See, e.g., National Public Lands Grazing Campaign, http://www.publiclandsranching.org (last visited May 12, 2009). NPLGC is not simply just pro-wolf, but has a larger concern for range ecosystem health and restoration, endangered species conflicts with livestock, and an agenda to end the dominance of livestock ranching on public land. Id.
267 See, e.g., Idaho Anti-wolf Coalition, http://www.idahoanti-wolfcoaltion.org. (group has disabled its website). IAWC’s mission is to “eliminate the Canadian Grey Wolf by whatever means necessary!” Id.
By giving ranchers practical tools to be able to adapt and coexist with wolves, fewer ranchers will have to be the instigators of wolf deaths, and fewer wolves will have to be killed either by ranchers themselves or by federal wildlife managers.

A. Integrated Grazing and Wolf Management Plans

Perhaps the largest failure of wolf reintroduction, particularly in the Southwest, is demonstrated by the stark conflict and vast divide between grazing regulation and wolf reintroduction and management. The Southwest’s reintroduction plan for the Mexican wolf fosters more conflict than coexistence. Mexican wolf recovery is limited to the 4.39 million acre BRWRA boundary—a boundary invisible to the wolf. In addition, even within the BRWRA, livestock graze in the majority of the area year-round. Any wolf straying past this invisible boundary is retrieved and returned, if not shot. Wolves that learn to prey on livestock—even within the “recovery” area—are subject to being gunned down. But grazing permits, or the rules for grazing in wolf country, have not changed. Recovery rules favor ranching, leaving areas of high-quality wolf habitat with herds of cattle rather than elk, and guaranteeing that resource intensive relocation or extermination of problem wolves will continue indefinitely.

What has been the result of such a reintroduction program? The U.S. Fish and Wildlife Service has released nearly 100 Mexican wolves since the inception of the program; at least 117 wolves have been removed either due to conflicts with cattle or because they had died. It was estimated that at the end of 2006, over eight years since the first eleven wolves were released into the recovery area, only about 50 mature wolves remain with less than four breeding pairs. The recovery program’s target goal is 102 wolves with 18 breeding pairs. As the Mexican wolf recovery program teeters on the edge of complete failure, are there any approaches we can take to save it and the Mexican wolf?

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271 Id. at 1755.

272 Juliet Eilperin, A Wolf Saved From Extinction but Snared in Politics, WASHINGTON POST, Mar. 31, 2008, at A06. One article reports that at least 59 wolves have been killed or permanently removed by wildlife managers, and 25 have been confirmed as shot and killed by poachers. John Dougherty, No Where to Hide, HIGH COUNTRY NEWS, Dec. 24, 2007, at 12.

273 Eilperin, supra note 272.
B. Retiring Grazing Permits in “Hot Spots”

Studies show that livestock depredation by carnivores occur in “hot spots,” or small areas that have recurring attacks. For example, the Adobe-Slash Ranch in New Mexico has had at least 21 wolves shot or permanently removed for preying on cattle on the ranch. One female wolf that preyed on cattle at Adobe-Slash Ranch was captured, held in captivity for several months, and then released with her mate about 40 miles away from the ranch. The pack soon made its way back to the ranch and set up a den only several miles away. Several studies have attempted to determine the reason why some farms experience chronic wolf depredation. A Minnesota study of eleven farms showed that chronic losses tended to occur on larger farms, farms with more cattle, and farms that had herds further away from human dwellings. A Montana and Idaho study found similar results to the Minnesota study, as well as higher depredation rates when cattle grazed in areas with higher percentages of tree cover or in pastures during denning season where wolf dens were present. The presence of wolf denning is clearly a factor in higher depredation rates.

Livestock conflict hotspots should in large part drive both range and wolf management. Grazing permits in hot spot areas should be permanently retired. Ranchers should either have the option of getting compensation for permanent retirement of those permits, or be allowed to exchange the permits in hot spot areas for other allotments that are less likely to be prime wolf habitat. It may be difficult to establish where depredation hot spots will occur prior to wolf reintroduction. But with flexibility built into the grazing permit program within the integrated grazing and wolf management plan, ranchers as well as agencies could work to avoid conflicts between livestock and wolves without deadly results for either livestock or wolves. According to studies in France looking at lynx depredation of sheep, 33-69% of the depredation occurred on only 0.3–4.5% of the geographic study area. This and many other studies indicate it is likely that wolf depredation

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274 Stewart Breck & Tom Meier, Managing Wolf Depredation in the United States: Past, Present, and Future, 19 SHEEP & GOAT RESEARCH J. 41, 43 (2004), available at http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1081&context=icwdm_usdanwrc. A study in France of lynx attacks on sheep found that within a given area, 33-69% of attacks occurred on 0.3-4.5% of the geographic range. Id.

275 Dougherty, supra note 272, at 15-16.


278 Id.

279 Depending on the extent and reason for the hot spot, it’s possible that rather than retiring a permit, proactive measures could be used to effectively reduce conflicts between livestock and wolves. These measures are discussed infra Part V, D.

hot spots will consist of a very small portion of the total grazing range. Moving livestock away from hot spot regions to other allotments may have the largest potential of reducing livestock/wolf conflicts without antagonizing ranchers.

The Great Basin National Park project provides a salient example of trading permits in a case where livestock were in conflict with another large carnivore—humans.281 Although depredation wasn’t the problem, increasing numbers of complaints came from visitors that did not see livestock grazing as compatible with the national park experience. Ranchers relinquished their permits in the park for permits in other nearby allotments and on private land. A local rancher described the outcome as a win-win situation—ranchers could hold onto their heritage and proceed with ranching while assisting in conservation.282

C. Use of Partial Buyouts

Wolves are generally attracted to areas where there are large numbers of base prey, such as elk.283 Although it is not completely understood why, larger numbers of base prey may give the predator an increased probability that the herd will contain a weak or compromised individual.284 Studies in Idaho and Montana suggest that the number of cattle may be a factor in the extent of wolf depredation, with larger herds experiencing higher depredation rates.285

A partial permit buyout is another method that could help reduce livestock/wolf conflicts. Ranchers willing to reduce their AUMs on certain allotments can either exchange their “partial” permit for alternative “partial” permits on other allotments or for a one-time “partial” compensation. Less cattle or sheep per herd may also make proactive measures, discussed below, more effective. Because of the complex nature of livestock/wolf conflicts and the large number of variables to each region, reducing the number of cattle to decrease depredation rates, like many of these proposed solutions, must be considered on a case-by-case basis.

D. Proactive Grazing Permits to Incentivize Best Management Practices

Conflicts between livestock and wolves on many allotments may be reduced by proactive measures, such as the use of guard dogs, efficient carcass removal or rendering carcasses distasteful with lime, placing livestock-specific watering systems to draw livestock away from natural water sources frequented by wildlife, and increased monitoring of livestock on horseback. A Defenders of Wildlife’s


281 Danielson, supra note 258.
282 Id.
283 Bradley & Pletscher, supra note 277, at 1262.
284 Id.
285 Id. (Note that these studies were conducted in fenced pastures, not open range).
Proactive Carnivore Conservation Fund already helps ranchers implement these proactive measures both through education and funding.\textsuperscript{286}

Non-profit organizations, such as Defenders, have taken great strides and expense to work with ranchers who are committed to being good stewards of the land and wildlife. However, an integrated grazing/wolf management plan should also provide incentives to ranchers to adopt such measures to reduce livestock/wolf conflict in wolf country. Lower grazing fees for ranchers who demonstrate the use of proactive conflict reduction methods on public land, as well as tax incentives for using proactive measures on private land, will help provide incentives through monetary aid.

Incentivizing proactive measures is a way to begin the road to coexistence or ranching with wolves. Since the beginning of large-scale ranching in the west, we as a nation have given every signal to the rancher and rural communities that it is better and easier to exterminate wildlife—particularly predators—than to live with them. The voice of much of this nation has changed, but we have not given ranchers the pragmatic tools to change the way they have raised livestock for generations. Government-sponsored programs aiding the ability to implement conflict-reducing measures to encourage coexistence into grazing permits could just be the start of a new generation of ranching with wolves.

\textbf{E. Alternate Fee Structures}\n
Grazing fees are a very political and highly contentious subject. The annual grazing fee on public land of $1.35 per AUM has remained constant since President Ronald Reagan signed Executive Order 12,548 in 1986.\textsuperscript{287} Interior Secretary Bruce Babbitt proposed raising the fees in 1994 to $1.98, with annual increases to $3.96 by 1997,\textsuperscript{288} but that proposal was met with intense resistance and eventually defeated.\textsuperscript{289}

What I propose is a shift in fees between ranchers. Reduced grazing permit fees from ranchers using proactive conflict prevention measures could be covered by slightly raising fees on allotments where wolf populations do not exist. This may help future reintroduction programs by letting ranchers know that they will not bear all the burden of the cost of wolves.

\begin{footnotesize}

\textsuperscript{287} Exec. Order No. 12,548, 51 C.F.R. 5985 (1986).


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VI. CONCLUSION

The troubled history of wolf recovery continues today in areas like the Southwest. Whether any grazing is an appropriate use of our public lands is a question that will continue to be asked as more scientific data is collected on the ecological impacts of livestock and public perception continues to change. But while this battle plays out over the next few decades, wolf reintroduction and recovery, particularly in the Southwest, cannot wait for the final answer to that question. Making the rancher a partner in wolf recovery through the use of integrated grazing and wolf management methods may provide a better and faster route to reestablishing wolf populations in the West.