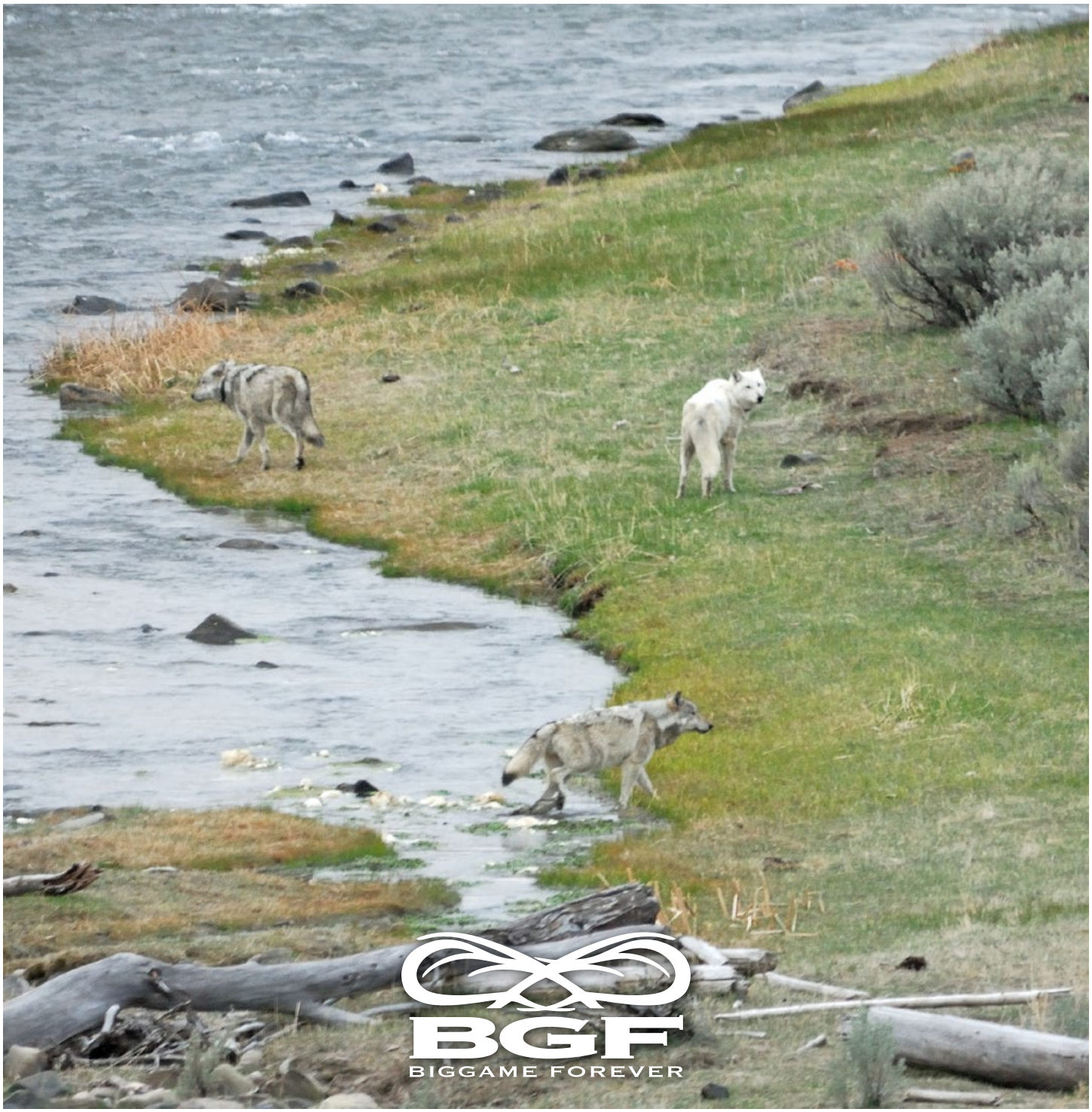
# ANNUAL REPORT

## UTAH WOLF MANAGEMENT

CONTRACT NO. 186114 | BIGGAME FOREVER | DECEMBER 31, 2019



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BIGGAME FOREVER

90 WEST 500 SOUTH #428
BOUNTIFUL, UT 84010

www.biggameforever.org

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# INTRODUCTION

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This report is submitted in compliance with State of Utah Contract 186114. The contract requires Big Game Forever (BGF) to provide a "summary report of accomplishments to DWR." The focus of Big Game Forever's efforts pursuant to its contract with the State of Utah has been to restore State management authority over wolves in Utah. This is consistent with our contractual obligations with the State of Utah and pursuant to Utah statute that states, "It is the policy of the state of Utah to legally advocate and facilitate the delisting of wolves in Utah under the Endangered Species Act and to return management authority to the state." See Utah Code 23-29-101-(10).

## WOLF-DELISTING EFFORTS

BigGame Forever is committed to protecting and restoring a bright future of abundant world-class wildlife in the breathtaking landscapes of the state of Utah. State management of these herds and management flexibility to carefully regulate wolf populations are critical to protecting elk, moose, deer, and other native wildlife in Utah. Utah's $2.4 billion outdoor and hunting industry depend on our success.

Over the last nine years, BigGame Forever has led the effort to protect Utah's world-class herds of elk, mule deer, moose, and other native ungulates from unmanaged wolf populations. BGF has led efforts to permanently delist wolves through administrative and congressional action. Now that wolves have been confirmed within Utah, wolf delisting is more important than ever. Ensuring careful management of Canadian Gray Wolves is not about an anti-wolf ideology. It is about protecting a future of abundant wildlife in Utah for future generations.

BigGame Forever has made tremendous progress on wolf delisting. Our team of legal and political professionals and nationwide grassroots network have been at the forefront of five major achievements to return wolf management to Utah, including:

1. Administrative delisting of Gray Wolves in Idaho, Montana, Wyoming and a small portion of Utah.
2. 2011 congressional delisting of gray wolves for Idaho, Montana and Utah, which includes litigation safe harbor language.
3. Successful defense of congressional delisting in federal district court and the Ninth Circuit Court of Appeals.
4. Amended Mexican Wolf plan, moving northern recovery boundary from Interstate 70 in Utah to Interstate 40 in Arizona.
5. Nationwide delisting of gray wolves (Canis Lupus), published during the Obama Administration and once again moving toward delisting within the current U.S. Department of Interior. This delisting will return state management authority over wolves across the entire state of Utah.

Here is why management flexibility to carefully regulate wolves in Utah is so important. The experimental, non-essential introduction of Canadian Gray Wolves into central Idaho and Yellowstone National Park has had major deleterious consequences for wild game populations in Idaho, Montana, and Wyoming. Growth of wolf populations was rapid, impacts to game herds dramatic, and the loss of funding through the North American Model of Wildlife Conservation was almost immediate. We have learned from this experience how vital state wolf management is to protect wildlife populations. We have also learned that it can take years of legal and political efforts to restore wolf-management authority to state wildlife managers.

In the Northern Rockies, it took approximately 15 years and an act of Congress to restore this management authority to the states. In the meantime, wolf populations climbed from 300-500 wolves to over 1,700 wolves in the three-state area. The impacts to many of North America's most important herds of Rocky Mountain Elk, Mule Deer, and Shiras Moose were devastating. Ensuring Utah does not repeat the same mistakes is vital to protecting native wildlife populations in Utah. This is why the effort to delist wolves is so important to BGF.

## RECENT DEVELOPMENTS

**H.R.6784 - Manage our Wolves Act.** On November 16, 2018 the House of Representatives passed legislation to remove federal protections from the gray wolf range wide. The passage of this bill clearly signals support from congressional leaders to delist the gray wolf and is a large step toward a legislative solution. This is a major development and a big step toward permanent solutions to the wolf issue.

**Delisting Rule.** On March 14, 2019 the U.S. Fish and Wildlife Service published a proposed rule to delist the gray wolf across all of the lower 48 states. This is another major step toward permanent delisting. The USFWS press release celebrated the delisting rule as a success story of the Endangered Species Act. They stated it was clear that the gray wolf 's recovery has exceeded every scientific criteria for wolves to be removed from federal protection under the Endangered Species Act. If the delisting rule is finalized management of gray wolves will be returned to each respective state to administer according to its individual needs.

**Public Comment Period Opened and Extended.** A 60 day public comment period opened following the proposed delisting rule. On May 13, 2019 the comment period was extended for another 60 days and ends on July 15, 2019. To date there have been over 600,000 comments posted. Generally the extension can be seen as a positive thing in that the USFWS will have taken ample time to consider all points of view prior to making their final delisting decision.

**Public Hearing.** On June 25, 2019 the USFWS hosted a public hearing to take comments on the agency's proposal to remove the gray wolf from the List of Endangered and Threatened Wildlife in Brainerd, Minnesota. The public hearing included a presentation and question and answer session where interested parties could learn more about the proposed delisting rule and the science behind the decision. This meeting was attended by representatives of BigGame Forever and our partner organizations who provided support as well as written and oral comments at the hearing.

**S.3140 - American Wild Game and Livestock Protection Act.** On December 19, 2019 Utah Senator Mike Lee introduced legislation that will require the Secretary of the Interior to issue a final rule relating to the delisting of the gray wolf under the Endangered Species Act of 1973. The bill was cosponsored by fellow Utah Senator Mitt Romney, Senator Steve Daines of Montana and Senator Ron Johnson of Wisconsin. We continue to build the support this bill will need to pass in both the Senate and the House. The bill includes a provision that it will not be subject to judicial review, which protects it from needless and repeated litigation from wolf activists.

*“Ensuring Utah does not repeat the same mistakes is vital to protecting native wildlife populations in Utah.”*

# UNDERSTANDING THE ISSUE

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## OVERVIEW

Utah is home to world-class wildlife herds and a $2.4 billion outdoor and hunting industry. Many Utahns are unaware of how important Utah's outdoor and hunting industry is to the state. Not only does it contribute to Utah's tremendous economic prosperity, it provides jobs for thousands of Utahns and supports the health and viability of communities across the state. It supports the wildlife, landscapes and experiences that provide a special dimension to the life of hundreds of thousands of Utahns. One of the driving factors for this flourishing industry is Utah's world-class herds of Rocky Mountain Elk, Mule Deer, Shiras Moose, Bighorn Sheep, Wild Bison, Mountain Goats, Antelope, and other wild game populations. Hunting and outdoor products provide tens of millions of dollars annually for conservation of these and hundreds of other species in the state. Protecting these species is critically important to protect this economic prosperity, jobs, and funding for conservation of healthy and robust native wildlife for Utah and its citizens.

## IMPACTS OF WOLVES BEING LISTED IN UTAH

**Decline of Wildlife.** The rapid growth of Canadian Gray Wolf populations and the resulting decline of key elk, moose, deer and other wildlife populations in the Northern Rockies has been a significant conservation issue in the western United States. In particular, important elk and moose herds in wolf states of Idaho, Montana, and Wyoming are showing dramatic declines. Some wildlife herds, such as the Northern Yellowstone Elk Herd have lost as much as 80-90% of their population. Family ranchers are also feeling the impacts of livestock depredation and economic loss from unmanaged wolves. A major reason for these declines was the failure to maintain wolf populations at sustainable levels after they were introduced. Even with years of wolf management after congressional delisting of wolves in 2011, recovery of these herds has been a slow and difficult process. It appears that some of these herds will take decades to recover--if they recover at all.

**Wolves in Utah.** The influx of Canadian Gray Wolves into Utah is likely inevitable. The important question is whether the State of Utah will have management authority to protect our native ungulate herds when gray wolves begin to arrive in the state. In 2014, a wolf was confirmed in central Utah when a coyote hunter accidentally killed the animal.

### Efforts to Educate the Public and Build Support for Wolf Delisting in Utah

Through BigGame Forever's efforts, public support for wolf delisting is now well-established. BigGame Forever's educational and public outreach efforts have been and will continue to be an important part of building support for and implementing lasting wolf-delisting solutions for Utah. Our understanding of issues surrounding wolves and protection of wildlife in Utah have been

critical to our success. We have found that the public has a high level of support for conservation of and protection of native ungulate species including moose, elk, and deer. Our extensive research and outreach efforts have allowed us to educate the public on the importance of wolf management to conservation of wildlife. Our outreach strategy involves the following:

1. Educating the Public
2. Recruiting New Supporters
3. Mobilizing BigGame Forever Members

## The Message

**It's About Conservation of Native Wildlife.** One critical component of the public outreach campaign is the message we share with the public. Wolf delisting for the state of Utah is not only about restoring state management authority over the species. More importantly it is about conservation of elk, moose, deer and other native wildlife in the state. Wolf delisting and restoring state management authority will allow Utah to protect its wildlife, livestock, outdoor recreation, and rural economies from the impacts that have been documented in Idaho, Montana, and Wyoming.

**Learning From the Mistakes of the Northern Rockies.** One major educational initiative is to help the public understand the dramatic declines of wildlife when wolf management is delayed. When wolves were introduced into the Northern Rockies, promises were made that once wolves reached a recovery objective of 300 wolves, they would be delisted and returned to state management authority. Almost immediately demands were made to increase the number to 450 wolves to provide a 50% population buffer. Repeated lawsuits and administrative processes lasted for almost a decade before meaningful wolf management could begin. By the time wolves were delisted in the Northern Rockies DPS, wolf populations had reached 1,700 wolves and wildlife

populations plummeted. This should serve as an important cautionary tale to people concerned about wildlife conservation in Utah. Here are two important lessons:

1. Do not wait to manage wolf populations.
2. It takes years to secure wolf-management authority even when desperately needed to protect native wildlife.

## Economic Impacts of Unmanaged Wolves

**Economic Impacts of Declining Wildlife.** In Northern Rockies wolf states, declining wildlife populations have dramatically impacted revenue for state wildlife agencies. One article reports that the states of Montana and Idaho are losing millions in revenue due to the loss of abundant wildlife herds of deer and elk (see Exhibit 3 in appendix). Additionally, these state wildlife agencies face substantially increased costs for recovery of impacted wildlife populations and for management of Canadian Gray Wolves.

The total annual economic loss to the states of Idaho, Wyoming and Montana serves as a warning for other states. For example, the state of Idaho has determined that it is now losing as much as $24 million in sportsmen generated revenue annually (see Exhibit 4 in Appendix). When loss of sportsmen generated revenue is combined with losses experienced by livestock producers and increased costs associated with wolf management and mitigation, the total annual economic impacts in Idaho is much higher. Economic impacts from unmanaged wolves are not limited to Idaho. The states of Montana and Wyoming are also experiencing high levels of economic impact as a result of unmanaged wolves. Considering existing burdens on rural economies, the economic impacts experienced in Idaho, Montana and Wyoming show there are legitimate concerns regarding the economic impacts that unmanaged Canadian Gray Wolves could have in Utah.

**Impacts to Grazing.** Economic impacts in these states are not limited to wildlife. U.S. Fish and Wildlife Service confirms wolf predation on cattle, sheep, horses, pets and other domestic animals in Idaho, Montana and Wyoming. However, many actual livestock kills by wolves are not included in USFWS wolf predation statistics. This is due, in part, to practical considerations related to finding and reporting livestock kills within the short time frame in which wolf predation can be confirmed. This is also a result of the evidentiary restrictions and the exclusionary nature of the USFWS wolf depredation review process. In fact, USFWS acknowledges that its statistics of confirmed livestock kills by wolves is likely only 1/6 of actual numbers (see Exhibit 5 in Appendix). This is supported by statistics from the U.S. Department of Agriculture showing that 8,100 cattle were killed in the United States by wolves during 2010 (see Exhibit 6 in Appendix). Documented domestic sheep losses are even higher than cattle losses (see Exhibit 5 in Appendix). Financial costs to livestock producers are not limited to livestock killed by wolves. Low body weights, diminished reproductive success and other issues resulting from excessive predatory pressure by wolf packs further precipitate financial losses. Private individuals and hard working rural communities bear most of the financial burden associated with depredation by wolves.

## Impacts to Wildlife

**Utah Wild Ungulate Populations Much Smaller than Northern Rockies.** Because Utah's herds are much smaller than the Northern Rockies herds, decline of elk, moose, and deer could occur much more rapidly. One reason for concern regarding impacts of wolf predation on wild ungulates in Utah relates to the small size of Utah's ungulate herds. Wolves consume a huge amount of game. Just a handful of elk herds in Utah could even support a single wolf pack. Even more importantly, unmanaged wolf predation would quickly decimate virtually every herd in the state.

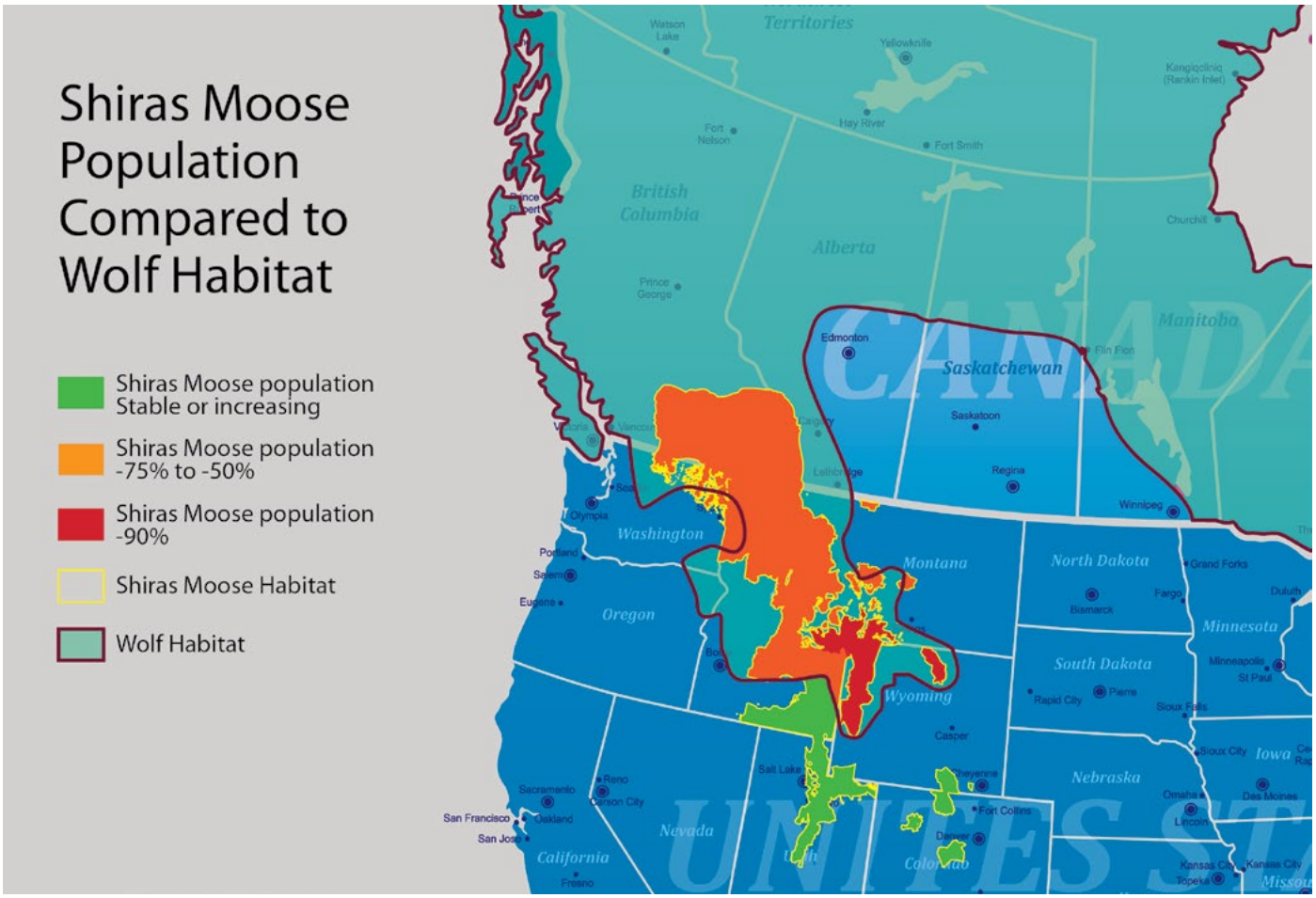
Here is how this occurs. Large numbers of ungulates are needed to support a pack of wolves. In fact, some scientific estimates suggest each wolf consumes 15-30 elk per year. Wolf packs can vary from seven wolves in a pack to as high as 20 wolves in one pack. This means one pack of wolves could consume as much as 300-600 elk in one year.

If a wolf pack kills 300-600 elk in a year, it can take a population of as much as 3,600 elk to support a single wolf pack sustainably. This is due to the natural reproduction rates of elk herds and the importance of replacing natural mortality within elk herds. Considering that normal mortality on adult elk and calf elk are already high, this leaves very little room for error before a elk herd declines. In a stochastic event such as a hard winter, wolf predation can mean insufficient calf recruitment to recover the herd before the next stochastic event. This leads to a rapid decline of the herd.

Just as important, wolf populations do not regulate themselves. Instead, population growth occurs very quickly. As a result, wolf populations and wolf predation are at levels that are much higher than can be supported by local prey base. The result is that in just a few short years native ungulate populations often decline dramatically. While many of the wilderness herds in the Northern Rockies had populations of 16,000 to 20,000 elk, within 20 years many of these herds had experienced declines of 80-90%. In Utah the situation is even more delicate. Just one elk population in Utah exceeds 10,000 elk. A few units have 5,000 elk, but most elk herds live in much smaller numbers in pockets of suitable habitat across the state In the absence of careful and aggressive management, wolves could quickly decimate many of Utah's most important herds of elk and deer.

**Wolf Predation, Young Elk/Moose, and Recruitment.** It is also important to help the public understand how wolves impact survival of young elk, moose and deer and why this is so important to the health of native ungulate populations. The impact of wolf predation on survival of young elk, moose, and deer is significant. In healthy wild ungulate populations, wildlife managers typically aim for survival rates of 35-50 calves/fawns per 100 cows/does. This ensures adequate replacement of adult animals lost to natural mortality, highway mortality, and other factors. Unfortunately, while wolves do predate on adult male and adult female elk, moose, and deer, they appear to prefer young calves and fawns.

In many areas with unmanaged wolves, survival rates drop to a mere fraction of healthy levels. In many cases survival drops to as low as 10 calves/fawns per 100 cows/does. This is insufficient for survival of these wild ungulate herds. When large stochastic events such as drought, harsh winters, or other high mortality events occur, herds numbers plummet. With high predation rates, recruitment of young elk, moose and deer is simply not sufficient to restore herd numbers. Given the cyclical nature of stochastic events in western habitats, within two or three generations (10-20 years) populations are a mere fraction of their previous numbers. Therefore management of wolves is so critical to protect survival rates of young calves and fawns and for long-term health of game herds.




*(Above) Map showing worldwide Shiras Moose population/range compared to wolf habitat*

**Fully Endangered vs ESA§10(j) Population Management Considerations.** Another problem relates to the lack of wolf management in Utah for livestock attacks. In the Northern Rockies DPS, most wolves lived in areas designated at ESA§10(j), experimental, non-essential populations. In these areas, wolf removal was allowed for livestock predation by USDA wildlife services. Due to the high levels of livestock depredation, literally hundreds of wolves were lethally removed in the 1990's and 2000's. In these areas, professional wolf control regulated wolf numbers and impacts to wild game populations were not as drastic as the large wilderness areas where few wolves were removed for attacks on livestock. Nevertheless, a decade of delays in wolf delisting, wolf numbers and wolf predation were simply unsustainable. Many herds of elk, moose and deer were devastated by unmanaged or undermanaged wolves.

**Speed of Native Ungulate Decline.** In Utah, wolves are currently classified as fully endangered. What this means is that take provisions that were used in the Northern Rockies for depredating wolves are unlikely to be available in Utah. This also means that wolf population growth could be even more extreme than in the Northern Rockies. Impacts to wild ungulates could be more severe and occur in a shorter period of years.

In the Northern Rockies, wolf populations grew from 30 wolves in 1995 to 1,700 wolves in 2010. In that same period, several herds of 15,000 to 20,000 elk declined to 1,600 to 3,500. These dramatic declines occurred even with the lethal removal of hundreds of wolves for depredation of livestock. Considering the additional restrictions on management in Utah under a fully endangered designation, there is significant reason to be concerned about influx of wolves into Utah without immediate management authority.

## Shiras Moose

**The Threat to Utah's Shiras Moose and Shiras Moose Worldwide.** One of the most sensitive species threatened by the introduction of Canadian Gray Wolves into Utah is the Shiras Moose. Utah is an important safe haven for Shiras Moose worldwide. Unregulated wolf predation in Yellowstone, Jackson Hole, and northern Idaho has led to the dramatic decline of Shiras Moose across most of their range. Moose populations in Montana also appear to be suffering similar declines. Because of the level of predation, moose populations in Utah, Colorado, and southern Wyoming are some of the last remaining healthy Shiras Moose herds in the world. In fact, there are more moose in the mountains surrounding Salt Lake City than Yellowstone, Jackson Hole, and the Bighorn Basin combined. These areas were once the heart of Shiras Moose populations worldwide.

Despite the relative abundance of Shiras Moose in Utah, the species resides in fairly low densities. In fact, moose populations in Utah total approximately 3,000 moose. Numbers in Colorado are closer to 5,000 moose. It is vital for long-term survival of the species that the States of Utah and Colorado can manage wolf and other large predators to protect the health of Shiras Moose. With current Endangered Species Act protections, Utah does not currently have wolf management authority except in the northern portion of the state that resides within the Rocky Mountain DPS boundary. This is a serious and precarious situation for wild game conservation in Utah. BigGame Forever recently developed a video explaining the importance of wolf and predator management to protect and restore Shiras moose populations in America.

**Impacts to Shiras Moose Across the Range.** Here is why wolf management is so important to Shiras Moose. When wolves were introduced into Yellowstone, federal environmental documentation predicted that moose would largely be unaffected by growing wolf populations with 5-13% decline of Shiras Moose. Shiras Moose is one of the most important indicator species. Shiras Moose are the largest deer species in the Western United States. In fact, almost the entire worldwide population of Shiras Moose is found in Idaho, Montana, Wyoming, Washington State, Utah, and Colorado. The following provides a more detailed overview of impacts to Shiras Moose in America.

**Moose in Yellowstone.** America's moose are in serious trouble. Nowhere is this decline more pronounced than in Yellowstone. Yellowstone National Park and the Yellowstone Ecosystem were the heart of America's moose population 20 years ago. There were literally thousands of moose. People traveled from all over the world to Yellowstone to view and photograph moose populations.

*(Below) A cow moose and its calf in Yellowstone National Park*

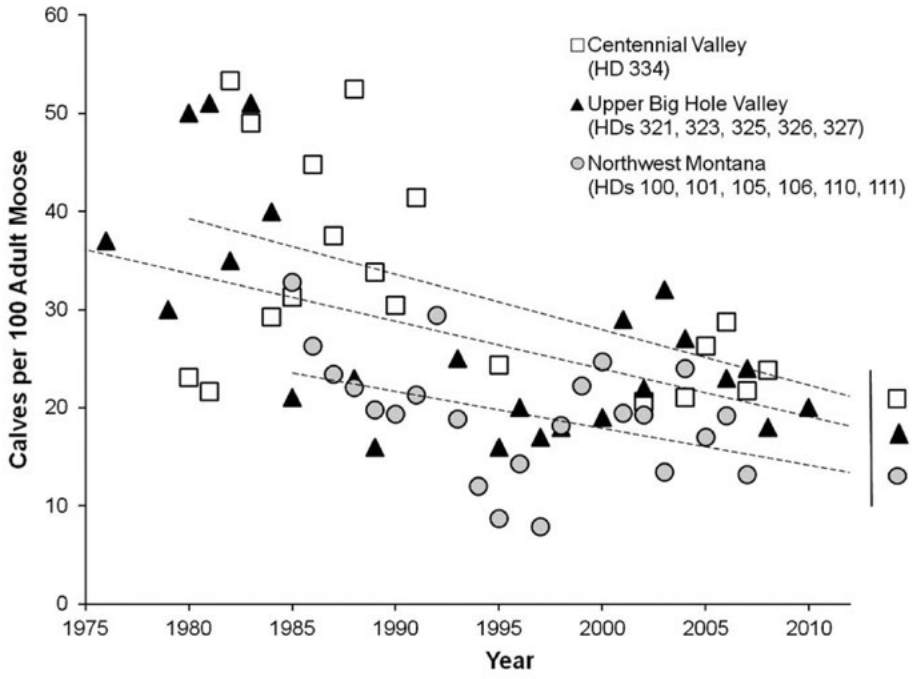



Fig. 5. Annual moose calves per 100 adult recruitment data and associated linear regression trend lines calculated from fixed-wing and helicopter late winter aerial surveys in 3 regions of Montana, 1976–2010.

*(Above) Calves per 100 adult moose in Montana*

Very recently, efforts to count moose in Yellowstone show just how dire the situation has become. Reportedly, biologists flew over 350 miles of prime winter range in Yellowstone over seven hours, under prime viewing conditions. This is the best time of year to count moose. But only six total moose were located. Even the most optimistic population calculations project that there are less than 100-300 moose left in Yellowstone National Park. Most who have been watching the issue more closely indicate that the real number is likely much lower. The near extirpation of moose from Yellowstone National Park is a tragedy of modern conservation. It is also a cautionary tale for states like Utah and Colorado that still have stable or growing moose populations. While these states have many times the moose in Yellowstone, Jackson Hole, and Wyoming's Bighorn Basin, total moose numbers in Utah and Colorado are approximately 8,000 moose. What this means is that if, or when, wolves move into these states, America's remaining Shiras Moose could be decimated in just a few short years.

**Moose in Montana.** Research of first source material conducted by BigGame Forever shows that moose decline extends far beyond Yellowstone. Since wolves were introduced into Montana 20 years ago, survival of young moose has plummeted. In fact, calf moose survival has declined from 50 calves per hundred cows to approximately 20 calves per hundred cows just 20 years later. This level of calf recruitment is not enough to maintain or protect moose populations in the state. See Figure 5 above.

Predation by wolves is a major concern to moose biologists. Here is a very telling quote from this report on moose populations in Montana:

> *While predation was not considered a concern 40 years ago (Schladweiler 1974), the expanded composition and abundance of predator species may have the potential to limit local moose populations. Predation was the most common concern of regional biologists relative to moose population dynamics.*
>
> *Research on winter prey selection by recolonizing wolves in the North Fork of the Flathead River drainage from 1986-1996 indicated that while wolves disproportionately used areas where deer were concentrated, they pref-*

*erentially killed larger moose and elk over more abundant deer. Moose, particularly calves and cows, comprised a greater proportion of wolf kills as winter progressed (Kunkel et al. 2004)(see Exhibit 7 in Appendix).*

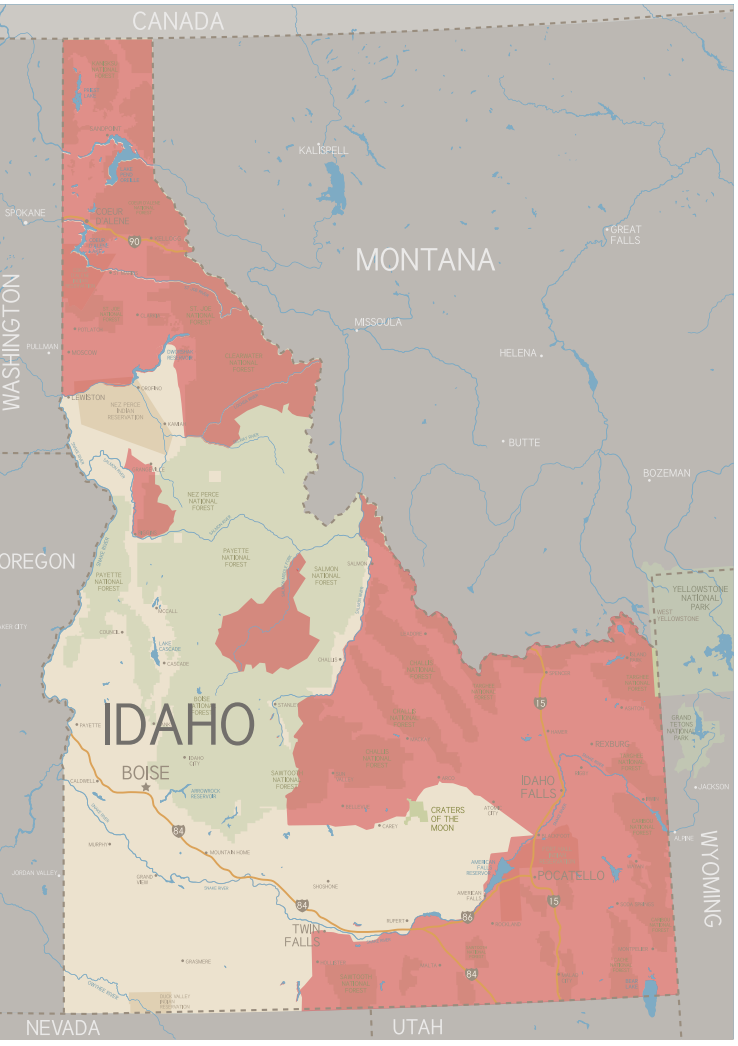
**Moose in Jackson Hole, Wyoming.** Before Canadian wolves were introduced into northern Wyoming, moose in Jackson Hole, Wyoming numbered 3,000 to 5,000 moose. Today, less than 20 years after the experimental wolf introduction, there are less than 450 moose left in Jackson Hole. This is a 90% reduction in moose in Jackson since Canadian wolves were introduced into Northern Wyoming.

Here is a quote from one scientific study showing just how dire the situation is for moose in Jackson Hole, Wyoming:

> *This* [moose] *population is 88% below its postseason management objective. Native moose populations naturally expanded and colonized the Jackson area in the late 19th century. The species arrival was followed by a classic exponential population increase, peaking at approximately 3,000-5,000 animals (depending on the modeling techniques.) For many years, the Jackson moose herd served as a source for moose transplants in multiple states and supported nearly 500 hunting licenses. However, the population underwent a dramatic population crash beginning in the early 1990's. Despite drastic reductions in hunting licenses, the population has failed to recover and continues to decline." (Houseon 1968, Berger 2004, Becker 2008, Vartanian 2011)*

In 2010, when Congress delisted wolves in Montana and Idaho, there were still 1,000 moose left in Jackson Hole, Wyoming. In this five-year period since wolf delisting in 2010 for the Northern Rockies DPS (excluding Wyoming), over 50% of the remaining moose in Jackson Hole have disappeared. In total, since introduction of the Canadian Gray Wolf 20 years ago, 90% of moose in Jackson Hole have disappeared. Wolves were delisted in Wyoming temporarily in 2012, however a judge in Washington D.C. almost immediately overturned the listing decision for Wyoming after one or two wolf seasons had been completed.

*(Below) Moose distribution in Idaho*



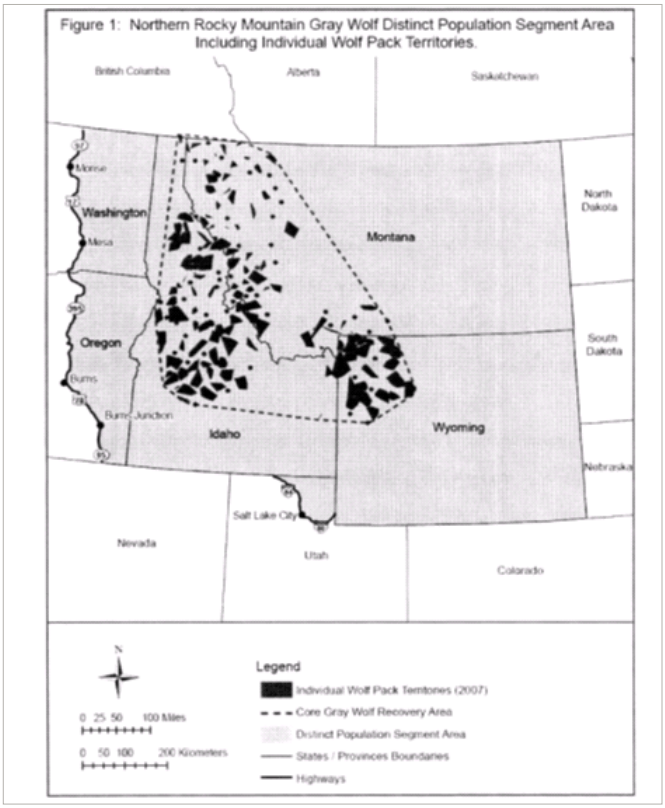

**Moose in Idaho.** Moose populations in three of Idaho's four moose regions have been in steady decline since wolves were introduced in central Idaho in 1995. In talking with senior wildlife biologists, outfitters, and sportsmen in the state of Idaho, indications suggest that moose populations have declined by as much as 50% or more. Perhaps this is why the state of Idaho has cut 50% of moose permits since wolves were introduced.

Just like in Montana and Wyoming, a major culprit of moose decline in Idaho appears to be predation of calf moose by wolves. The results of a recent collar study of calf moose which was conducted to better understand high calf mortality in Idaho are instructive. What the study found was startling - 50% of collared calves were killed by wolves:

> *Harvest records, field staff and hunter reports indicated however, that moose populations in central Idaho Wilderness and other areas of Clearwater and Southeast Idaho continue to decline…In February 2011, an additional 22 moose were captured and radio-collared (2 bulls, 8 cows, and 12 calves). Since January 2012, wolves had killed one adult cow moose and 6 calves in addition to 2 unknown cow and 1 non-predation bull mortalities…if early trends in wolf-caused calf mortality continue, calf survival and recruitment could be a serious issue. See Idaho Department of Fish and Game, FY 2014 Statewide Report, Moose (Study 1, Job 6) (page 3, 20)*

## Protecting Utah's Wildlife

**Biological Protections.** While it is likely that wolves will move into the state of Utah, we are making significant strides in protecting Utah from the unnecessary influx of large numbers of wolves. The natural pathway for wolves into Utah is currently through Wyoming. While Idaho has a significant wolf population, there is currently little threat of wolves migrating through the snake river valley into the state. BigGame Forever has been a strong advocate of Wyoming's buffer zone. While the wolves are designated as game animals and provided significant protections in the northeast corner of Wyoming, wolves are designated as a predator in the buffer zone and can be harvested year round without a permit. This is due to the fact that the buffer zone is not suitable wolf habitat and predation of livestock is a serious issue due to the lack of large ungulate populations in this part of the state. The buffer zone covers 88% of the state of Wyoming. This provides a two hundred mile buffer between established wolf packs in the northeastern portion of the state and Utah.




*(Above) Map showing Rocky Mountain DPS*

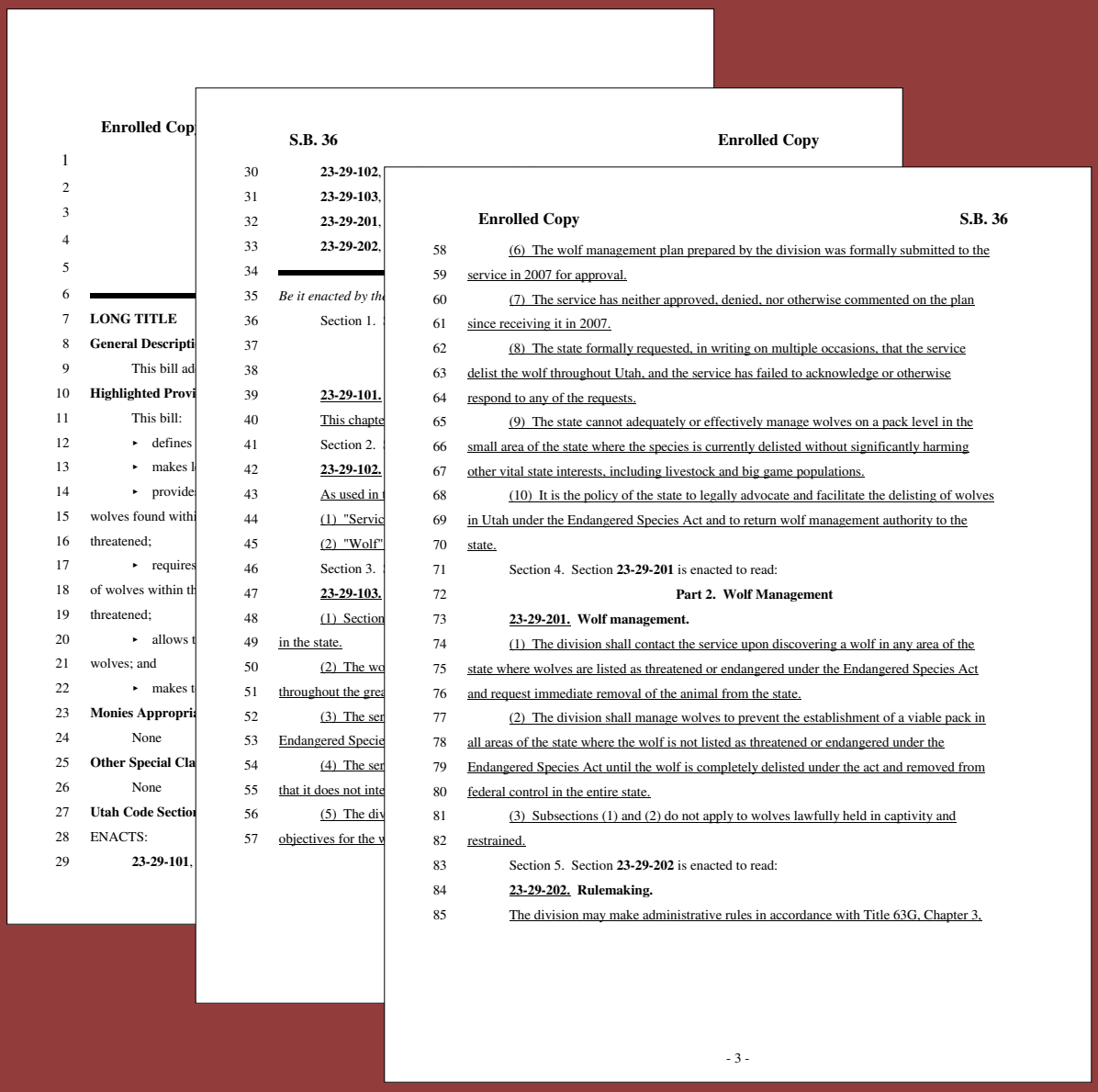
There has been significant efforts expended by BigGame Forever to protect Wyoming's plan. A significant reason for the efforts were to stop, or at least slow, the flow of wolves into Utah. We drafted a provision included within the 2011 congressional wolf delisting preserving a court ruling in support of Wyoming's plan. This has allowed Wyoming to continue to pursue delisted status. We are pleased to report that in 2017, Wyoming's wolf plan was again upheld in federal district court. Wolf activists have announced that they will not appeal this ruling. It is extremely important to note that when interviewed about the reason for not pursuing appeal, the plaintiffs suggested that their hope was that by dropping their appeal Congress would no longer seek a permanent legislative delisting for Wyoming. It is clear that the threat of congressional action is an important tool to ensure state management of wolves. It is equally important that Congress passes legislation to return state management of wolves to Wyoming and to protect Wyoming's plan including the buffer zone.

**Past Efforts to Clarify Utah's Legal Status Relative to Wolves.** Utah has repeatedly made efforts to restore state management authority over wolves. Beginning in 2006, Governor Jon Huntsman and members of Utah's congressional delegation began sending letters to federal wildlife officials as wolf populations in neighboring states of Montana, Idaho and Wyoming surged past delisting objectives (see Exhibits 8 and 9 in Appendix). These letters attempted to clarify the direction of wolves and wolf management in relation to the state of Utah. Governor Gary Herbert has also sought action from federal officials to restore management authority to the state (see Exhibits 10 and 11 in Appendix). BigGame Forever has been informed that the U.S. Department of the Interior and U.S. Fish and Wildlife Service have never responded to

these letters. This may be due to the fact that most of the state of Utah does not meet federal endangered species guidelines regarding suitable wolf habitat and significant portion of range. This is one of the reasons why Utah was not included in recovery plan objectives established during the late 1980's and early 1990's. This does not mean that wolf populations could not grow quickly in Utah. Instead, what it means is that high amounts of conflict (e.g. livestock predation, wildlife loss, etc.) at human population interfaces will occur with Canadian Gray Wolves. Conflict is likely due a variety of factors including: (1) the fact that wolf packs cover large geographic areas; (2) migration habits of resident prey populations; (3) the large amount of prey base biomass needed to support packs of Canadian Gray Wolves; and (4) the geographic proximity of cities and towns across Utah.

**Utah Statute on Wolves and Funding for Delisting Efforts.** During the 2010 legislative session, Utah enacted a statute 23-29-101. The statute states that "It is the policy of the state to legally advocate and facilitate the delisting of wolves in Utah under the Endangered Species Act and to return management authority to the state." The statute also explains that Utah is not critical to recovery of wolves and does not intend to actively recover wolves.

*(Below) Utah Senate Bill 36 on wolf management policy in Utah*



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(6) The wolf management plan prepared by the division was formally submitted to the service in 2007 for approval.
(7) The service has neither approved, denied, nor otherwise commented on the plan since receiving it in 2007.
(8) The state formally requested, in writing on multiple occasions, that the service delist the wolf throughout Utah, and the service has failed to acknowledge or otherwise respond to any of the requests.
(9) The state cannot adequately or effectively manage wolves on a pack level in the small area of the state where the species is currently delisted without significantly harming other vital state interests, including livestock and big game populations.
(10) It is the policy of the state to legally advocate and facilitate the delisting of wolves in Utah under the Endangered Species Act and to return wolf management authority to the state.
Section 4. Section **23-29-201** is enacted to read:
**Part 2. Wolf Management**
**23-29-201. Wolf management.**
(1) The division shall contact the service upon discovering a wolf in any area of the state where wolves are listed as threatened or endangered under the Endangered Species Act and request immediate removal of the animal from the state.
(2) The division shall manage wolves to prevent the establishment of a viable pack in all areas of the state where the wolf is not listed as threatened or endangered under the Endangered Species Act until the wolf is completely delisted under the act and removed from federal control in the entire state.
(3) Subsections (1) and (2) do not apply to wolves lawfully held in captivity and restrained.
Section 5. Section **23-29-202** is enacted to read:
**23-29-202. Rulemaking.**
The division may make administrative rules in accordance with Title 63G, Chapter 3,

- 3 -

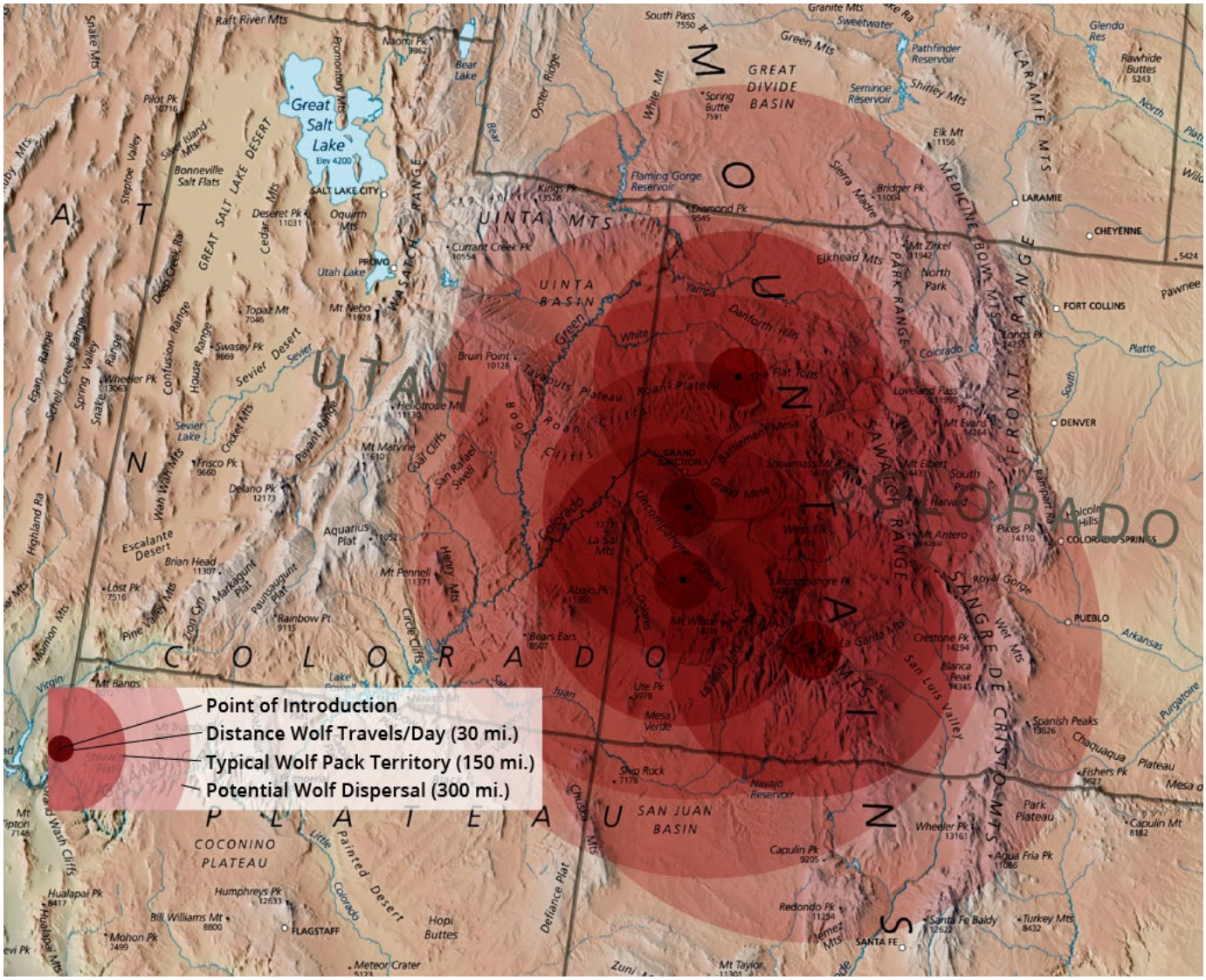
## Proposed Wolf Introduction in Colorado

Understanding the issue of returning management authority to the states is more crucial now than ever. Activist groups have recently proposed that between 250 to 500 wolves be introduced at four locations in Colorado: in the Routt National Forest (The Flat Tops), Grand Mesa National Forest, Uncompahgre National Forest and the San Juan National Forest. Three of these locations are within 100 miles of the Utah border, two as close as 25 miles.

According to the US Fish and Wildlife Service, it is not uncommon for wolf territories to be as large as 50 square miles and can extend up to 1,000 square miles. Wolves often cover large areas to hunt, traveling as far as 30 miles a day. Most wolves disperse from the pack they were born into by age three. Dispersing wolves have traveled as far as 600 miles (https://www.fws.gov/midwest/wolf/aboutwolves/wolfbiology.htm).

The four proposed wolf introduction locations are shown by black dots on the image below. The darkest red circles are 30 miles in diameter from the introduction locations. The lighter red circles are 150 miles in diameter and the lightest red circles are 300 miles in diameter.

*(Below) Proposed Colorado wolf Introduction sites in relation to Utah*

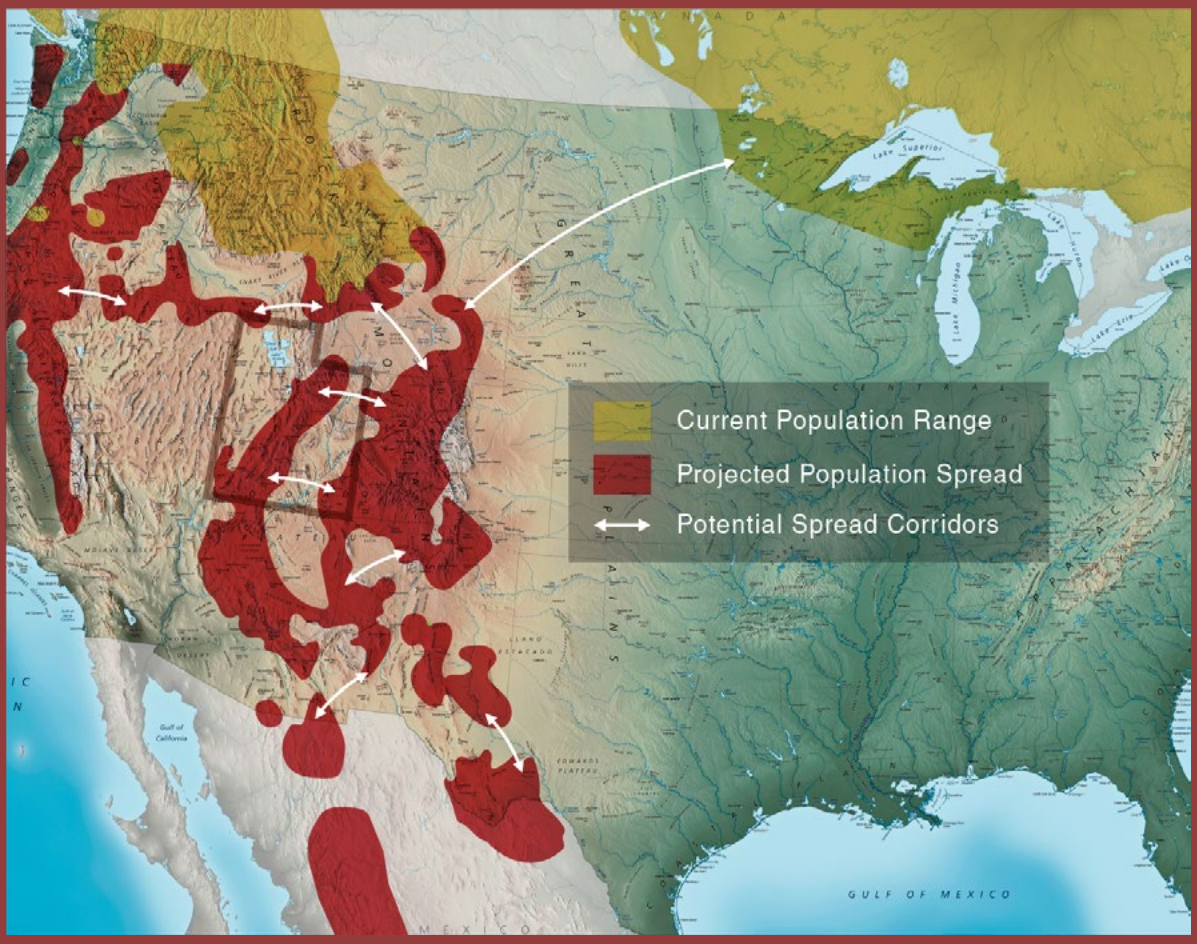


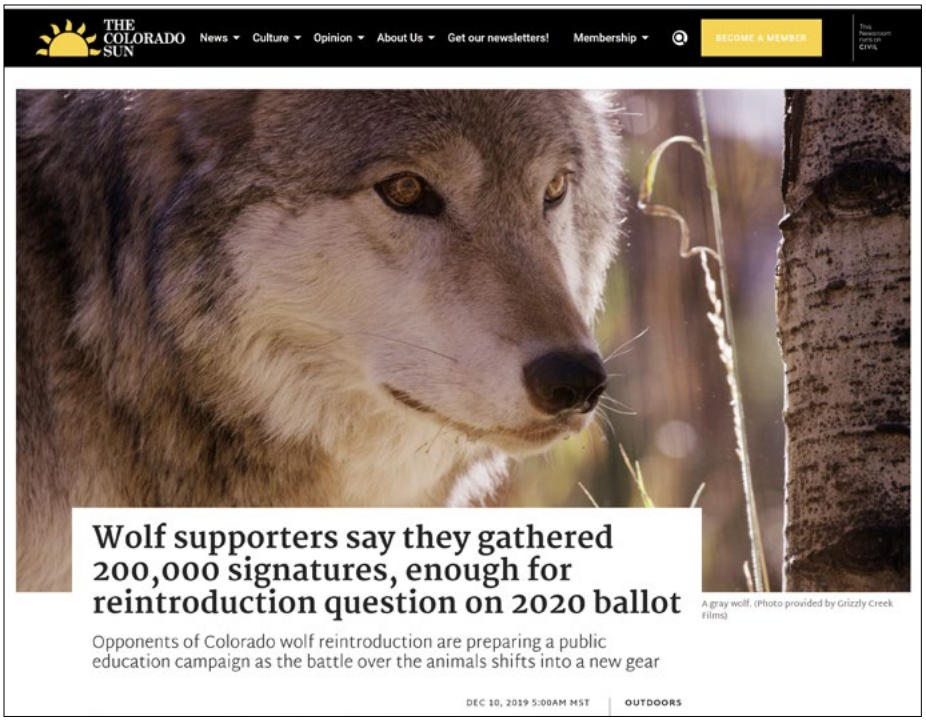
The groups proposing wolf introduction in Colorado are hopeful to establish a large wolf population in Utah and Colorado that connect to populations in Wyoming, New Mexico, Arizona, and even potentially to the Great Lakes region as illustrated in the map below.

Only 66 wolves were introduced into Idaho and Yellowstone National Park between 1995 and 1996. That population has since grown to more than 1,500 wolves. Their population has spread throughout Idaho, Montana, Wyoming, Oregon and Washington, with confirmed sightings in Utah, Colorado, Nevada, California, North Dakota and South Dakota.

If these groups are successful in introducing hundreds of wolves into Colorado it is inevitable large numbers will cross over into Utah. It is critical Utah secures wolf management authority before wolves spreading from populations introduced in the Greater Yellowstone Ecosystem and Colorado have the same devastating effects on Utah's big game populations as documented in Idaho, Montana and Wyoming.

*(Below) Projected wolf population spread territory and corridors*






## Wolf Activists Submit 200,000 Signatures Supporting Wolf Introduction Ballot Initiative in Colorado

After an extensive signature gathering campaign by wolf activists in Colorado, over 200,000 signatures were submitted on December 10, 2019 to put Initiative 107, which directs Colorado Parks and Wildlife Commission to introduce wolves along the Utah-Colorado border, on the ballot in 2020. The group would need about 124,000 valid signatures to qualify to be put on the 2020 ballot. This puts Initiative 107 one step closer to being passed and implemented, effectively introducing wolves into Utah as illustrated in the map on page 17.

A December 10th article in the Wall Street Journal titled *Colorado Set to Vote on Endangered Gray Wolf explains how the ballot initiative* is just one more tactic activists are using to get around legislative efforts and the courts. It states:

> *Fate of predator will for first time move out of the legislature and courts and onto a ballot*
>
> *Colorado residents may get a chance to help decide the fate of gray wolves in the West in what experts say appears to be the first time voters could reintroduce an endangered species.*
>
> *On Tuesday, a coalition of groups seeking to bring wolves back to the state turned in enough signatures to put that question on Colorado's ballot next November. The fight over gray wolves, which the Trump administration wants to remove from Endangered Species Act protection, has long pitted conservationists against ranchers and hunters.*
>
> *The measure asks voters if they want to begin reintroducing wolves to public lands in western Colorado by the end of 2023.*

The article goes on to talk about the the opposing view and the risks of introducing wolves into Colorado:

> *Opponents of the proposal said it would put elk and deer herds at risk, burden ranchers and farmers to recoup any losses, and create unnecessary conflict between the animals and humans in the most populated Rocky Mountain state where wolves roam.*

An article in The Colorado Sun also about the submission of signatures highlights some of the main points in the upcoming battle between wolf activists and wildlife conservationists. The article quotes Greg Walcher, the former head of the Colorado Department of Natural Resources:

> *In a statement announcing his support for the (Stop The Wolf) coalition and its fight against Initiative 107, Walcher said seeded wolves in Colorado could "decimate other important wildlife, and their impact on rural areas could be devastating."*

Wolf activists believe there will be little conflict between wolves and humans. Rob Edward, with Rocky Mountain Wolf Action Fund, the group pushing for introduction is quoted in the article:

> *"This is just not an issue. Western Colorado is 70% public land, so it's not going to be developed and full of people,"*

Those who have been firsthand witnesses to what wolf introduction looks like in other states recognize the drastic impacts wolves can have on other wildlife populations, where big game herds have been so drastically reduced. It is also important to note the hundreds of thousands of dollars that have been spent to reinburse rancher's whose sheep and cattle have been attacked time and time again, not to mention the additional hundreds of thousands expended to try to prevent depredation. Wolf introduction has been extremely hard on local economies that rely on outdoor and agricultural activities.

## Recent News Stories from Wolf States

There have been a number of recent news articles from states that are currently dealing with wolf populations that dispute what the wolf activists are claiming and testify to the friction that occurs when wolf and human populations collide, especially in remote areas. Each state mentioned agrees it is imperative that states have access to all the tools needed to manage wolf populations, including lethal options.

## Washington DFW Responds To Governors Request To Kill Fewer Wolves

An article in the Spokesman Review (Spokane, WA) titled *WDFW responds to Gov. Jay Inslee's request to kill fewer wolves and* dated December 5, 2019, reports on Washington Department of Fish and Wildlife's response to a September letter from Governor Jay Inslee that asks the agency to kill fewer wolves in response repeated wolf attacks on livestock. The article states:

> *Kim Thorburn, a Fish and Wildlife Commission member from Spokane, said the steps outlined in WDFW's letter were happening before Inslee's letter.*
>
> *"The department has been doing what the governor requested," she said.*
>
> *Inslee's letter concerned Thorburn because it "seemed very definitive: Stop killing wolves. And that is a tool in the toolbox that we can't let go of," she said.*

The problems Washington State are having with wolves should be especially concerning to Utahns as there have been no federal efforts to reintroduce wolves into Washington and that the wolves there come strictly from dispersal from wolves introduced in neighboring states.

## Michigan Representative Urges USFWS to Delist Gray Wolves; State Should Manage Its Own Wolf Population

In a November 2019 column titled *Time for feds to let Michigan manage its own wolf population* by Greg Markkanen, a Michigan State Representative, in The Daily Mining Gazette reiterates some of the main issues that face a state where wolves were introduced, reached and exceeded target numbers consistently for years, but then were never removed from endangered species protection. He writes:

> *The evidence is clear – the gray wolf no longer meets the definition of a threatened or endangered species in Michigan.*
>
> *When wolves were first placed on the federal endangered species list in the 1970s, the recovery plan put in place by the U.S. Fish and Wildlife Service said delisting should not occur in Michigan until the combined population of wolves in Michigan and Wisconsin reached 100 for five consecutive years.*
>
> *The wolf population in Michigan and Wisconsin has far exceeded 100 for more than a decade now. In fact, the two-state population is now estimated to top 1,000.*
>
> *People in the Upper Peninsula know all too well what it's like to live with a thriving wolf population in our backyards. Pet owners and livestock farmers from nearly every U.P. county have horror stories of dogs and cattle falling prey to wolves.*
>
> *As of Nov. 18, the Michigan Department of Natural Resources has recorded 17 livestock animals and eight dogs that have been killed or injured by wolves in 2019.*
>
> *I get why people are inclined to protect wolves. They're beautiful and majestic creatures that had all but vanished from the landscape in the lower 48 states by the early 20th century. In 1973, just six wolves remained in the U.P. After nearly 50 years on the endangered species list, the U.P. population is now healthy and stable, holding steady between 600 and 700 wolves for several years now.*

*Their comeback story is truly remarkable – but that's not a good reason to keep them on the endangered species list. Our wolf population has met all the federal recovery goals for delisting. They must be removed from the list to allow Michigan to start properly managing the population of this predator like we do other wildlife species.*

*The gray wolf is an apex predator with no natural enemies. Without management, its population could reach numbers that will be detrimental to other species.*

*Going forward, Michigan is well prepared to manage gray wolves in the best interest of residents. A sound management plan is already in place – developed with input from more than 20 agencies and organizations representing the diversity of interests in wolves – and reviewed periodically by the Michigan Wolf Management Advisory Council. Using the plan and advice from the council, the Michigan Department of Natural Resources can continue to maintain a viable gray wolf population while allowing for more flexibility when conflicts between wolves and other species arise.*

*I recently sponsored a resolution that was adopted by the Michigan House urging the U.S. Fish and Wildlife Service to remove the gray wolf from the federal endangered and threatened species list in Michigan. Copies of the resolution were transmitted to the director of the U.S. Fish and Wildlife Service, as well as members of Michigan's congressional delegation. I hope they will give it careful consideration.*

## Wolves become a nuisance to Wisconsin Hunters, Farmers and Animal Owners; Wolf Population Stable Enough for Delisting

A U.S. News & World Report article also from November 2019, entitled *Wisconsin Residents Call for Delisting Wolves as Endangered* reinforces the same issues that are at stake when wolf populations are present without the proper management tools in place:

*In November 2018, wolves killed Laurie Groskopf's 11-year-old hunting dog in Oneida County. That was nine years after wolves killed another of her dogs.*

*"They were attacked by wolves without any provocation and killed. And for us, it's been really, really traumatic," Groskopf said.*

*Wisconsinites subsidized Groskopf's loss. She received $5,000 through an obscure Department of Natural Resources program that compensates animal owners for wolf-inflicted damages. But Groskopf said the payments — $2,500 for each dog — could not make up for the loss of pets she treated as family.*

*Nearly 60 years after gray wolves were considered extinct in Wisconsin, the population has rebounded to more than 900 in the state. That is thanks to decades of protection under the federal Endangered Species Act, which makes it illegal to hunt or harm listed species.*

*But the conservation success story has turned into a nuisance for hunters, farmers and others whose animals are increasingly encountering wolves — with deadly consequences. That is why some are calling for the federal government to delist wolves and resume legal hunting.*

*"I would say to people who are against controlling the wolf numbers, 'What gives you the right to decide that my life is going to change substantially because you think wolves belong in my neighborhood?'" Groskopf said.*

A Wisconsin Public Radio story from August 2019 entitled *Latest Wolf Count Provides Further Evidence Wisconsin's Wolf Population Is Stabilizing* reports:

*Volunteer trackers reported between 914 and 978 wolves from April 2018 to April 2019, according to the Wisconsin Department of Natural Resources.*

*Scott Walter, DNR large carnivore specialist, said that's about a 1 percent increase from the last monitoring period.*

*"The last three winter track surveys suggested fairly similar numbers of wolves and that follows really two decades of sustained population growth," said Walter. "It looks like numbers are leveling off."*

*Walter said the data indicates wolves have reached the extent of suitable habitat statewide. The animals have encountered less forest cover, more agriculture and more people as they've spread southward. The DNR reported a slight increase in the number of wolf packs and wolves killed last winter. Vehicle collisions and illegal killings remained the leading cause of death in reported cases...*

*Republican state lawmakers and a bipartisan effort by Wisconsin congressional representatives have pushed legislation to delist the wolf. They, along with the Wisconsin DNR, would like to see management return to the states.*

*"It would certainly provide us more flexibility to address things like livestock depredation events and also make the determination about where wolves should or shouldn't be in the state," said Walter.*

### Oregon Court of Appeals Upholds Wolf Delisting

An AP Article from November 28, 2019 reports:

*The Oregon Court of Appeals has dismissed a lawsuit filed by environmental groups challenging the state's decision to lift endangered species protections for gray wolves.*

*State wildlife officials removed wolves from Oregon's endangered species list in 2015 and lawmakers passed a bill backing that move in 2016.*

*Cascadia Wildlands, Oregon Wild and the Center for Biological Diversity sued, arguing the delisting was premature and not based on sound science.*

*The appeals court says the legislative bill makes the environmentalists' lawsuit irrelevant.*

## CONCLUSION

There are substantial efforts to introduce wolves in Utah, Colorado, and across the Southern Rockies. These recent articles reinforce that it is imperative the State of Utah have management authority to protect our native ungulate herds before wolves are introduced or there could be detrimental consequences. There have already been several wolves documented within Utah. Adjacent states have documented wolves moving into their states. The purpose of our efforts is to ensure that the State of Utah will have management authority of wolves before wolves become established in the state. BigGame Forever's efforts since 2010 have built significant public support and in Congress for state management of wolves. This is consistent with state policy and with good conservation practice. Ongoing efforts in the public outreach and education space will be critical to build support for national wolf delisting through administrative and congressional action.

# WOLF-DELISTING STRATEGY

# WOLF-DELISTING STRATEGY

## APPROACH

Proliferation of Canadian Gray Wolves across the Northern Rockies has become an important topic from a legal/political perspective in recent years. The growth and expansion of unmanaged wolf populations have led to significant declines of important herds of elk, deer, moose, and other prey species. State management of gray wolf populations, which would provide needed protection of wild ungulates, has been hamstrung by federal endangered species "take" provisions. This report describes our approach to the work and the level of effort needed to return control of wolf management to the State of Utah.

**Assessment of Work to Be Performed: Administrative Delisting.** The only way to restore state management flexibility of wolves is removing wolves from the Endangered Species List. Administrative delisting functions as a legal and scientific acknowledgment from U.S. Fish and Wildlife Service that the national wolf recovery plan for Northern Gray Wolves has been completed and that gray wolves are not threatened with extinction. Another important administrative action is finalizing the proposed administrative rule on Mexican Wolves. The new proposed rule dictates that the northern boundary of Mexican Wolves is I-40 (in central Arizona) and excludes the state of Utah.

**Assessment of Work to Be Performed: Congressional Action.** Due to the repeated lawsuits by wolf proliferation advocates, technicalities under the Endangered Species Act, and the level of judicial activism in some courts, there is a high likelihood that an administrative delisting could be reversed. This is why permanently delisting wolves will likely require congressional action.

It is also notable that the areas of the Northern Rockies DPS which were covered by this congressional action are the only areas that have consistently been able to manage wolves the last six years. In fact, the states of Wyoming, Wisconsin, Michigan, and Minnesota have been tied up in lawsuits and administrative processes almost the entire six years due to the lack of a judicial safe harbor for those states.

### Our team's approach involves:

I. **Engaging the Public**—These efforts include: (a) science and research, (b) collaborating with interested stakeholders, non-governmental organizations, and other entities who support state management of wildlife, and (c) public outreach.

II. **Direct Action**—These efforts focus on engaging: (a) BigGame Forever supporters; (b) affiliate organizations, and (c) the general public. Our methodology for including the public in the process is both innovative and a significant component for building the current level of support in Congress.

III. **Administrative Solutions**—These efforts include working with the U.S. Fish and Wildlife Service, the Department of the Interior, and state agencies on gray wolf delisting through administrative processes.

**IV. Legislative Action**—These efforts include working with members of Congress and congressional staff to educate and provide information related to: (a) wolves and wolf proliferation; (b) impacts to conservation of wild ungulates, livestock producers, jobs, and the economy; (c) worldwide abundance of gray wolf populations, (d) the importance of state management of wildlife including gray wolves; (e) and the best and latest available science and other recent developments.

**V. Legal Strategies**—Providing an understanding of compliance with federal statute through administrative solutions, congressional action, and the courts to achieve removal of the gray wolf from the list of threatened and endangered species and to protect state management of wolves in the courts and avoid restrictions of state efforts.

## PUBLIC OUTREACH

*(Below) BigGame Forever's Billboard Campaign outside Yellowstone National Park. For the past eight years BigGame Forever has been actively engaged in educating the public and enlisting their help to promote wildlife conservation throughout the United States. BGF's campaigns are multifaceted and wide reaching. The Yellowstone billboard campaign specifically addresses the decreasing ungulate population as a result of unmanaged Canadian Gray Wolf population.*

# I. ENGAGING THE PUBLIC

BigGame Forever's public outreach efforts are an important part of building support for and implementing lasting wolf-delisting solutions. This includes helping the public to understand that state management of wolves is important for: (1) the conservation of moose, elk, mule deer, and other wild ungulates; (2) protecting livestock producers; (3) conservation funding requisite for healthy and abundant wildlife, and (4) protecting economic prosperity and jobs.

**Science and Research.** Understanding the science, data, and experiences in wolf states has been vital to BigGame Forever's wolf-delisting efforts. To accomplish this, our team has conducted extensive research on the scientific, biological, and policy considerations surrounding wolf delisting. Through these efforts, BigGame Forever has become a trusted source for information on the importance of protecting native wildlife and the need for responsible management of Canadian Gray Wolves.

**Multi-State Collaboration.** Educating concerned individuals, organizations, and states from across the country has been important to building support for lasting solutions. BigGame Forever has developed positive relationships with state wildlife managers, wildlife conservation organizations, agricultural and grazing stakeholders, and the public in "wolf states" of Idaho, Montana, Wyoming, Wisconsin, Alaska, Arizona, New Mexico, and Minnesota. We also work extensively across states experiencing or at risk of wolf expansion including Utah, Colorado, Washington, Oregon, California, Nevada, and Texas.

**Public Outreach.** BigGame Forever has invested significant resources to spread the word regarding the need for state wolf management through marketing, social media outlets, email blasts, newspaper ads, billboards, and other outreach activities. On a regular basis, BigGame Forever provides updates on the best available science, results of delayed management, and developments from the legislative, legal, and administrative arenas. Additionally, Mr. Benson has been interviewed on multiple national radio and television spots regarding the need for wolf delisting.

**Social Media.** One of the major efforts is to grow public awareness of the need for state management authority to protect elk, moose, deer, bighorn sheep and other large ungulate species. BigGame Forever has been very effective at growing its public outreach capabilities and has a level of engagement unmatched by other groups that vocally support or oppose wolf delisting. For example, BigGame Forever's Facebook page has an engagement rate that is 38 times higher than the industry average, and more than 5 times higher than the organization with the second highest engagement rate. In fact, according to our public outreach data, BigGame Forever's engagement (likes, comments, shares) accounted for 73% of all engagement for major sportsmen's advocacy groups in the month leading up to the November 16th vote in the House of Representatives. Our Facebook page has become number one among sportsmen who are engaged with and care about these important conservation issues.

# II. DIRECT ACTION

Our goal is to unite like-minded people in support of legislative solutions to America's most difficult conservation challenges. We have top-tier grassroots and media professionals to educate the public about legislative, legal, and administrative solutions to protect native ungulate populations. We invite those people to join our grassroots network to encourage our leaders in Congress to support lasting solutions to ensure state management of wolves now and in the future.

For the last seven years, BigGame Forever's team has worked full time traveling the country to build our grassroots network. Through these efforts, BigGame Forever supporters have sent hundreds of thousands of messages in support of state management of wildlife and wolf delisting using the BigGame Forever political action system.

**BigGame Forever Supporters.** Our network of grassroots support now includes:

- Over 100,000 BigGame Forever members
- Partnerships with hundreds of sportsmen conservation organizations
- Over 450,000 and growing followers on social media platforms

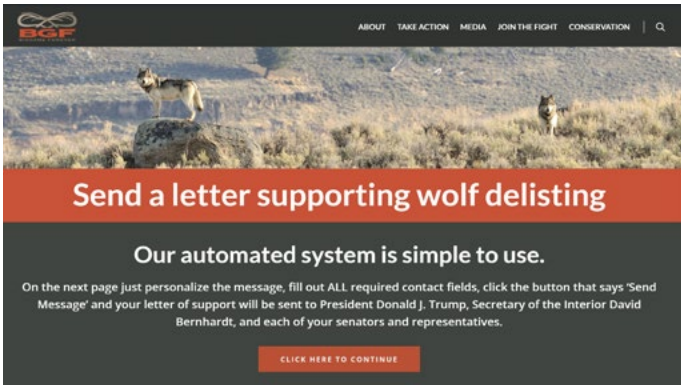
Direct action through our grassroots network has been vital to building support in Congress. As an example, we obtained over 100 signatures on a "Dear Colleague Letter" in Congress by engaging our members. Building this level of support on an issue requires thousands of hours of effort and aggressive execution.

**Affiliate Organization Support.** Another important source of support are like-minded conservation organizations and livestock groups. BigGame Forever's team spends significant time and resources educating, building support, and requesting the involvement of other organizations. We have been very successful in these endeavors. On one recent Endangered Species Act issue in Congress, over 200 sportsmen organizations signed our letter in support of congressional action. These organizations have millions of members across the country.

**Public Support.** Engaging the public to support responsible management of wolves is another important part of our efforts. Our model is to keep our message simple, clear, and concise. We continue to see significant support from the public to protect wild ungulate populations and for state wolf management. BGF's efforts have provided the support needed to publish a nationwide administrative delisting and pass legislation to secure state management of the gray wolf in Utah.

# 2019 DELISTING SUPPORT CAMPAIGN

When the USFWS published its proposal to delist the gray wolf in the lower 48 states in March, BigGame Forever launched a concerted public outreach campaign to inform people about the decision and the public comment period. This is one example of how important BGF's substantial grassroots network and social media presence are to restoring state authority to manage and protect wolves.




BGF was able to reach out to its members and social media followers. More than 360,000 people were reached on a daily basis with a total of more than 7.4 million total impressions on Facebook through our campaign in the month of May alone. Part of the campaign encouraged people to make their voice heard through sending letters of support, generating more than 100,000 letters of support.

BGF was also able to organize more than 450 like-minded conservation organizations and outdoor industry companies representing all of the lower 48 states to sign onto a letter supporting wolf delisting. The letter explains how important this issue is to so many communities and local economies, as well as the devastating impact wolves are having on big game populations throughout the United States. The letter was delivered to Secretary Bernhardt and the White House in June of 2019 (see Exhibit 1 in Appendix).

Throughout these efforts BGF continued its consistent efforts to educate the public on the importance of responsible wolf management and the North American Model of Wildlife Conservation through social media, email and other outreach efforts.

# III. ADMINISTRATIVE SOLUTIONS

**Completion of National Recovery Plans.** It is important to recognize that the national wolf recovery plan is largely complete. In the 1990's, when national wolf recovery began in earnest, three distinct population segments were identified where sufficient wolf habitat was available to re-establish wolves without creating conflict in areas of high wild-human interface. These areas include the following areas:

1. Northern Rockies Distinct Population Segment
2. Western Great Lakes Distinct Population Segment
3. Blue Range Recovery Area

No additional areas in the continental United States met the scientific criteria for gray wolf recovery. While gray wolves could certainly populate additional areas, the U.S. Fish and Wildlife Service was unable to identify any areas of sufficient size and topography which would ensure gray wolves could exist without significant conflict with human populations. Based on these recovery criteria, wolves are mandated for recovery only within these three areas. With recovery of Canadian Gray Wolves within U.S. distinct population segments complete, nationwide Canadian Gray Wolf delisting can proceed. Included below is additional information on status of wolves within these distinct population segments:

**Northern Rockies DPS.** The Northern Rockies Distinct Population Segment (the "Northern Rockies DPS) covers Idaho, Montana, and Wyoming, along with small portions of northern Utah, eastern Washington State, and eastern Oregon. In 1995, 29 Canadian Gray Wolves were transplanted into central Idaho and Yellowstone National Park. These populations quickly grew and new wolf packs were established. There was also some dispersion of wolves from Canada into northern Idaho and northern Montana. Within just seven years, wolf populations had quickly expanded. The U.S. Fish and Wildlife Service indicated that "recovery goals…equitably distributed wolf population containing at least 300 wolves and 30 breeding pairs for three consecutive years were reached in 2002." Despite administrative delisting of wolves during the Bush and Obama administrations, lawsuits by activist organizations led to the relisting of wolves.

**Western Great Lakes DPS**. The Western Great Lakes Distinct Population Segment includes portions of Minnesota, Michigan, and Wisconsin. These areas are also populated with Canadian Gray Wolves. Unlike the Northern Rockies DPS, much of this area was populated through transplanted or naturally migrating wolves from Minnesota and Canada. Minnesota met its recovery goal of 1,200 wolves in the 1970's. Now more than 40 years later and despite several attempts to delist the Western Great Lakes DPS administratively, Minnesota, Wisconsin, and Michigan still do not have management authority over wolves.

**Blue Range Recovery Area**. The Blue Range Recovery Area was designated for Mexican Wolves and includes a portion of New Mexico and Arizona. Mexican Wolf objective levels of 100 wolves have been reached in the last few years. However, the U.S. Fish and Wildlife Service is in the process of updating the Mexican Wolf Recovery Plan. In 2013, there was an effort to utilize southern Utah and southern Colorado for Mexican Wolf recovery. However, this is not the species native range. New plans published just weeks ago moves the northern boundary for Mexican Wolves to I-40 which runs through Arizona and New Mexico. This is important progress to ensure Mexican Wolves are not mandated in southern portions of Utah.

**Western Great Lakes Administrative Delisting**. After the passage of Section 1713, the USFWS aggressively pursued expanded wolf delisting through administrative action. In late 2011, the Western Great Lakes Distinct Population Segment states were delisted. Wyoming was also delisted by administrative action in October 2012. Eventually, the 2011 and 2012 wolf delisting of Minnesota, Michigan, Wisconsin, and Wyoming were all relisted. Bills have once again been filed in Congress to provide permanent delisting, much like Section 1713 of the 2011 Continuing Resolution.

**48-State Delisting and Five Year Recommendation**. In February 2012, the U.S. Fish and Wildlife Service released its 5-year recommendations on wolf management in America. When the report was released, it appeared to suggest that the Service recognized that Canadian Gray Wolves were not endangered and that expanded delisting to the lower 48 states was likely. Subsequent meetings confirmed that the Service was preparing to a delisting of Canadian Gray Wolves in the lower 48 states. This was important because expanded delisting would return management authority over Northern Gray Wolves to the State of Utah and other western and Midwestern states. BigGame Forever worked integrally with key members of Congress and the U.S. Fish and Wildlife Service in support of this expanded delisting.

**Public Notified of Pending Delisting**. In Spring 2013, a draft of the 48-state delisting was disseminated to the press in advance of the pending delisting. During this time, wolf proliferation advocates worked to prevent publication of the 48-state delisting rule. On March 4, 2013, a "Dear Colleague Letter" signed by 52 members of Congress was sent to U.S. Fish and Wildlife Service Director Dan Ashe. The letter suggested that plans to publish a draft 48-state delisting rule should be abandoned.

**Support from 72 Members of Congress**. In light of the March 4th "Dear Colleague Letter," BigGame Forever worked with Utah's congressional delegation and many members of Congress from across the country on a "Dear Colleague Letter" in support of state management of wolves and the 48-state administrative delisting. On March 22nd, 2013, this letter, signed by 72 members of Congress in support of nationwide delisting was sent to U.S. Fish and Wildlife Service Director Dan Ashe (*See Exhibit 2 in appendix*)

**Publication of 48-State Delisting Rule**. On June 7, 2013, U.S. Fish and Wildlife Service announced the new draft rule to delist Canadian Gray Wolves nationwide. The draft rule was published June 13, 2013. The draft rule directed returned management over Canadian Gray Wolves to the State of Utah and other states across America. As a result, state wildlife agencies would have management flexibility needed to protect, moose, elk, and deer populations. While publication of the draft rule was a step in the right direction, after a year and a half of public comment periods, administrative processes, and waiting periods, the draft rule was never finalized.

**Mexican Wolves.** On June 29, 2017, The U.S. Fish and Wildlife Service released a revised Mexican Wolf recovery plan for public comment. The recovery strategy establishes two Mexican Wolf populations of the United States and Mexico across historic range. The recovery plan for the American population is focused on the area south of I-40 in Arizona and New Mexico. This area is designated as a Mexican Wolf Experimental Population Area. The public comment period remains open through August 29, 2017.

The new Mexican Wolf recovery plan represents significant improvement from the recovery plan update proposed in 2013. The previous plan recommended two recovery areas in the United States; one in Arizona and Utah and the second in Colorado and New Mexico. Under the plan, the federal Endangered Species Act mandates would have required Mexican Wolf populations in areas outside of historic range, including Utah. The plan proposed the area extend to I-70 in central Utah.

## Administrative Solutions: Progress and Results

In June 2013, the Obama Administration announced that gray wolf recovery had been successful for Canadian Gray Wolves (*Canis lupus occidentalis*) and that they would be delisted nationwide. Pursuant to this nationwide delisting, Utah would be given full state management authority over any wolves in the state. This would give the State of Utah and other states the management flexibility needed to immediately manage and protect moose, elk, deer, and other wildlife species.

In its press release, the U.S. Fish and Wildlife Service explained its decision:

> *The U.S. Fish and Wildlife Service today proposed to remove the gray wolf (Canis lupus) from the list of threatened and endangered species. The proposal comes after a comprehensive review confirmed its successful recovery following management actions undertaken by federal, state and local partners following the wolf 's listing under the Endangered Species Act over three decades ago. The Service also proposed to maintain protection and expand recovery efforts for the Mexican wolf (Canis lupus baileyi) in the Southwest, where it remains endangered." See http://www.fws.gov/home/newsroom/serviceproposes-graywolvesNR06072013.html*

U.S. Fish and Wildlife Service Director Dan Ashe further explained the basis for the decision, "From the moment a species requires the protection of the Endangered Species Act, our goal is to work with our partners to address the threats it faces and ensure its recovery . . .An exhaustive review of the latest scientific and taxonomic information shows that we have accomplished that goal with the gray wolf, allowing us to focus our work under the ESA on recovery of the Mexican wolf subspecies in the Southwest." See id.

**Western Gray Wolves Not Endangered:** The following testimony from U.S. Fish and Wildlife Service Deputy Director Gary Frazier presents a cogent and instructive explanation of the fact that Western Gray Wolves (excluding subspecies Canis lupus Baileyi) are no longer endangered:

> *We looked at Gray Wolves as a species, Canis Lupus, range-wide, and we found no evidence to suggest that Gray Wolves, Canis Lupus, are at risk of extinction. So we concluded that listing at the species levels is not warranted.*
>
> *We also looked at the three subspecies of Gray Wolves that historically existed within the lower 48 and found that there's no basis to conclude that Nubilus or Occidentalis are in danger of extinction, but we did find that Baileyi, the Mexican wolf in the southwest, is currently at risk of extinction throughout its range.*
>
> *Finally, we looked in the Pacific Northwest. We found that there are wolf packs now in Western Washington. Wolves are expanding into Western Oregon. There was one wolf that wandered into Northern California, and we've concluded these don't constitute a population at this time. They may constitute a population in the future, if it's consistently reproducing and that carries over recruiting into the population.*
>
> *But, more significantly, we found that these wolves are not discrete. They're not separate. They are, in fact, on the advancing edge of the recovering wolf population Northern Rockies and Wolves in Canada. So we've concluded that this would not valid distinct population segment.*
>
> *So this table summarizes our...and it's all laid out in our proposed rule. We found that the current listed entity is not a valid listable entity, that Canis Lupus, range-wide, listing is not warranted. The same for Nubilus and Occidentalis. That Baileyi, the Mexican wolf, is endangered and should be listed, and that wolves in the Pacific Northwest are not a valid DPS.*
>
> *So on that basis, we came to our proposal, which was to focus Endangered Species Act protection for the Mexican wolf by listing the subspecies Baileyi as endangered wherever found, and remove the*

*current Gray Wolf listing from the list of endangered and threatened wildlife, and also to improve the operation of the experimental rule for Mexican wolves in the Southwest.*

*So again, in conclusion, our goal is to administer the Endangered Species Act, to prevent extinction and to secure a species from the threat of extinction now and into the foreseeable future.*

*We believe that the Gray Wolf has recovered in the Western Great Lakes and the Northern Rockies, and that we now need to focus the Endangered Species protections on the Mexican wolf in the Southwest.*

**Instrumental Support from Western States.** During this period, support of Western States was instrumental in continuing the momentum toward finalizing a delisting decision. The following statements by several Western States showing support for the nationwide wolf-delisting rule.

**Utah**

"The State of Utah commends the U.S. Fish and Wildlife Service, state and local governments, and others for decades of effort in successfully recovering the gray wolf (canis lupus) from the threat of extinction.

Both the Utah Legislature and the Office of the Governor have long advocated removing the gray wolf from the list of threatened and endangered species. Utah concurs with the U.S. Fish and Wildlife Service's conclusion that the species no longer warrants protection under the Endangered Species Act. Additionally, we fully support the agency's decision to move forward with finalizing a rule that will delist the species in Utah and elsewhere in the United States.

While Utah does not currently have a confirmed population of gray wolves, we are prepared to manage responsibly any wolves that enter the state. Through a process involving significant research and stakeholder input, we developed and adopted a wolf management plan. This plan ensures the viability of wolf populations while providing reasonable protections for Utah residents."

*Utah Governor Gary R. Herbert*

**Colorado**

"The gray wolf's progress represents years of successful work by state and federal agencies and the Fish and Wildlife Service proposal reflects that; this is good news for the species and for our state. The delisting allows the state, through CPW and the Parks and Wildlife Commission, to manage the species consistent with public desires and resource needs as we do many other important wildlife species."

*Rick D. Cables, Colorado Parks and Wildlife Director*

**Oregon**
"With a solid state conservation and management plan in place for the Northern grey wolf, an experienced wildlife management agency that is committed to wolf recovery, and established populations recovering at an increasing rate, Oregon is ready to take on further responsibility for wolf management in this state. We know that there are questions that need to be resolved in moving toward a delisting of the Northern grey wolf under the federal ESA, and we believe the rulemaking process is an appropriate forum to address these issues. Oregon is supportive of the U.S. Fish and Wildlife Service publishing a proposed rule to begin this dialogue, and we look forward to participating in the scientific review process."

*Roy Elicker, Director of the Oregon Department of Fish and Wildlife*

**Wyoming**
"After years of hard work by the states and our federal partners, I am pleased that wolves are ready to stand on their own under the management of state professional wildlife biologists."

*Wyoming Governor Matt Mead*

**North Dakota**
"We're glad to see the delisting effort of the gray wolf in western North Dakota. It's been confusing for the public to understand how the wolf is under state jurisdiction in the eastern half of the state while under federal jurisdiction in the western half. With this delisting effort the wolf will be under state jurisdiction with the borders of the state."

*State of North Dakota*

**Washington**
"The Washington Department of Fish and Wildlife is firmly committed to the long-term persistence of wolves in Washington. In 2011, the Washington Fish and Wildlife Commission unanimously approved Washington's Wolf Conservation and Management Plan (Plan). A wide range of stakeholders participated in the development of that Plan. Washington's Plan established recovery objectives throughout the state and assures that state protections will remain in place over the long-term. The Plan contains management tools designed to minimize wolf-livestock interactions and address potential impacts on the state's deer and elk populations. The Commission believes the state should be responsible for the management of wolves and supports the U.S. Fish and Wildlife Service's consideration of delisting gray wolves under the federal Endangered Species Act. By publishing the proposed rule, the Service ensures this important consideration can take place in an open and public process."

*Miranda Wecker, Chair of the Washington Fish and Wildlife Commission*

**Public Comment Reopened.** On February 7, 2014, U.S. Fish and Wildlife Service announced it was reopening the public comment period following the receipt of the independent scientific peer review. The public comment period reopened February 10, 2013 for a period of 45 days. "Peer review is an important step in our efforts to assure that the final decision on our proposal to delist the wolf is based on the best available scientific and technical information," indicated U.S. Fish and Wildlife Service Director Dan Ashe. "...We are incorporating the peer review report into the public record for the proposed rulemaking, reopening the public comment period to provide the public with the opportunity for input."

**Final Rule Never Published.** In February 2014, U.S. Fish and Wildlife Service indicated they would finalize the delisting rule by the end of 2014. While the initial projections indicated that a delisting was likely to occur much sooner in 2014, public comment period extensions and the 2013 "government shutdown" resulted in moving the finalization date to later in 2014. U.S. Fish and Wildlife Service subsequently indicated a final delisting rule would be published by December 2014. Months

passed after the expected final rule publication date without publication of the final rule. Subsequently, officials from U.S. Fish and Wildlife Service have signaled that an administrative delisting rule is unlikely to be finalized.

**2019 Administrative Delisting Rule.** On March 14, 2019 the U.S. Fish and Wildlife Service (USFWS) published a proposed rule to delist the gray wolf across all of the lower 48 states. This is another major step toward ensuring permanent delisting in Utah. We are as close as we have ever been to getting wolves delisted on a national level. The USFWS press release explained that the delisting rule is a result of the partnerships developed between the USFWS, states, conservation organizations and landowners working together. The gray wolf 's recovery has exceeded every scientific criterion for recovery. As a result, the USFWS rule will remove federal protection under the Endangered Species Act. If the delisting rule is finalized, management of gray wolves will be returned to each respective state.

We recognize that this delisting will almost immediately be challenged in court by wolf activists. The history of judicial activism and repeated relisting of gray wolves in the Northern Rockies DPS and the Western Great Lakes DPS suggests that administrative delisting would need a congressional backstop to ensure long-term state management of northern gray wolves nationwide. It is important to note that a no-sue clause, similar to the one included in Section 1713 of the 2011 Appropriations Act will still be needed to ensure long-term state management of wolves following this nationwide administrative delisting rule.

**Public Comment Period Opened and Extended.** A 60-day public comment period opened following the proposed delisting rule. On May 13, 2019 the comment period was extended for another 60 days and ends on July 15, 2019. To date, there have been over 600,000 comments submitted. Generally, the extension can be seen as a positive thing in that the USFWS will have taken ample time to consider all points of view prior to making their final delisting decision.

**Public Hearing.** On June 25, 2019 the USFWS hosted a public hearing to take comments on the agency's proposal to remove the gray wolf from the List of Endangered and Threatened Wildlife in Brainerd, Minnesota. The public hearing included a presentation and question and answer session where interested parties could learn more about the proposed delisting rule and the science behind the decision. This meeting was attended by representatives of BigGame Forever and our partner organizations who provided support as well as written and oral comments at the hearing (see pages 34-35 for a news article on the public hearing).

*"Consider the economic impact of wolves on people in western United States, northern Minnesota and Wisconsin," Coulter said. "It's devastating to portions of the western United States and it's detrimental to hunting. I'm concerned. You're playing with people's lives here. We're not here to wipe the wolf out, that's impossible. We're here talking about balance."*

***John Coulter, BigGame Forever***

June 25, 2019 Brainerd, Minnesota Public Hearing on Wolf Delisting

U.S. Fish & Wildlife Service

Conserving the Nature of America

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PRESS RELEASE

## Department of the Interior Celebrates Recovery of the Gray Wolf with Proposal to Return Management to States, Tribes

If a Final Decision is Made that Federal Protections are no Longer Warranted, We Will Focus Conservation Efforts on Species Still in Need of ESA Protections, Says Acting Secretary

March 14, 2019

The gray wolf, an iconic species of the American West, had all but disappeared from landscape in the lower 48 states by the early 20th century. Now it roams free in nine states and is stable and healthy throughout its current range. This constitutes one of the greatest comebacks for an animal in U.S. conservation history. Today, the U.S. Fish and Wildlife Service is re-affirming the success of this recovery with a proposal to remove all gray wolves from protection under Endangered Species Act (ESA).

Thanks to the partnerships involving states, tribes, conservation organizations and private landowners galvanized under the ESA, the Service is now able to propose turning management of all gray wolves back to the states and tribes who have been so central to the species' recovery. This proposal excludes Mexican gray wolves, which would remain listed under the ESA.

"The facts are clear and indisputable—the gray wolf no longer meets the definition of a threatened or endangered species. Today the wolf is thriving on its vast range and it is reasonable to conclude it will continue to do so in the future," said David Bernhardt, Acting Secretary, U.S. Department of the Interior. "Today's action puts us one step closer to transitioning the extraordinary effort that we have invested in gray wolf recovery to other species who actually need the protections of the Endangered Species Act, leaving the states to carry on the legacy of wolf conservation."

The gray wolf joins the bald eagle, peregrine falcon, American alligator, brown pelican and 33 other species of animals and plants in U.S. states, territories and waters that have been brought back from the brink with the help of the ESA. Countless more have improved or stabilized.

The gray wolf has already been delisted in the Northern Rocky Mountains. The states of Wyoming, Montana, Idaho, Oregon and Washington have shown their ability to manage this delisted wolf population responsibly so that it remains healthy and sustainable. Populations in Michigan, Wisconsin and Minnesota are also strong and wolves have begun to expand into northern California and Western Oregon and Washington. In total, the range-wide gray wolf population stands at more than 6,000, exceeding the combined recovery goals for the Northern Rocky Mountains and Western Great Lakes populations.

"It is a proud moment when we can tell our children and our grandchildren that the future is secure for these magnificent creatures," said the Service's Principal Deputy Director Margaret Everson. "Our deepest gratitude goes to all our conservation partners in this victory, particularly the states and tribes who are committed to wolf conservation and will continue this legacy forward."

The measure for listing a species under the ESA is whether wolves are in danger of extinction, or at risk of becoming so in the foreseeable future, throughout all or a significant portion of their current range. The ESA does not require wolves to be present throughout all of their former range or for populations to be at historical levels for delisting to occur.

Peer-reviewed studies on a range of factors including habitat and prey availability, gray wolf adaptability (including to changing climate conditions), recovery activities and post-delisting regulatory mechanisms, and predictions about how these may affect the wolves in the future are consistent in guiding the Service's decision to delist. By any scientific measure, wolves no longer meet the ESA's standard for protection.

The law mandates that the Service delist species once they have recovered and turn management back to the states. Every species kept on the Endangered Species List beyond its point of recovery takes valuable resources away from those species still in need of the act's protections.

If the wolf is delisted, the Service will continue to monitor the species for five years. Should numbers decline to perilous levels or regulatory mechanisms prove insufficient to safeguard its future, the Service can relist the species and assume gray wolf management again.

The Service's proposal to delist the gray wolf throughout the contiguous United States will be open for public comment in the *Federal Register* beginning on March 15, 2019. Comments must be received within 60 days of publication until May 14, 2019. All comments will be posted on http://www.regulations.gov. This generally means any personal information provided through the process will be posted.

Information on the proposed rule and how to comment may be found at: https://www.fws.gov/home/wolfrecovery/.

*"The facts are clear and indisputable—the gray wolf no longer meets the definition of a threatened or endangered species. Today the wolf is thriving on its vast range and it is reasonable to conclude it will continue to do so in the future. Today's action puts us one step closer to transitioning the extraordinary effort that we have invested in gray wolf recovery to other species who actually need the protections of the Endangered Species Act, leaving the states to carry on the legacy of wolf conservation."*

***David Bernhardt, Secretary, U.S. Department of the Interior***

March 14, 2019 USFWS Press Release on Proposed Wolf Delisting Rule

POSTBULLETIN
Minnesota Newspaper Association's 2019 Daily Newspaper of the Year



# Outdoors: Gray wolves in danger of no longer being endangered

Gabriel Lagarde Forum News Service Jun 26, 2019

BRAINERD, Minn. — "I'm sorry we've got you lined up with numbers like the state penitentiary," drawled Lesley Travers, the hearing's third-party moderator. "But, it's the only way we can ensure everyone gets their chance to speak and be heard."

That, Travers noted Tuesday, June 25, was the only reasonable way to conduct business when there's one and a half hours of allotted speaking time and 81 speakers registered. Brainerd played host to the only public hearing in the nation devoted to a U.S. Fish and Wildlife Service proposal to delist the gray wolf from endangered species protections.

Representatives of the service characterized the decision as a matter of scientific analysis — populations of gray wolves in the lower 48 have rebounded since initial placement on the endangered species list in 1978, establishing a more robust presence in the northern portions of Minnesota and Wisconsin, the Upper Peninsula of Michigan, as well as the northern Rockies in the west, to the tune of more than 6,000 animals. These numbers exceed combined goals for both the Rockies and western Great Lakes populations.

The delistment does not include vulnerable red wolf populations or Mexican gray wolf populations in North Carolina and the southwestern United States, respectively. Delistment would strip gray wolves of most federal protections and leave management of the species' populations to state agencies. This would likely entail a renewal of wolf hunting seasons after decades of bans to that effect with some exceptions, though the species would be monitored for adverse population decreases for another five years as a provision of the Endangered Species Act.

Shades of gray

If Tuesday's hearing indicated anything at face value, it's that the situation and long-term fate of gray wolf populations — and those who come into contact with them — poses no easy answers.

Proponents for delistment largely described the proposal as a response to surging wolf numbers well beyond projections in the '70s and '80s. While these projections didn't materialize, the real threat of encroaching gray wolf populations has led to devastating economic repercussions for communities across the United States, particularly in northern portions of the lower 48 bordering Canada. This looks only to grow more dire as time goes on and wolf populations migrate further and further south.

A former teacher of Tracy, Minn., and liaison for hunting political advocacy group Big Game Forever, John Coulter said expanding wolf populations are wreaking havoc on cattle ranches, homesteads and gaming preserves throughout the continental United States.

"Consider the economic impact of wolves on people in western United States, northern Minnesota and Wisconsin," Coulter said. "It's devastating to portions of the western United States and it's detrimental to hunting. I'm concerned. You're playing with people's lives here. We're not here to wipe the wolf out, that's impossible. We're here talking about balance."

Don Paey, representing a consortium of sports interests from Salt Lake City, Utah, said the federal government should honor its agreement to delist wolves once they reached their population thresholds.

On the other hand, critics lambasted the delistment proposal as the result of bad science and veiled ulterior motives — for example, mining interests or big game hunting of wolves — dressed up with moral arguments that, while more popular, don't reflect the big picture of human-gray wolf relations. Despite claims to the contrary, they argued, delistment could lead to wolf population regressions and years of conservation lost to selfish private interests.

Dan Iverson, a lifelong Minnestoan and self-described avid deer hunter and fisherman, criticized what he deemed a failure of many landowners and hunters to coexist with wolves. Instead, he said, people often blame wolves for their own inability to effectively hunt, fish, farm and run businesses in the environments these activities depend on.

"They're talking about 4,500 wolves across millions upon millions of acres and calling that 'overpopulation,'" Iverson said. "They're not overpopulated. I think the federal agencies are misguided in their approach … I don't think these populations are unreasonable. Go to Wisconsin for deer. There are droves and droves of them. Wisconsin needs more wolves, not less."

Patricia Pesko, of Rice Lake, Wis., said federal authorities are mischaracterizing the status of vulnerable gray wolf populations with standards set in place decades ago, based on already reduced habitats that pale in comparison to the species' historical domain.

"Today, there are about 6,000 wolves in less than 20% of their range, with extremely low numbers in Colorado and Utah," Pesko said. "Without ESA protections, wolves will be at the states' mercy, which have repeatedly demonstrated they will intigate aggressive hunting and trapping quotas under the guise of protecting livestock. We should strive to coexist."

Rally at Gregory Park

Sponsored by the Center of Biological Diversity, roughly 24 people from across the state rallied in Gregory Park in north Brainerd Tuesday afternoon to protest the delistment of the gray wolf.

Often referring to the gray wolf in the Ojibwe language as ma'iingan, many protesters — members of the Ojibwe community themselves — spoke of the apex predator as a "brother," a "sentient creature," and as a "member of the family."

It speaks to deeply personal and spiritual connection between the gray wolf and Ojibwe communities for centuries, McGregor resident Sandra Skinaway said, as well as parallel histories of trauma, lost homelands, massacred families and downtrodden communities, as well as a hope for rebirth that wolves and Native Americans share.

"We try to help people understand that the wolf is family to us," Skinaway said in the blustery shadows of the Gregory Park fountain. "They're still very vulnerable. The Creator warned us that what happens to one, happens to the other. And it has."

Rebecca Porchaska, of Eden Prairie, said the argument is skewed in terms of proportions — namely, while gray wolves once numbered more than 2 million, a population of 6,000 is labeled as fully recovered, while damage to livestock and pets are used as ploys to distract from private hunting, oil and mining interests in the United States.

"There has to be a justifiable reason for this," Porchaska said. "There's a lot of misinformation around why there should be an open season on wolves. They're just not valid."

Porchaska noted the United States Department of Natural Resources indicated that in 2015, of 8.7 million head of cattle and sheep in Minnesota, Wisconsin and Michigan combined, 3,879 were killed by gray wolves.

"I'm not saying it doesn't happen," Porchaska said. "It's just that when we show up to these public hearing it's made out to be that wolves are a terrifying threat to livestock, but when you qualify the problem. That's just not the case."

# IV. LEGISLATIVE ACTION

BigGame Forever was formed specifically to build support for permanent legislative delisting by congressional action. As such, BigGame Forever has been integral in building congressional support for immediate and comprehensive wolf-delisting solutions in Utah and other western states.

**Why Congressional Action is Important.** While nationwide administrative delisting should be considered, from a legal standpoint lasting solutions will likely require an act of Congress. Due to the level and frequency of lawsuits by wolf activists, the open-ended nature of ESA legal interpretation, a judicial safe harbor will likely be required.

The good news is there is significant support in Congress for wolf delisting. This is not a partisan issue. In fact, a bill that would provide permanent delisting for the remaining "wolf states" of Minnesota, Wisconsin, Michigan, and Wyoming enjoys original Republican and Democratic Senate sponsors.

**Congressional Delisting for Northern Utah.** The 2011 legislative language restoring management authority to the portion of Utah within the Rocky Mountains Distinct Population Segment is vitally important. It establishes a legislative framework for returning authority over wolf management to the states through Congress. The congressional language, including the no-sue clause, has successfully been defended in the courts. Several years of wolf management has been conducted successfully. Now is the time to implement these solutions through lasting legislative solutions to continue to protect Utah's important wild game populations from unmanaged wolf populations.

**Successful Delisting of the Northern Rockies DPS.** Our team's efforts building broad based support in Congress for a national wolf-delisting bill have led to (1) the successful delisting of the gray wolf; (2) restoration of state management authority over wolves; (3) the ability of states to begin restoring balance in predator and prey populations. These collaborative legal, legislative, and administrative strategies led to delisting of the gray wolf. The following are some of our accomplishments:

1. Congressional delisting of wolves in the Northern Rockies in 2011 (Section 1713 Full Year Appropriations Act of 2011, P.L. 112-10)
2. District court ruling in support of constitutionality of congressional delisting (August 3, 2011 on summary judgment, Western District of Montana; BigGame Forever intervenor)
3. Ninth Circuit ruling upholding constitutionality of congressional delisting (March 4, 2012 before three judge panel; BigGame Forever intervenor)
4. Delisting of Western Great Lakes Distinct Population Segment of wolves through administrative action – (delisting published December 2011)
5. Wyoming wolf delisting – (October 2012) specific provisions in Section 1713 protecting Wyoming's court victory in support of its wolf management plan
6. National Gray Wolf Delisting administrative rule published (June 13, 2013)

**Building Support in Congress.** Mr. Benson has been at the forefront of the successful legislative efforts to delist wolves through congressional action beginning in 2010. Mr. Benson's expertise on wolves and wolf delisting have been sought in many of the legislative proposals presented before Congress. Working with a professional team of lawyers, lobbyists, and grassroots professionals, Mr. Benson has met with congressional offices from across the country to provide information and education on the issues related to unmanaged wolves and protection of elk, moose, deer, and other native ungulate populations.

**Building Support with Members of Congress and Other Key Decision Makers.** On nationwide delisting, our team secured 62 cosponsors from 32 different states despite the regional nature of the wolf-delisting issue and the sometimes controversial nature of the issue. This kickstarted seri-

ous movement in Congress toward the delisting of wolves. This momentum continues today with significant bipartisan support on this issue.

**HR 509 and S 249.** This bill was originally filed in 2010 as HR 6028. This bill would delist wolves nationwide and immediately return full management authority to the State of Utah. This bill enjoyed broad bi-partisan support with dozens of cosponsors. The original sponsor of this bill was Democratic Congressman Chet Edwards. This bill was re-filed with new bipartisan cosponsors in 2011.

**2010 "Lame Duck" Proposal.** This bill was suggested by members of the Idaho delegation and was heavily negotiated with key Idaho, Montana, Wyoming, and Utah Senators in December 2010. This proposal would have set minimum numbers to maintain delisting and would have immediately delisted Idaho, Montana, Wyoming, and Utah. Several important changes were made by BGF in the last hours of negotiations to ensure that this bill would result in state management over wolf management. An earlier version of the bill would have resulted in permanent federal control of wolf populations. Unfortunately a last minute demand that would have required 1,000 wolves as a minimum population objective doomed this bill shortly before the 2010 congressional adjournment.

**HR 1819.** This bill was introduced by Michigan Congressman Candice Miller. This bill would result in the delisting of all states which were included in any wolf DPS, including the entire state of Utah. Mexican Wolf recovery numbers were maintained at 100 wolves with state management authority automatically being returned once these recovery objectives were met. This bill was widely praised as a compromise approach by many within the conservation community. Support for this bill was impacted by language in the continuing resolution to delist wolves in Idaho and Montana and subsequently delist wolves in the Western Great Lakes.

**Early 2011.** On Feb. 16, 2011, BigGame Forever organized a meeting with 40 leaders of top wildlife and agricultural groups at the U.S. Capitol. Ten members of Congress from both the Senate and House, comprised of both Republicans and Democrats, spoke at the event. A variety of legislative proposals quickly followed these meetings. Though BigGame Forever advocated a solution to include the entire state of Utah, Section 1713 emerged as the final solution. Ryan Benson drafted a legislative fix to Section 1713 once it was clear that only a portion of Utah would be included in the final bill. The fix protected a court victory which supported Wyoming's management plan and the administrative delisting. Without this language, wolves in Wyoming would have remained listed for the foreseeable future. Instead, Wyoming's court victory was upheld and administrative delisting for the state of Wyoming has followed.

It is important to point out that BigGame Forever has not only worked on productive legislative efforts, but has also worked extensively to improve or stop potentially harmful bills. One bill would have permanently left wolves under federal control. Another bill would have delisted wolves for five years with an automatic relisting after the five-year period. These do not provide the immediate return to state management authority or the lasting solutions that are needed to protect and recover wildlife affected by unmanaged wolves.

## Legislative Action: Progress and Results

**2011 Congressional Action to Delist Wolves in the Northern Rockies.** BigGame Forever has worked diligently to delist wolves in Utah. We have led the push in Congress for permanent wolf delisting. Many legislative proposals have been introduced in Congress since 2010. BigGame Forever has worked diligently to build broad based support in Congress for national wolf delisting. In early 2011, this broad-based support for congressional action resulted in legislation that removed wolves from the endangered species list in all of the Northern Rockies DPS except Wyoming. The small portion of Utah that lies within the boundary of the Northern Rockies DPS was included in this delisting. The wolf-delisting provision, which was inserted as Section 1713 of the Full-Year Appropriations Act of 2011, I.L. 112-10 was passed by Congress and signed into law by President Barack Obama on April 15, 2011. It is important to recognize the contribution of many members of Congress, conservation organizations, and the general public in support of congressional action to delist wolves. Each member of Utah's congressional delegation played an important role in building support for wolf delisting by Congress.


*(Above) An article from the BBC on congressional wolf delisting action signals the attention the issue receives on a worldwide basis. http://www.bbc.com/news/world-us-canada-13086459*

**H.R. 424-the Gray Wolf State Management Act of 2017.** There are two separate bills that would authorize expanded state management of wolves before Congress in 2017 and 2018. H.R. 424-the Gray Wolf State Management Act of 2017 was introduced in January of 2017. The bill directs the Secretary of Interior to reissue final rules relating to the delisting of the gray wolf in the Wyoming and the Western Gray Lakes. H.R. 424 was passed by the House Natural Resources Committee on October 4, 2017 and formally reported by the House Natural Resources Committee on January 8, 2018. The bill was introduced by Congressman Colin Peterson (D-MN) and is supported by a large bipartisan group of members of the House of Representatives.

Senator Ron Johnson (R-WI) introduced a companion bill, S. 164, to H.R. 424 in the United States Senate. Like H.R. 424, S. 164 directs the Secretary of Interior to reissue the final rules relating to the delisting of gray wolves in the state of Wyoming and the Western Great Lakes. S. 164 was introduced with the bi-partisan support of cosponsors Senator John Barrasso (R-WY), Mike Enzi (R-WY), Senator Tammy Baldwin (D-WI), and Senator Amy Klobuchar (D-MN).

IB

# Union Calendar No. 361

115TH CONGRESS
2D SESSION

# H. R. 424

**[Report No. 115–487]**

To direct the Secretary of the Interior to reissue final rules relating to listing of the gray wolf in the Western Great Lakes and Wyoming under the Endangered Species Act of 1973, and for other purposes.

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IN THE HOUSE OF REPRESENTATIVES

JANUARY 10, 2017

Mr. PETERSON (for himself, Mr. DUFFY, Ms. CHENEY, Mr. NOLAN, Mr. EMMER, Mr. LABRADOR, Mr. SENSENBRENNER, Mr. SIMPSON, Mr. HUIZENGA, Mr. GALLAGHER, Mr. KIND, Mr. MOOLENAAR, Mr. WALBERG, Mr. GROTHMAN, and Mr. BERGMAN) introduced the following bill; which was referred to the Committee on Natural Resources

JANUARY 8, 2018

Additional sponsors: Mr. UPTON, Mr. GOSAR, and Mr. SESSIONS

JANUARY 8, 2018

Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

**SECTION 1. SHORT TITLE.**

This Act may be cited as the ''Gray Wolf State Management Act of 2017''.

**SEC. 2. REISSUANCE OF FINAL RULE REGARDING GRAY WOLVES IN THE WESTERN GREAT LAKES.**

Before the end of the 60-day period beginning on the date of enactment of this Act, the Secretary of the Interior shall reissue the final rule published on December 28, 2011 (76 Fed. Reg. 81666), without regard to any other provision of statute or regulation that applies to issuance of such rule. Such reissuance shall not be subject to judicial review.

**SEC. 3. REISSUANCE OF FINAL RULE REGARDING GRAY WOLVES IN WYOMING.**

Before the end of the 60-day period beginning on the date of enactment of this Act, the Secretary of the Interior shall reissue the final rule published on September 10, 2012 (77 Fed. Reg. 55530), without regard to any other provision of statute or regulation that applies to issuance of such rule. Such reissuance shall not be subject to judicial review.

**•HR 424 RH**

**FY 2018 Interior Appropriations Bill.** The Fiscal Year 2018 Interior Appropriations Bill contained language that reflects the intent of H.R. 424. Specifically, the Fiscal Year 2018 House Appropriations Bill called for a delisting of the Gray Wolf in the Western Great Lake States as well as Wyoming from the List of Endangered and Threatened Species. This language was ultimately taken out of the Fiscal Year 2018 Omnibus Appropriations Bill as a result of opposition from the Senate Minority Leader and House Minority Leader.

**H.R. 6147 FY 2019 Interior and Environment Appropriations Bill.** The House version of the Fiscal Year 2019 Interior and Environment Appropriations Bill (H.R. 6147) contains language that would require the Secretary of Interior to issue a rule to remove the Gray Wolf in each of the 48 contiguous states and the District of Columbia from the list of endangered and threatened wildlife and make that decision not subject to judicial review. This language was contained in the base text of H.R. 6147 as introduced by the House Interior and Environment Appropriations Committee Chairman Ken Calvert (R-CA). The House Appropriations Committee passed H.R. 6147 on June 6, 2018 and the full United States House of Representatives is expected to take up the bill for consideration in the near future.

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**[FULL COMMITTEE PRINT]**

**Union Calendar No. _____**

115TH CONGRESS
2D SESSION

# H. R. _____

**[Report No. 115–____]**

Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2019, and for other purposes.

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IN THE HOUSE OF REPRESENTATIVES

____ --, 2018

Mr. CALVERT, from the Committee on Appropriations, reported the following bill; which was committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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# A BILL

Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2019, and for other purposes.

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May 14, 2018 (10:40 a.m.)

(1) result in the displacement of individuals currently employed by the Department, including partial displacement through reduction of non-overtime hours, wages, or employment benefits;

(2) result in the use of an individual under the Department of the Interior Experienced Services Program for a job or function in a case in which a Federal employee is in a layoff status from the same or substantially equivalent job within the Department; or

(3) affect existing contracts for services.

SAGE-GROUSE

SEC. 115. None of the funds made available by this or any other Act may be used by the Secretary of the Interior to write or issue pursuant to section 4 of the Endangered Species Act of 1973 (16 U.S.C. 1533)—

(1) a proposed rule for greater sage-grouse (*Centrocercus urophasianus*);

(2) a proposed rule for the Columbia basin distinct population segment of greater sage-grouse.

REISSUANCE OF FINAL RULES

SEC. 116. (a) The final rule published on September 10, 2012 (77 Fed. Reg. 55530) that was reinstated on March 3, 2017, by the decision of the U.S. Court of Appeals for the District of Columbia (No. 14-5300) and fur-

ther republished on May 1, 2017 (82 Fed. Reg. 20284) that reinstates the removal of Federal protections for the gray wolf in Wyoming under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and this subsection, shall not be subject to judicial review.

(b) Before the end of the 60-day period beginning on the date of enactment of this Act, the Secretary of the Interior shall reissue the final rule published on December 28, 2011 (76 Fed. Reg. 81666), without regard to any other provision of statute or regulation that applies to issuance of such rule. Such reissuance (including this subsection) shall not be subject to judicial review.

GRAY WOLVES RANGE-WIDE

SEC. 117. (a) Not later than the end of fiscal year 2019, and except as provided in subsection (b), the Secretary of the Interior shall issue a rule to remove the gray wolf (*Canis lupus*) in each of the 48 contiguous States of the United States and the District of Columbia from the List of Endangered and Threatened Wildlife in section 17.11 of title 50, Code of Federal Regulations, without regard to any other provision of statute or regulation that applies to issuance of such rule.

(b) Such issuance (including this section)—

(1) shall not be subject to judicial review; and

(2) shall not affect the inclusion of the subspecies classified as the Mexican gray wolf (*Canis lupus baileyi*) of the species gray wolf (*Canis lupus*) in such list.

TRIBAL SOVEREIGNTY

SEC. 118. None of the funds made available by this or any other Act may be used to enforce, refer for enforcement, or to assist any other agency in enforcing section 251 of title 25, United States Code.

CONTRIBUTION AUTHORITY

SEC. 119. Section 113 of Division G of Public Law 113–76 is amended by striking ''2019,'' and inserting ''2024,''.

PROHIBITION ON USE OF FUNDS FOR CERTAIN HISTORIC DESIGNATION

SEC. 120. None of the funds made available by this Act may be used to make a determination of eligibility or to list the Trestles Historic District, San Diego County, California, on the National Register of Historic Places.

## TITLE II

## ENVIRONMENTAL PROTECTION AGENCY

### SCIENCE AND TECHNOLOGY

(INCLUDING RESCISSION OF FUNDS)

For science and technology, including research and development activities, which shall include research and

**H.R.6784 - Manage our Wolves Act**

On November 16, 2018 the House of Representatives passed legislation to remove federal protections from the gray wolf range wide. It included two sections. The first removed federal protection from the gray wolf in Wyoming and the Western Great Lakes. The protection was previously removed in 2011 and 2012 but then reinstated in 2017 by judicial ruling. The second section then required that the Secretary of the Interior remove federal protection in the entire 48 contiguous States of the United States and the District of Columbia.

The Manage our Wolves Act would give states the authority to manage wolf populations the same way they do other wildlife populations, by biologists and game managers using science-based approaches to determine optimal outcomes. This bill gives states all the tools needed to ensure that populations of moose, deer, elk, and other big game populations can be substantially managed and protected. In addition, state wildlife professionals can adaptively manage wolf populations to help family ranchers and protect state and local outdoor economies.

One of the original sponsors of the bill, Rep. Cathy McMorris Rodgers, R-Wash was quoted in an article in the Spokesman Review summarizing the intent of the bill: "Eastern Washington knows better how to manage our land and wildlife than someone sitting in a cubicle in Washington, D.C.," McMorris Rodgers said in a statement Friday morning. "By delisting the gray wolf, we can allow people in our state and community to use science-based management practices that will benefit both our endangered and native animals while protecting farmers and ranchers. I was proud to be an original cosponsor of this bill because it is important to people here in Eastern Washington." *(http://www.spokesman.com/stories/2018/nov/15/house-of-representatives-to-vote-on-gray-wolf-deli/)*

The bill included language that precluded it from being subject to judicial review to protect it from further needless litigation. The bill was specific to the gray wolf and did not include any action toward the Mexican gray wolf subspecies. The Manage our Wolves Act passed with bipartisan support; the final vote was 196 - 180.

This legislative victory shows what is possible when Congress is educated on the importance of state management of wolves and protection of state wildlife populations. The bill received significant bipartisan support because of sportsmen educational efforts on the issue and ongoing grassroots support.

This does not signal that the effort is over. Passage in the United States Senate is still necessary for this bill to become law, but this is an important step in the right direction.

IIB

115TH CONGRESS
2D SESSION

# H. R. 6784

IN THE SENATE OF THE UNITED STATES

NOVEMBER 26, 2018

Received; read twice and referred to the Committee on Environment and Public Works

# AN ACT

To provide for removal of the gray wolf in the contiguous 48 States from the List of Endangered and Threatened Wildlife published under the Endangered Species Act of 1973.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

**SECTION 1. SHORT TITLE.**

This Act may be cited as the ''Manage our Wolves Act''.

**SEC. 2. REMOVAL OF FEDERAL PROTECTIONS FOR GRAY WOLVES IN WYOMING AND WESTERN GREAT LAKES.**

(a) GRAY WOLVES IN WYOMING.—The final rule published on September 10, 2012 (77 Fed. Reg. 55530), that was reinstated on March 3, 2017, by the decision of the U.S. Court of Appeals for the District of Columbia (No. 14–5300) and further republished on May 1, 2017 (82 Fed. Reg. 20284), that reinstates the removal of Federal protections for the gray wolf in Wyoming under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and this subsection, shall not be subject to judicial review.

(b) GRAY WOLVES IN WESTERN GREAT LAKES.—Before the end of the 60-day period beginning on the date of enactment of this Act, the Secretary of the Interior shall reissue the final rule published on December 28, 2011 (76 Fed. Reg. 81666), without regard to any other provision of statute or regulation that applies to issuance of such rule. Such reissuance (including this subsection) shall not be subject to judicial review.

**SEC. 3. REMOVAL OF FEDERAL PROTECTIONS FOR GRAY WOLVES RANGE-WIDE.**

(a) IN GENERAL.—Not later than the end of fiscal year 2019, and except as provided in subsection (b), the Secretary of the Interior shall issue a rule to remove the gray wolf (Canis lupus) in each of the 48 contiguous States of the United States and the District of Columbia from the List of Endangered and Threatened Wildlife in section 17.11 of title 50, Code of Federal Regulations, without regard to any other provision of statute or regulation that applies to issuance of such rule.

(b) LIMITATION ON JUDICIAL REVIEW.—Such issuance (including this section)—

(1) shall not be subject to judicial review; and

(2) shall not affect the inclusion of the subspecies classified as the Mexican gray wolf (Canis lupus baileyi) of the species gray wolf (Canis lupus) in such list.

Passed the House of Representatives November 16, 2018.

Attest: KAREN L. HAAS,
*Clerk.*

**S.3140 - American Wild Game and Livestock Protection Act**

On December 19, 2019 Utah Senator Mike Lee introduced legislation that will require the Secretary of the Interior to issue a final rule relating to the delisting of the gray wolf under the Endangered Species Act of 1973. The bill was cosponsored by fellow Utah Senator Mitt Romney, Senator Steve Daines of Montana and Senator Ron Johnson of Wisconsin *(see the one pager from Senator Lee's office on the following page for more detail about the bill)*.

The bill recognizes that sound science indicates wolves have recovered sufficiently in every way to allow them to be removed from the endangered species list. It also recognizes that failure to delist the wolves when they met reintroduction goals has resulted in harm to other wildlife species as well as to local economies, including hunting, outdoor and livestock industries.

Once the wolves are delisted, management authority will be returned to the states, who are able to properly manage wolves in conjunction with the needs of other wildlife populations and industries under their purview.

The bill also includes an exemption from judicial review. In the past delisting has been challenged, in some cases successfully, by wolf activists. Inclusion of this exemption will protect the rule and the legislation from needless, endless lawsuits by activists that would prevent the law from going into effect.

# American Wild Game and Livestock Protection Act

The American Wild Game and Livestock Protection Act would codify the Fish and Wildlife Service proposed rule entitled ‘‘Endangered and Threatened Wildlife and Plants; Removing the Gray Wolf (Canis lupus) From the List of Endangered and Threatened Wildlife’’ (84 Fed. Reg. 9648 (March 15, 4 2019)). By codifying this rule, stewardship of gray wolf populations would fall to states and allow for active management of the species. The FWS would continue to monitor the gray wolf to ensure that the species does not regress. Codification of the rule would not prevent the FWS from relisting the gray wolf as endangerd or threatened if in the future the species is shown to have declined.

There is significant data showing that the gray wolf has recovered sufficiently and no longer meets the definintion of an endangered species. The FWS has tracked the population of gray wolves in certain states since at least 1975, after the species was listed as endangered in 1974. Since that time, the grey wolf population has grown to exceed the appropriate management levels established by relevant state wildlife divisions and benchmarks from the FWS. Additionally, the reintroduction of gray wolves in the Northern Rocky Mountains has been a tremendous success, so much so that the Fish and Wildlife Service has identified the population as a Distinct Population Segment that has met all the criteria of recovery and has been delisted.

The negative ramifications of not delisting the gray wolf are numerous. The inability to manage the wolf populations has harmed wild game and livestock, including cattle, sheep, moose, elk, deer and other large ungulate species, prevented the implementation of state management plans, and caused significant economic damage to many rural areas.

**Bill Specifics**

- Would codify the proposed rule ‘‘Endangered and Threatened Wildlife and Plants; Removing the Gray Wolf (Canis lupus) From the List of Endangered and Threatened Wildlife’’ (84 Fed. Reg. 9648 (March 15, 4 2019))
- Would exempt the rule and this legislation from judicial review

*For more information concerning this bill or to be added as a cosponsor, please contact Cole LaCroix (cole_lacroix@lee.senate.gov) in Senator Lee’s office.*

# V. LEGAL STRATEGIES

The legal and political history of wolves, wolf reintroduction, wolf proliferation, and wolf delisting is long, convoluted, and full of controversy. Of particular interest is the following abbreviated history regarding wolf recovery in the state of Minnesota. In the 1970's, the state of Minnesota met its recovery objective for wolf numbers with 1,200 wolves. Over 40 years later, Minnesota still does not have management authority over wolf populations, despite repeated administrative delisting decisions. Why?

Despite the worldwide abundance of Northern Gray Wolves, lawsuits filed by wolf proliferation activists have been rampant. These lawsuits, exploiting a variety of technicalities under the Endangered Species Act, have been used to stop all wolf management in states like Minnesota. Unfortunately, these protections have further exacerbated the declines of much more fragile populations of wild game species in states which have substantial wolf numbers.

## Legal Strategies: Progress and Results

**Ninth Circuit Lawsuit Challenging Congressional Delisting Decision.** One of the important examples of past success was the challenge in the Ninth Circuit to the 2011 congressional action delisting wolves in the Northern Rockies Distinct Population Segment (excluding Wyoming). The lawsuit attacked passage and implementation of Section 1713 of the April 2011 Continuing Resolution. On May 5, 2011, U.S. Fish and Wildlife Service had complied with Section 1713 by reissuing the 2009 Rule. 50 C.F.R. Part 17,76 Fed. Reg. 25,590. That same day, several plaintiffs filed a lawsuit challenging the constitutionality of Section 1713. The lawsuit, filed in United States District Court for the Western District of Montana before Judge Donald W. Molloy, challenged the congressional action under the separation of powers doctrine relying on United States v. Klein, 80 U.S. 128 (1871). The choice of court is notable due to the fact other lawsuits challenging administrative wolf-delisting decisions by the Bush and Obama administrations were also filed in Judge Molloy's court. BigGame Forever worked with other concerned conservation organizations to intervene in the lawsuit to defend the congressional action to delist wolves.

**Western District of Montana Ruling Upholds Constitutionality of Congressional Delisting Decision.** On August 3, 2011, Judge Donald W. Molloy granted summary judgment upholding the congressional wolf delisting by finding that Congress acted within its enumerated powers by amending the Endangered Species Act using Section 1713 of the 2011 Appropriations Act, P.L. 112R10. Judge Molloy's ruling holds that:

> *Because the 2009 Rule was invalidated, the re-issuance of the Rule pursuant to congressional directive, by implication amended the ESA as to this particular delisting. In other words, the ESA is no longer intact as to the re-issuance of the 2009 rule…under Ninth Circuit law a constitutional reading of Congress's directive to reissue the Rule is possible.*

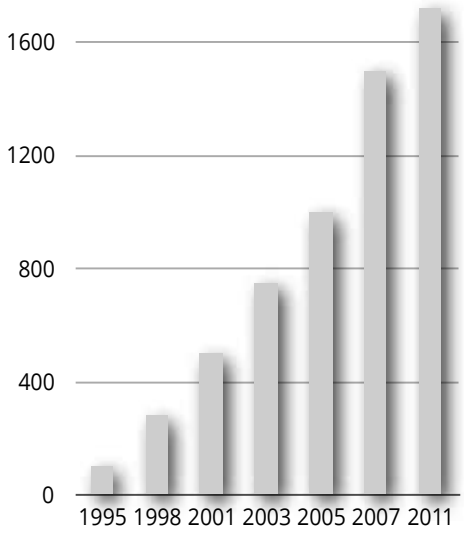
**Ninth Circuit Upholds Constitutionality of Congressional Delisting Decision.** The plaintiffs appealed Judge Molloy's ruling to the United States Court of Appeals for the Ninth Circuit in San Francisco. Arguments were heard before a three-judge panel at the Ninth Circuit on November 8, 2011. BigGame Forever's attorney, Ted Lyon, presented arguments at the hearing. The Ninth Circuit ruling, written by Judge Mary Schroeder was issued on March 14, 2012. In affirming the district court's finding of constitutionality of the congressional delisting, the court indicated, "… Congress effectively provided that no statute, and this must include the ESA, would apply to the 2009 rule. Congress thus amended the law applicable to the agency action…The meaning and intended effect of Section 1713 are perfectly clear. The partial delisting was to take effect within 60 days, with no court review or interference…Section 1713…is entitled to be enforced."

# TIMELINE OF CANADIAN GRAY WOLF REINTRODUCTION AND DELISTING EFFORTS

## The Introduction of the **Canadian Gray Wolf**

### 1995
29 Canadian Gray Wolves introduced in Northern Rockies

### 2001
Wolf population numbers exceed 500 wolves in the Northern Rockies.




*Northern Rocky Mountain Wolf Population Trends (based on minimum counts), 1995-2011*

### 2010
**April**
Formation of Big Game Forever.

**May**
Big Game Forever announces effort to pursue congressional wolf delisting.

**September**
S 3919 introduced by Senator Orrin Hatch.

**December**
Congressional wolf delisting debated on floor of the US Senate.

**July**
HR 6028 introduced by Congressman Chet Edwards (D) Texas.

### 2007
Wolf population numbers exceed 1500 wolves in the Northern Rockies.

### 2006
Governor Huntsman and members of Utah's Congressional delegation send correspondence to USFWS requesting acceptance of Utah wolf management plans.

### 2005
Wolf population numbers exceed 1000 wolves in the Northern Rockies.

**"Recovery goals... equitably distributed wolf population containing at least 300 wolves and 30 breeding pairs for 3 consecutive years were reached in 2002."**

**--USFWS**

Canadian Gray Wolf
# Delisting Efforts

## 2011

### January/February
HR 509 and S 249 American Big Game and Livestock Protection Act introduced with 24 co-sponsors.

### February
Big Game Forever summit announcing unified effort of 55 co-sponsors to achieve delisting.

### September
Governor Herbert requests that USFWS delist the remainder of Utah and explains that non-native Mexican Wolves will not be permitted in the state.

### December
Delisting of Western Great Lakes Gray Wolf Distinct Population Segment is announced.

### March
9th Federal Appellate Court in San Francisco rules that Congressional Action to delist wolves in the Northern Rockies is fully constitutional.

## 2013

### March
72 members of Congress send "Dear Colleageue Letter: to USFWS director Dan Ashe in support of expanded wolf delisting.

### May
Final rule implementing 1713 is published by US Fish and Wildlife Service.

### April
Congressman Mike Simpson includes section 1713 in Full-Year Appropriations Act with endorsement of Senator John Tester and Max Baucus. President Obama signs 1713 into law.

## 2012

### February
USFWS 5-year recommendations of wolves suggest expanded delisting is supported by the science and policy underlying the endangered species act.

### October
State of Wyoming Wolf Plan approved and delisting finalized.

### June 13
USFWS publishes draft 48 state delisting and opens public comment period.

### June 7
USFWS announced decision to delist Canadian Gray Wolves in the lower 48 states. Mexican Wolves listed as a separate subspecies.

# CONCLUSION

# CONCLUSION

Progress continues to be made in the effort to return wolf-management authority to the State of Utah by delisting of the gray wolf. As our efforts continue, administrative delisting and congressional action remain the two clear objectives that move closer to being realized.

**Administrative Delisting.** The only way to restore state management authority over wolves is removing them from the Endangered Species List. Administrative delisting functions as a legal and scientific acknowledgment from U.S. Fish and Wildlife Service that the national wolf recovery plan for Northern Gray Wolves has been completed and that gray wolves are not threatened with extinction.

The USFWS's March 14, 2019 proposal and the supporting documentation is in fact the USFWS acknowledging that the scientific evidence and empirical data indicate the gray wolf has recovered, meeting all requirements in the Endangered Species Act for delisting. By law management authority over wolves should be returned to the states. We are very optimistic that the USFWS will follow through with the delisting following the public comment period. Administrative delisting is a huge step toward an overall solution to ensuring Utah will have the ability to manage wolves.

BGF will continue all its efforts to encourage administrative delisting through educating and mobilizing the public and organizations in support of wolf delisting and state management until it has been achieved.

**Congressional Action.** Due to the repeated lawsuits by wolf proliferation advocates and technicalities under the Endangered Species Act, there is a high likelihood that an administrative delisting could be reversed. This is why permanently delisting wolves will likely require congressional action. It is also notable that the areas of the Northern Rockies DPS which were covered by this congressional action are the only areas that have consistently been able to manage wolves the last six years.

BigGame Forever will continue its efforts to educate and activate the public and elected officials. BGF will provide the support needed to pass legislation to uphold state management of the gray wolf in Utah. BGF looks forward to continuing its efforts to protect Utah's world-class herds of elk, mule deer, moose, and other native ungulates from unmanaged wolf populations and preserve our $2.4 billion outdoor and hunting economy.

# APPENDIX

# APPENDIX

# EXHIBIT 1

*Letter In support of administrative and congressional gray wolf delisting from 460 businesses and organizations*

June 7, 2019

President Donald J. Trump
1600 Pennsylvania Avenue, N.W.
Washington, DC 20500

**RE: Support of Administrative and Congressional Gray Wolf Delisting**

Dear Mr. President:

As sportsmen, conservationists, livestock producers, and state leaders, we are writing to support immediate delisting of gray wolves across the lower 48 states. The delisting announced March 14, 2019 to restore state management authority for Canadian gray wolves is an important step in the right direction. This decision recognizes the contribution of states, sportsmen, and others in allowing recovery plans to proceed for gray wolves in America. The objectives set forth in these recovery plans were met more than a decade ago. The negative impacts to wild game, including moose, elk, deer and other large ungulate species, has been well documented. Failure to manage wolves according to agreed upon management plans has caused significant economic damage to many rural areas and has in fact forced people to close their long-held, multigenerational family businesses.

Restoring state management authority to responsibly manage gray wolves fulfills commitments to delist once recovery objectives were met. More importantly, this will allow states to protect against unsustainable levels of predation on moose and elk calves as well as fawn deer populations. Under Endangered Species Act take prohibitions, needed regulation of predation has not been possible and populations of some of America's most important wildlife herds have fallen far below sustainable levels. The resultant impacts on herd health, wildlife abundance, and the North American Model of Wildlife Conservation are very concerning. For these reasons we support plans to delist the gray wolf and restore state management protections and management plans for the gray wolf.

We also write to urge the strongest level of support for congressional action to permanently delist wolves. Years of litigation by special interest groups have unnecessarily delayed previous decisions to delist gray wolf populations in various states. We expect that this delisting decision will also be challenged in the courts on a variety of technicalities. Unfortunately, judicial activism on endangered species listing decisions has become one of the most significant threats to proper administration of the Endangered Species Act.

We strongly support the recovery and protection of sensitive species. We also recognize that wolf activists are attempting to use the Endangered Species Act litigation to force proliferation of gray wolves across America. This is not the original intent of the Act and threatens the health of more wildlife herds. We support congressional action to permanently delist wolves and allow states to properly manage and protect their wildlife populations.

In conclusion, we strongly support the March 14, 2019 administrative listing decision and urge final publication of this important rule. We also support congressional action to permanently restore state management authority over wolf populations. We do not agree with efforts to use the Endangered Species Act to force wolf proliferation in America. Thank you for your tremendous leadership to protect responsible conservation and ensure a brighter future for our precious wildlife resources and the North American Model of Wildlife Conservation.

Sincerely,

*BigGame Forever (BGF)*
*Hunter Nation*
*Rocky Mountain Elk Foundation*
*Safari Club International (SCI)*
*Congressional Sportsmen's Foundation*
*US Sportsmen's Alliance*

# EXHIBIT 1

*Support of Administrative and Congressional Gray Wolf Delisting (cont.) - Page 2*

*Wild Sheep Foundation (WSF)*
*Sportsmen for Fish and Wildlife (SFW)*
*Mule Deer Foundation (MDF)*
*Boone & Crocket Club*
*National Trapper's Association*
*The American Sheep Industry Association*
*The Foundation for Wildlife Management*
*Professional Outfitters and Guides of America*
*Wildlife Conservation Alliance*
*Michigan United Conservation Clubs*
*Minnesota Outdoor Heritage Alliance*
*Minnesota Deer Hunters Association*
*SCI - Houston, TX*
*Conservation Force*
*Full Curl Society*
*Larry Potterfield, Midway USA*
*Jim Shockey*
*Rob Keck*
*Browning*
*Hoyt*
*Federal Ammunition*
*KUIU*
*Wade Lemon Hunting*
*King's Camo*
*Extreme Huntress*
*American Houndsmen Federation*
*Iowa Foundation for North American Wild Sheep*
*Arizona Desert Bighorn Sheep Society*
*Rocky Mountain Bighorn Society*
*Utah WSF*
*Fraternity of the Desert Bighorn (NV)*
*Yukon Chapter WSF*
*Wild Sheep Society of British Columbia (BC)*
*Midwest Chapter WSF (MN)*
*Washington Chapter WSF*
*Wyoming WSF*
*Eastern Chapter WSF (PA)*
*Texas Bighorn Society (TX)*
*California Chapter WSF*
*Ted Nugent*
*Michael Waddell*
*Paul Babaz*
*Jana Waller*
*Ralph and Vicki Cianciarulo*
*Senator Ted Lyon-Author The Real Wolf*
*Eastman's Hunting Journal*
*Best of the West*
*SCI - Salt Lake Chapter*
*SCI - NW Chapter*
*SCI - SW Chapter*
*SCI - San Francisco Bay*
*SCI - Mid-Atlantic Bowhunters*
*SCI - Central Washington*
*SCI - Inland Empire*
*SCI - Puget Sound*
*Epic Outdoors*
*Savage Outdoor TV*
*Washingtonians for Wildlife Conservation*
*Fur Takers of America*
*Guy Eastman*
*Ike Eastman*
*Ivan Carter*
*Craig Morgan*
*Keith Mark*
*MacMillan River adventures*
*Mark Giest*
*John Wayne Walding*
*Randy and Coni Brooks*
*Chris Dorsey, Dorsey Pictures*
*R & K Hunting*
*Scott Haugen - The Hunt*
*Lindsay Persico, Huntfiber Fitness*
*Henry and Lakeisha Woodard*
*Weston Clark*

*Support of Administrative and Congressional Gray Wolf Delisting (cont.) - Page 3*

*Doug Sayer*
*Kevin Pritchett*
*Gray Ghost Safaris*
*Gun Werks*
*Buckmasters*
*Jackie Bushman*
*Adams Arms Holdings*
*GSM Outdoors*
*Nationwide Houndsmen Association*
*New Mexico Hound Association*
*Guides and Outfitters of British Columbia*
*Western Lands Outfitters*
*Arizona Deer Association*
*Arizona Elk Society*
*Arizona BGF*
*Arizona Bass Nation*
*Bass Federation Arizona*
*Buckskin Chapter, ADA*
*Flagstaff AZ Chapter, MDF*
*Prescott AZ Chapter, MDF*
*Phoenix, AZ Chapter, MDF*
*Queen Creek, AZ Chapter, MDF*
*Tuscon, AZ Chapter, MDF*
*Southeastern Arizona Chapter, MDF*
*Eastern Arizona Chapter, MDF*
*Gila County Anglers Round Table*
*Rim Country Custom Rods*
*SRTO-Arizona*
*Southwest Fur Harvesters*
*Valley of the Sun, Quail Forever*
*A3 Outfitters*
*Tate's Guide Service*
*Ridgetrack Guides and Outfitting*
*Don McDowell Outdoors*
*Southwest Houndsmen Alliance*
*Texas Trappers and Fur Harvesters*
*Sportmen's Business Alliance*
*Borderline Bassin' Contenders*
*Outdoor Heritage Coalition*
*Montana Trappers Association*
*Montana Outfitters and Guides Association*
*Montana SFW*
*SCI - Great Falls Chapter*
*SCI - Southwest Montana*
*SCI - Western Montana*
*SCI - Billings Chapter*
*Montana Guides and Outfitters*
*Montana BGF*
*Billings, MT BGF*
*Missoula, MT BGF*
*Livingston, MT BGF*
*Bozeman, MT BGF*
*Helena, MT BGF*
*Great Falls, MT BGF*
*Kalispell, MT BGF*
*Butte, MT BGF*
*Montana Guide Service*
*Youth Trappers Camp MT*
*Elk Creek Outfitters*
*Phil Soucy Studios*
*Lazy J Bar O Outfitters*
*Milk River Outfitters*
*Cody Carr Hunting Adventures*
*Four Land & Livetock*
*M.A.D. Outfitting*
*Trophies West Outfitting Company*
*Northern Rockies Outfitters*
*Bear Creek Outfitters*
*JE Soares Specialty Steel*
*Buckboard Outfitters*
*Choice Ammunition*
*Colorado Mule Deer Association*
*Rocky Mountain Bighorn Society - Colorado*
*Colorado BGF*

# EXHIBIT 1

*Support of Administrative and Congressional Gray Wolf Delisting (cont.) - Page 4*

*Colorado Bowhunters Association*
*Colorado Outfitters Association*
*SCI - Four Corners*
*SCI - Colorado*
*SCI - Denver Chapter*
*Colorado Wool Growers Association*
*Colorado Cattlemen's Association*
*Colorado Big Game Club*
*Colorado Trappers and Predator Hunters Association*
*Colorado Stop the Wolf Coalition*
*Colorado Hound Association*
*Southeast Colorado Private Property Rights Council*
*Day One Camouflage*
*Lobo Outfitters*
*Chris Jurney Outfitting*
*Rocky Mountain Specialty Gear, Inc.*
*Jim Liberatore, President and CEO Outdoor Sportsman Group*
*Scot Oliver, Mason & Morse Ranch Company*
*Two Feathers Custom Bows*
*CJ Outdoor Services*
*Time Flies Photography*
*Bob Radocy - Colorado Conservationist*
*Castle Valley Outdoors*
*Critters R Us*
*Mountain Coast Builders*
*Sundown Outfitters*
*Ash & Trish Tully*
*Rio Grande Outfitters*
*Crazy Horse Outfitters & Guides*
*U Buckaroo Horseshoeing*
*San Juan Outfitting*
*Western Legacy Outfitters*
*Denver, CO BGF*
*Grand Junction, CO BGF*
*Colorado Springs, CO BGF*
*Fort Collins, CO BGF*
*Pagosa Springs, CO BGF*
*Lakewood, CO BGF*
*Arvada, CO BGF*
*Gunnison County Wildlife Association*
*Reel Game Calls*
*Camp David Outfitting*
*Modern Classic Motors*
*Fashion Firearms Handbags*
*AMC Developing, Inc.*
*Mudd Valley Ranch*
*Jerry's Outdoor Sports*
*Oregon Outdoor Council*
*Oregon Hunters Association*
*Oregon Trappers Association*
*Oregon Cattlemen"s Association*
*Oregon BGF*
*Oregon Predators Hunters*
*Natural Instincts Taxidermy*
*Nature's Paint*
*Boulder Creek Manufacturing*
*Gary Lewis Outdoors*
*Oregon United Sporting Dogs Association*
*Working Dogs for Wildlife Conflict Resolution*
*7 Ranch Outfitters*
*SFW – Utah*
*Utah Farm Bureau Federation*
*Utah Archery Association*
*Utah Wild Sheep Foundation*
*Utah Outfitters and Guides Association*
*Utah BGF*
*Utah County, UT SFW*
*Dixie, UT SFW*
*Iron County, UT SFW*
*Carbon/Emery, UT SFW*
*Davis Weber, UT SFW*
*Kamas, UT SFW*
*Uintah Basin, UT SFW*

*Support of Administrative and Congressional Gray Wolf Delisting (cont.) - Page 5*

*Logan, UT SFW*
*Beaver County, UT SFW*
*Millard County, UT SFW*
*Garfield/Kane, UT SFW*
*Salt Lake City, UT SFW*
*Toole County, UT SFW*
*San Juan, UT SFW*
*Sevier County, UT SFW*
*Utah Trappers Association*
*Utah Cattleman's Association*
*Utah Wool Growers Association*
*Utah Houndsmen Association*
*Barnes Bullets*
*High Country Horns*
*Kalen Lemon - WLH Sonora*
*Mossback*
*Tines Up*
*High Desert Wild Sheep Guides*
*Out-of-Bounds*
*Pioneer Grazing Association*
*Ferron Cattlemen Association*
*Fierce Firearms*
*Sorrenson Outdoors*
*Muley Crazy*
*Animal Art Taxidermy*
*Ogden Taxidermy*
*Tri State Taxidermy*
*Conroe Taxidermy*
*Jake Bess Hunting*
*Bronson Outfitting*
*Color Country Outfitters*
*Boeing Employees Everett Gun Club*
*Bremerton Sportsmen's Club*
*Capitol City Rifle/Pistol*
*Cascade Mountain Men*
*Cascade Tree Hound Club*
*Cedar River Bowmen*
*Citizens for Responsible Wildlife Management*
*Edison Sportsmen's Club*
*Hunters Heritage Council*
*Inland NW Wildlife Council*
*KBH Archers*
*Kittatas County Field & Stream*
*NW Field Trial & Hound Association*
*National Wild Turkey Federation - South Sound Long-beards*
*North Flight Waterfowl*
*Northwest Sportsmen's Club*
*Okanogan Hound Club*
*Panhandle Outfitters*
*Bearpaw Outfitters*
*Pacific Flyway*
*Pateros Sportsman's Club*
*Paul Bunyan Rifle and Sportsman's Club*
*Pheasants Forever Chapter #257*
*Pierce County Sportsmen's Council*
*Richland Rod & Gun Club*
*Ruffed Grouse Society*
*Seattle Sportsmen's Conservation Foundation*
*Skagit Sportsman and Training Association*
*Tacoma Sportsmen's Club*
*Traditional Bowhunters of Washington*
*Vashon Sportsmen's Club*
*Washington Falconer's Association*
*Washington Game Fowl Breeders Association*
*Washington State Big Game Council*
*Washington Cattlemen's Association*
*Washington BGF*
*Washington State Hound Council*
*Washington Muzzleloaders Association*
*Washington State Archery Association*
*Washington State Trappers Association*
*Washington Waterfowl Association*
*Wildlife Committee of Washington*

# EXHIBIT 1

*Support of Administrative and Congressional Gray Wolf Delisting (cont.) - Page 6*

*Washington For Wildlife*
*Washington Chapter Wild Sheep Foundation*
*Southern Utah Deer Alliance*
*Michigan BGF*
*UP Trappers Association*
*Michigan Bear Hunters Association*
*Michigan Trappers Association*
*Idaho WSF*
*Idaho SFW*
*Idaho BGF*
*Idaho Trappers Association*
*Idaho Houndsmen Association*
*Eastern Idaho Hound Association*
*Idaho for Wildlife*
*West Virginia Cattlemen's Association*
*West Virginia BGF*
*North Carolina BGF*
*South Carolina BGF*
*Tennessee BGF*
*Save Western Wildlife*
*Jarbidge Wilderness Guide Service*
*Idaho Wilderness Company*
*Mystic Saddle Ranch & Outfitters*
*Russell Pond & B Bar C Outfitters*
*Deadwood Outfitters*
*Silver Spur Outfitters & Lodge*
*Hell's Canyon Outfitters*
*LocKey Outfitters*
*Continental Divide Outfitters*
*Middle Fork Outfitters*
*Boise, ID BGF*
*Idaho Falls, ID BGF*
*Eastern Idaho BGF*
*Northern Idaho BGF*
*Chubbuck, ID BGF*
*Pocatello, ID BGF*
*Southeastern Idaho BGF*
*Wild Sheep Foundation Midwest Chapter (MN)*
*Minnesota BGF*
*Northern Great Lakes Fur Harvesters*
*Blue Water Chapter, MDHA*
*Central Minnesota Chapter, MDHA*
*Central Lakes Chapter, MDHA*
*Demoines Valley Chapter, MDHA*
*North Suburban Chapter, MDHA*
*Wadena Chapter, MDHA*
*Wahoo Chapter, MDHA*
*Whitetail Lodge, Prairie, MN*
*Barr Taxidermy*
*Taxidermy Unlimited*
*Mid-America Taxidermy*
*Arrowhead Wilderness Outfitters*
*Tom's Taxidermy Studio*
*Dale Selby's Wildlife*
*AHO Dairy Farm*
*Hillview Management, Minnesota*
*Big Game Forever-Wisconsin*
*Wisconsin Association of Sporting Dogs*
*Wisconsin Trappers Association*
*Wisconsin Wildlife Federation*
*Wisconsin Bear Hunters Association*
*High Country Taxidermy*
*Nevada Cattleman's Association*
*Nevada Outfitters and Guides*
*SCI - Northern Nevada*
*Nevada Trappers Association*
*Timberline Guide Service*
*Sage-n-Pine Outfitters*
*Clark County, NV BGF*
*Reno, NV BGF*
*Northern Nevada BGF*
*Elko, NV BGF*
*Henderson, NV BGF*
*Boulder City, NV BGF*

# EXHIBIT 1

*Support of Administrative and Congressional Gray Wolf Delisting (cont.) - Page 7*

*Nevada Sporting Dog Alliance*
*Cottonwood Ranch*
*Pennsylvania Cattlemen's Association*
*Pennsylvania Trappers Association*
*Virginia Trappers Association*
*Northwestern Ohio Fur Takers of America*
*North Dakota Fur Takers of America*
*North Dakota BGF*
*United Sportsmen of North Dakota*
*Dakota Taxidermy*
*South Dakota BGF*
*Western South Dakota Fur Harvesters*
*South Dakota Houndsmen Association*
*SCI - North Eastern Ontario*
*Alaska Trapper's Association*
*Nebraska Outfitters and Guides Association*
*Nebraska Fur Harvesters*
*Maine Trappers Association*
*Maine Professional Guides Association*
*Russell Pond Camps Maine*
*New Hampshire Trappers Association*
*Sportsmen's Club of Fort Worth*
*Massachusetts Trappers Association*
*Chiredzi River African Wildlife Trust*
*Safari Trackers*
*Alabama Trappers Association*
*Mississippi Trappers Association*
*Louisiana Trappers Association*
*Tennessee Trappers Association*
*Georgia Trappers Association*
*North Carolina Trappers Association*
*Minnesota Trappers Association*
*Lambley Hunts from the Heart*
*Safari Connection*
*Ohio State Trappers Association*
*Indiana Trappers Association*
*California Trappers Association*
*Iowa Trappers Association*
*Vermont Trappers Association*
*Best of the West Outfitters*
*Illinois Trappers Association*
*Hunting Fool*
*South Carolina Hunter Nation*
*West Virginia Hunter Nation*
*North Carolina Hunter Nation*
*Tennessee Hunter Nation*
*Hillview Hunt Club, Illinois*
*Malihini Sportsfishing*
*777 Ranch*
*Alligator Hunting Association*
*Arkansas Trappers Association*
*Alberta Professional Outfitter Society*
*Maryland Trappers Association*
*New Smyrna Gun Club*
*Missouri Trappers Association*
*Needle Rock Outfitters*
*Cougar Mountain Outfitters*
*Slick Rock Outfitters*
*Saddle Mountain Outfitters*
*Sportsmen's Club Fort Worth*
*The Bearded Buck Company*
*Oklahoma Fur Bearer Alliance*
*Connecticut Trappers Association*
*Kansas Fur Harvesters*
*New Mexico Council of Guides and Outfitters*
*Wyoming Outfitters and Guides Association*
*Wyoming BGF*
*Wyoming Chapter, Wild Sheep Foundation*
*Wyoming Trappers Association*
*Wyoming Guide and Outfitter Association*
*Teton County, WY BGF*
*Laramie, WY BGF*
*Cody, WY BGF*
*Rock Springs, WY BGF*

# EXHIBIT 1

*Support of Administrative and Congressional Gray Wolf Delisting (cont.) - Page 8*

*Riverton, WY BGF*
*East Fork Outfitters*
*Cuttawhiskie Creek Outfitters*
*Hog Haven Hunting Preserve*
*Mountain Meadow Preserve*
*Mountaineer Wildlife Artistry*
*Kansas Outfitters Association*
*Oklahoma Cattlemen's Association*
*Vermont Bear Hound Association*
*Minnesota Trail Hound Association*
*Oregon United Sporting Dog Association*
*Fair Game Outfitters*
*T&M Hunting Properties*
*Snowstorm Outfitters*
*Windsor Hunting Ranch*
*Creekside Hunting Preserve*
*Standing Rock Hunting Lodge*
*Caryonah Hunting Lodge*
*Jonathan Creek Outfitters*

# EXHIBIT 2

*Letter to Dan Ashe Signed by 72 Members of Congress on Wolf Management*

Congress of the United States
Washington, DC 20510

March 22nd, 2013

The Honorable Dan Ashe
Director
U.S. Fish and Wildlife Service
1849 C Street, NW
Washington, DC 20240

Dear Director Ashe:

We understand the U.S. Fish and Wildlife Service (USFWS) is in the process of reviewing the Endangered Species Act (ESA) recovery status of the gray wolf in the lower 48 States and is preparing to announce the delisting of the species. We support the nationwide delisting of wolves and urge you to move as quickly as possible on making this a reality. We were supportive of the USFWS decision in 2009 when most wolves were delisted in the Northern Rocky Mountains, again in 2011 when wolves in the Great Lake States were delisted, and the 2012 delisting in Wyoming. It is unfortunate that these decisions were met with lawsuits from environmental activists.

Wolves are not an endangered species and do not merit federal protections. The full delisting of the species and the return of the management of wolf populations to State governments is long overdue. As you know, State governments are fully qualified to responsibly manage wolf populations and are able to meet both the needs of local communities and wildlife populations.

Unmanaged wolves are devastating to livestock and indigenous wildlife. Currently State wildlife officials have their hands tied any time wolves are involved. They need to be able to respond to the needs of their native wildlife without being burdened by the impediments of the federal bureaucracy created by the ESA. During the four decades that wolves have had ESA protections, there has been an uncontrolled and unmanaged growth of wolf populations resulting in devastating impacts on hunting and ranching in America as well as tragic damages to historically strong and healthy herds of moose, elk, big horn sheep, and mule deer.

As you consider these much needed changes to federal protections with regard to the gray wolf, we urge you to expand the delisting of the species to all of the lower 48 states. It is critical that the states be given the ability to properly manage all of the species within their boundaries.

Sincerely,

Representative Cynthia Lummis

Senator Orrin Hatch

# EXHIBIT 2



Representative Doc Hastings

Senator John Barrasso

Representative Rob Bishop

Senator Heidi Heitkamp

Representative Steve Stivers

Senator Mike Lee

Representative Marsha Blackburn

Senator Dean Heller

Representative Jeff Duncan

Senator Mike Enzi

Representative Jim Matheson

Senator John Thune

Representative Lynn Westmoreland

Senator Joe Manchin

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Representative Terri Sewell

Senator Mike Crapo

Representative Mike Pompeo

Senator James Risch

Representative Blayne Luetkemeyer

Senator David Vitter

Representative Steve Southerland

Senator Lisa Murkowski

Representative Stephen Fincher

JOHN CORNYN
UNITED STATES SENATE

Representative Collin Peterson

Representative Kevin Brady

# EXHIBIT 2



Representative Kristi Noem

Representative Steve King

Representative Steve Scalise

Representative Kevin Cramer

Representative Rob Wittman

Representative Steve Stockman

Representative Bob Gibbs

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Representative Jason Chaffetz

Representative Chris Stewart

Representative Kenny Marchant

Representative Howard Coble

Representative Mike Conaway

Representative Sam Graves

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(TX-32)
Representative Pete Sessions

Representative Marlin Stutzman

Representative Dennis Ross

Representative Steven Daines

Representative Bill Huizenga

Representative Randy Neugebauer

Representative Dan Benishek

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Representative Candice Miller

Representative Don Young

Representative Michele Bachmann

Representative Doug Lamalfa

Representative Reid Ribble

Representative Jim Renacci

Representative Mick Mulvaney

# EXHIBIT 2



Representative Ron DeSantis

Representative David Schweikert

Representative John Kline

Representative Steve Palazzo

Representative Alan Nunnelee

Representative Paul Ryan

Representative Adrian Smith

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Representative Glenn Thompson

Representative Jeff Miller

Representative Patrick McHenry

Representative Tim Walz

Representative Duncan Hunter

Representative Austin Scott

# EXHIBIT 2



Representative Bob Latta

Representative Randy Weber

# EXHIBIT 3

*Billings Gazette Article on effects of wolves and other issues to fish and game agency budgets in Montana and Idaho*



BILLINGS GAZETTE

## Nonresident hunters cooler to Montana, Idaho

SEPTEMBER 02, 2012 12:00 AM • RICH LANDERS THE SPOKESMAN-REVIEW

Weather, wolves, politics and the economy are slamming a quadruple whammy on the budgets of fish and game agencies in Idaho and Montana.

Nonresidents are no longer clamoring for the quota of permits the states offer for their fabled deer and elk hunts despite the standout hunting opportunities.

Nonresidents are cash cows for state budgets. Just as they boost university tuition revenues, nonresidents pay up to 15 times more than residents for the privilege to hunt elk.

While some locals welcome less competition in their favorite hunting areas, local economies are feeling the pain, too. Hardest hit are rural towns where nonresident hunters book motel rooms, eat at restaurants and support numerous other businesses with out-of-area dollars.

Losses are huge in license revenue alone.

The Idaho Fish and Game Department watched $3.5 million in license revenue vaporize last year because it could not sell all of its allotted nonresident deer and elk tags, according to Craig Wiedmeier, license division manager.

That amounts to a 4.5 percent divot in the department's already strapped $77 million annual operating budget, which is funded almost entirely by hunting and fishing license fees.

Idaho's sales of nonresident deer and elk tags have steadily declined each year since 2008. The trend apparently hasn't bottomed out.

Last year, sales of nonresident Idaho deer tags were down 22 percent from 2010 and elk tag sales were down 23 percent, Wiedmeier said.

The number of tags sold this year is down about 18 percent from August 2011.

Montana is hurting, too. For the second time in 30 years, the state has a surplus of nonresident big-game combo licenses — tags that used to sell out by March 15.

At last count, Montana was still holding 795 unsold big-game combo licenses (from a 17,000 quota), 1,935 elk combo licenses and 1,921 deer combo licenses.

That amounts to a whopping $3.36 million shortfall at this point, although the state is banking on selling more tags in the next two months.

"We normally get a spike in nonresident sales in September and even October, especially from Washington state," said Ron Aasheim, Montana Fish, Wildlife and Parks spokesman in Helena.

# EXHIBIT 3



"But we're still concerned. We're talking about a lot of money."

Before 2008, Idaho and Montana enjoyed high demand for their quotas of nonresident deer and elk tags. Sell-outs were the norm until the following occurred in the following two years:

-- Wall Street and the mortgage banking industry tanked the nation's economy.

-- Winter weather hammered Idaho elk herds as well as Montana deer and antelope.

-- Word of wolves ravaging deer and elk populations — sometimes exaggerated, sometimes not — spread through hunting communities.

-- Politics compounded revenue problems by ignoring the economic climate.

Despite warnings from fish and game officials, Idaho's legislature and Montana's voters raised nonresident license fees, asking out-of-staters to pay more for less.

In 2009, Idaho lawmakers raised nonresident deer tags from $259 to $302 and bumped the elk tag from $373 to $417.

Fish and Game officials confirmed their assumptions about declining license sales in a 2009 survey of nonresident hunters, many of whom indicated the economy, fee increases and wolf impacts played into their decisions to forgo hunting in Idaho.

Montana voters created even more economic heartburn for their wildlife agency and local economies by approving an initiative that took a swipe at guides who were tying up hunting ground.

Initiative 161 eliminated outfitter sponsored big-game licenses that guaranteed big-spending nonresidents a chance to hunt in Montana. The outfitter combo big- game tags that sold for $1,250 helped finance the state's popular Block Management program that gives all hunters access to private land.

The Montana initiative also significantly raised prices of the nonresident big-game combination license from $643 to $944, the elk combo from $593 to $794 and the deer combo from $343 to $561.

Meanwhile, both states are trying to get out the message that they still have tremendous hunting opportunities.

For example, despite the impact of weather and wolves, Montana wildlife officials say elk populations in 70 percent of the state's hunting units are at or above management objectives.

"In this economy, buying patterns have changed," Idaho's Wiedmeier said. "A lot more hunters wait to the last minute before making the decision to buy a license. It's like they know they want to hunt in Idaho, but they want to be sure they can make it."

# EXHIBIT 4

*Article on estimated lost revenue from elk killed by wolves in Idaho according to the Idaho Department of Fish and Game*

Report: Wolves cost Idaho big bucks

Study estimates hunting revenue from elk killed by wolves

By William L. Spence of the Tribune

Friday, February 20, 2009

BOISE - An updated economic analysis indicates Idaho could be losing $7 million to $24 million per year in hunting revenue due to the introduction of wolves.

The Idaho Department of Fish and Game provided the analysis at the request of Sen. Gary Schroeder, R-Moscow. It updates a 1994 environmental impact statement related to the introduction of gray wolves in Yellowstone.

"We've gone through this type of analysis before with chinook salmon," said Assistant Director Sharon Kiefer. "It helps illustrate for the public and the Legislature that there are economic costs to foregone opportunities."

The 1994 study assumed a statewide wolf population of about 100 animals. It estimated they would kill 1,650 ungulates per year, of which 70 percent were deer and 30 percent elk, and went on to say that "a reduction in big game animals available for harvest directly affects the available hunting opportunities. Reduced hunting opportunities translates into a reduced number of hunters and hunter days spent in the field."

Fish and Game updated the 1994 study using the current wolf population estimate of 824. Based on more recent research, it assumed 70 percent of the ungulates killed would be elk. It then extrapolated the depredation figures and estimated that Idaho wolves kill about 9,517 elk per year.

The updated study provides four estimates of the economic value of that lost resource. As outlined in a letter to Schroeder, they are:

Harvest value: The economic value of each harvested elk in Idaho
is about $8,000, including direct and indirect benefits. Consequently, if those 9,517 elk had been available to hunters, typically about 20 percent of them, or 1,903 animals, would have been harvested - representing an economic loss of about $15.2 million.

Animal value: For the purposes of assessing damages, the Legislature has set the value of an illegally taken elk at $750. Based on that figure, the 9,517 elk killed by wolves would be worth about $7.1 million.

Reduced hunting opportunity (2): A 1986 U.S. Forest Service publication indicated that one day of elk hunting generated $39.10 in economic activity. The 1994 environmental impact statement used that figure to estimate that 100 wolves would cost the state between $572,000 and $857,000, based on 14,619 to 21,928 days in lost hunting opportunities.

After adjusting the 1986 figure to 2008 dollars, and assuming a linear relationship between reduced hunting opportunities and wolf population, the updated study estimated the current cost of lost hunting days at between $7 million and $11 million.

# EXHIBIT 4

Using a second estimate of $127.40 per day cited by another study, the opportunity cost ranged from $15 million to $24 million.

"I think this at least gives us some data with some science behind it," Schroeder said of the updated study. "The two main points are that we have a lot more wolves than the biologists ever thought we'd have, and they were wrong about them eating more deer than elk.

"The question is, as wolf numbers increase, are we going to have to curtail hunting opportunities? Overall, I like seeing economic activity, because it drives tax revenue. Anytime I see something that drives business away, that's important to me."

Schroeder asked other organizations, such as guides and outfitters and tourism groups, to provide their perspective on this issue, but he hasn't heard back from them yet.

Fish and Game said it hasn't seen a significant decline in the sale of big game tags over the past decade, but it has no way of knowing if tag sales would have increased in the absence of wolves.

Kiefer said the 1994 study also used some unrealistic assumptions that would tend to inflate the calculated costs. Those assumptions were maintained in the updated study, she said, but as more specific data is collected, the cost estimates can be refined.

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Spence may be contacted at bspence@lmtribune.com or (208) 848-2274.

# EXHIBIT 5

*U.S. Fish and Wildlife statistics on confirmed livestock kills by wolves*

Edward E. Bangs
U.S. Fish and Wildlife Service
585 Shepard Way, Helena, MT 59601
406/449-5225 ex 204; Fax: 406/449-5339; E-mail: ed_bangs@fws.gov

Wolf recovery in the northwestern United States

Ed Bangs, U.S. Fish and Wildlife Service, Helena, Montana; Mike Jimenez, USFWS, Jackson, WY; Carolyn Sime, Montana Fish, Wildlife and Parks, Helena, MT; Jon Rachael, Idaho Department of Fish and Game, Boise, ID; Curt Mack, Nez Perce Tribe, Lapwai, ID; Doug Smith, National Park Service, Yellowstone National Park, WY; Kenneth Mills, Wyoming Game and Fish Department, Pinedale, WY; and Jeff Green, USDA APHIS, Wildlife Services, Denver, CO.

Abstract- Gray wolf (Canis lupus) populations were deliberately eliminated from the northern Rocky Mountains (NRM) of the northwestern United States by 1930. Naturally dispersing wolves from Canada first denned in Montana in 1986. In 1995 and 1996 wolves from western Canada were reintroduced to central Idaho and Yellowstone National Park, Wyoming by the U.S. Fish and Wildlife Service (Service) to accelerate recovery. In December 2009, there were at least 1,706 wolves in 242 packs and in April 2010 another >600 pups were born. Research demonstrates the NRM wolf population has very high genetic diversity as a result of management actions during recovery and that it will be maintained solely by natural dispersal. Wolves occupy over 110,000 square miles in the NRM and suitable habitat (largely forested mountainous public land) appears saturated with resident wolf packs. Wolf restoration initially proceeded with more benefits (public viewing and restoration of ecological processes in natural areas), and fewer problems (livestock and pet depredation and decreases in wild ungulate populations) than predicted. However, problems have increased since 2002 when the population first exceeded its minimum recovery goal. Since 1987, more than 1,301 cattle, 2,854 sheep, 142 dogs, 31 goats, 25 llamas, and 10 horses have been confirmed killed by wolves, perhaps 1/8th of the actual damage. Nearly $2,000,000 has been paid by private and state wolf damage compensation funds. In addition to a wide variety of non-lethal tools, we relocated wolves 117 times and killed >1,259 to reduce conflicts. On May 4, 2009, the NRM Distinct Population Segment (DPS) of the gray wolf (Montana, Idaho, Wyoming, eastern Washington and Oregon, and a small part of southcentral Utah) was established and federal protections were removed. Wolves are now managed and hunted just like other resident wildlife, except in Wyoming which lacks a Service-approved state wolf management plan. While the NRM wolf population is biologically recovered, public opinion remains divisive and the legal and policy decisions made by the Service to not approve Wyoming's wolf plan and to delist wolves in the NRM are both being litigated in Federal District Courts in Wyoming and Montana.

# Cattle Death Loss

ISSN:

**Released May 12, 2011, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).**

## Cattle and Calf Death Losses

This report is released every five years as a cooperative effort between the National Agricultural Statistics Service and Animal and Plant Health Inspection Service – Wildlife Services and Veterinary Services. The information presented in this report is based on producer reports from the January 2011 Cattle survey and includes detailed percentage breakouts of cattle and calf losses by predators and non-predator causes as well as non-lethal control measures.

**Cattle and calf losses from predators and non-predator causes** in the United States totaled 3.99 million head (excluding Alaska) during 2010. This represents 4.3 percent of the 93.9 million cattle and calves in the United States at the beginning of 2010. Losses of cattle weighing more than 500 pounds totaled 1.73 million head or 43.4 percent of total losses. Calves weighing less than 500 pounds lost to all causes totaled 2.26 million head or 56.6 percent of total losses.

**Cattle and calf losses from animal predators** totaled nearly 220 thousand head during 2010. This represented 5.5 percent of the total deaths from all causes and resulted in a loss of $98.5 million to farmers and ranchers. Coyotes and dogs caused the majority of cattle and calf predator losses accounting for 53.1 percent and 9.9 percent respectively.

**Cattle and calf losses from non-predator causes** totaled 3.77 million head or 94.5 percent of the total losses during 2010. Respiratory problems represented the leading cause of non-predator deaths, accounting for 28.0 percent, followed by digestive problems at 13.4 percent.

**Non-lethal predator control measures** cost farmers and ranchers throughout the United States $188.5 million during 2010. Use of guard animals was the most common method at 36.9 percent. Exclusion fencing, frequent checking, and culling were the next most commonly used methods of preventing cattle and calf losses at 32.8 percent, 32.1 percent, and 28.9 percent respectively.

# EXHIBIT 6

**Contents**

**Number of Head and Total Value of Cattle and Calf Death Loss by Cause – United States: 2010**

[Totals may not add due to rounding]

| Cause | Number of head | Percent of total | Total value |
|---|---|---|---|
| | (number) | (percent) | (1,000 dollars) |
| **Predator** | | | |
| Coyotes | 116,700 | 53.1 | 48,185 |
| Mountain lions and bobcats [1] | 18,900 | 8.6 | 9,221 |
| Dogs | 21,800 | 9.9 | 10,067 |
| Vultures | 11,900 | 5.4 | 4,641 |
| Wolves | 8,100 | 3.7 | 3,646 |
| Bears | 2,800 | 1.3 | 1,415 |
| Other predators | 12,400 | 5.6 | 6,352 |
| Unknown predators | 27,300 | 12.4 | 14,948 |
| Total predator | 219,900 | 100.0 | 98,475 |
| **Non-predator** | | | |
| Digestive problems | 505,000 | 13.4 | 267,799 |
| Respiratory problems | 1,055,000 | 28.0 | 643,146 |
| Metabolic problems | 59,800 | 1.6 | 47,558 |
| Mastitis | 62,000 | 1.6 | 59,112 |
| Lameness/injury | 140,900 | 3.7 | 112,251 |
| Other diseases | 179,500 | 4.8 | 114,577 |
| Weather related | 489,000 | 13.0 | 274,092 |
| Calving problems | 494,000 | 13.1 | 274,670 |
| Poisoning | 36,100 | 0.9 | 26,817 |
| Theft | 15,100 | 0.4 | 9,309 |
| Other non-predator | 301,600 | 8.0 | 247,092 |
| Unknown non-predator | 435,000 | 11.5 | 276,476 |
| Total non-predator | 3,773,000 | 100.0 | 2,352,899 |
| United States Total [2] | 3,992,900 | 100.0 | 2,451,374 |

[1] Includes cougars, pumas and lynx.
[2] Excludes Alaska.

**Cattle Death Loss (May 2011)** **5**
USDA, National Agricultural Statistics Service

# EXHIBIT 6

**Number of Head of Cattle and Calves Lost by Cause – States and United States: 2010**

| State | All causes | | Predators | | Non-predators | |
|---|---|---|---|---|---|---|
| | Cattle | Calves | Cattle | Calves | Cattle | Calves |
| | (head) | (head) | (head) | (head) | (head) | (head) |
| Alabama | 23,000 | 30,000 | 1,000 | 5,200 | 22,000 | 24,800 |
| Arizona | 20,000 | 18,000 | 2,200 | 2,100 | 17,800 | 15,900 |
| Arkansas | 35,000 | 40,000 | 1,900 | 4,800 | 33,100 | 35,200 |
| California | 100,000 | 135,000 | 1,400 | 8,200 | 98,600 | 126,800 |
| Colorado | 55,000 | 55,000 | 800 | 4,300 | 54,200 | 50,700 |
| Connecticut | 1,100 | 1,200 | - | 100 | 1,100 | 1,100 |
| Delaware | 400 | 500 | - | - | 400 | 500 |
| Florida | 23,000 | 31,000 | 900 | 5,400 | 22,100 | 25,600 |
| Georgia | 19,000 | 23,000 | 1,300 | 3,500 | 17,700 | 19,500 |
| Hawaii | 5,000 | 4,000 | 100 | 500 | 4,900 | 3,500 |
| Idaho | 42,000 | 51,000 | 1,900 | 4,200 | 40,100 | 46,800 |
| Illinois | 18,000 | 30,000 | 300 | 1,500 | 17,700 | 28,500 |
| Indiana | 13,000 | 22,000 | 100 | 800 | 12,900 | 21,200 |
| Iowa | 70,000 | 95,000 | 200 | 1,400 | 69,800 | 93,600 |
| Kansas | 125,000 | 80,000 | 800 | 3,900 | 124,200 | 76,100 |
| Kentucky | 44,000 | 68,000 | 1,200 | 9,500 | 42,800 | 58,500 |
| Louisiana | 18,000 | 19,000 | 1,800 | 4,600 | 16,200 | 14,400 |
| Maine | 1,900 | 2,700 | - | 300 | 1,900 | 2,400 |
| Maryland | 3,000 | 5,000 | 100 | 100 | 2,900 | 4,900 |
| Massachusetts | 1,000 | 1,000 | - | - | 1,000 | 1,000 |
| Michigan | 22,000 | 43,000 | 200 | 600 | 21,800 | 42,400 |
| Minnesota | 46,000 | 88,000 | 400 | 2,100 | 45,600 | 85,900 |
| Mississippi | 21,000 | 27,000 | 800 | 2,800 | 20,200 | 24,200 |
| Missouri | 65,000 | 125,000 | 700 | 6,500 | 64,300 | 118,500 |
| Montana | 23,000 | 57,000 | 1,000 | 4,200 | 22,000 | 52,800 |
| Nebraska | 110,000 | 85,000 | 200 | 2,200 | 109,800 | 82,800 |
| Nevada | 5,000 | 12,000 | 500 | 2,300 | 4,500 | 9,700 |
| New Hampshire | 800 | 800 | - | - | 800 | 800 |
| New Jersey | 500 | 700 | - | 100 | 500 | 600 |
| New Mexico | 22,000 | 35,000 | 3,300 | 6,600 | 18,700 | 28,400 |
| New York | 32,000 | 43,000 | 300 | 1,400 | 31,700 | 41,600 |
| North Carolina | 13,000 | 20,000 | 1,400 | 4,000 | 11,600 | 16,000 |
| North Dakota | 15,000 | 40,000 | 300 | 2,500 | 14,700 | 37,500 |
| Ohio | 21,000 | 29,000 | 500 | 2,300 | 20,500 | 26,700 |
| Oklahoma | 90,000 | 130,000 | 3,400 | 10,500 | 86,600 | 119,500 |
| Oregon | 20,000 | 35,000 | 600 | 3,200 | 19,400 | 31,800 |
| Pennsylvania | 35,000 | 43,000 | 100 | 600 | 34,900 | 42,400 |
| Rhode Island | 100 | 200 | - | - | 100 | 200 |
| South Carolina | 7,000 | 8,000 | 300 | 1,000 | 6,700 | 7,000 |
| South Dakota | 68,000 | 90,000 | 300 | 2,600 | 67,700 | 87,400 |
| Tennessee | 34,000 | 56,000 | 1,300 | 7,800 | 32,700 | 48,200 |
| Texas | 310,000 | 290,000 | 6,000 | 40,000 | 304,000 | 250,000 |
| Utah | 13,000 | 26,000 | 300 | 2,300 | 12,700 | 23,700 |
| Vermont | 6,000 | 8,000 | 100 | 200 | 5,900 | 7,800 |
| Virginia | 26,000 | 52,000 | 600 | 4,800 | 25,400 | 47,200 |
| Washington | 20,000 | 19,000 | 200 | 1,500 | 19,800 | 17,500 |
| West Virginia | 5,000 | 15,000 | 100 | 1,000 | 4,900 | 14,000 |
| Wisconsin | 75,000 | 140,000 | 500 | 3,100 | 74,500 | 136,900 |
| Wyoming | 11,000 | 30,000 | 400 | 3,500 | 10,600 | 26,500 |
| United States [1] | 1,733,800 | 2,259,100 | 39,800 | 180,100 | 1,694,000 | 2,079,000 |

- Represents zero.
[1] Excludes Alaska.

**Total Value per Head and Total Value of Cattle and Calf Losses by Cause – States and United States: 2010**

[Totals may not add due to rounding]

| State | Total value per head | | Total value predator losses | | Total value non-predator losses | |
|---|---|---|---|---|---|---|
| | Cattle [1] | Calves [2] | Cattle | Calves | Cattle | Calves |
| | (dollars) | (dollars) | (1,000 dollars) | (1,000 dollars) | (1,000 dollars) | (1,000 dollars) |
| Alabama | 852 | 324 | 852 | 1,685 | 18,744 | 8,035 |
| Arizona | 790 | 354 | 1,738 | 743 | 14,062 | 5,629 |
| Arkansas | 807 | 339 | 1,533 | 1,627 | 26,712 | 11,933 |
| California | 923 | 348 | 1,292 | 2,854 | 91,008 | 44,126 |
| Colorado | 1,037 | 372 | 830 | 1,600 | 56,205 | 18,860 |
| Connecticut | 1,095 | 300 | - | 30 | 1,205 | 330 |
| Delaware | 843 | 312 | - | - | 337 | 156 |
| Florida | 766 | 333 | 689 | 1,798 | 16,929 | 8,525 |
| Georgia | 793 | 330 | 1,031 | 1,155 | 14,036 | 6,435 |
| Hawaii | 520 | 273 | 52 | 137 | 2,548 | 956 |
| Idaho | 967 | 354 | 1,837 | 1,487 | 38,777 | 16,567 |
| Illinois | 1,001 | 336 | 300 | 504 | 17,718 | 9,576 |
| Indiana | 955 | 321 | 96 | 257 | 12,320 | 6,805 |
| Iowa | 1,097 | 360 | 219 | 504 | 76,571 | 33,696 |
| Kansas | 1,017 | 378 | 814 | 1,474 | 126,311 | 28,766 |
| Kentucky | 871 | 330 | 1,045 | 3,135 | 37,279 | 19,305 |
| Louisiana | 871 | 318 | 1,568 | 1,463 | 14,110 | 4,579 |
| Maine | 879 | 300 | - | 90 | 1,670 | 720 |
| Maryland | 911 | 312 | 91 | 31 | 2,642 | 1,529 |
| Massachusetts | 824 | 300 | - | - | 824 | 300 |
| Michigan | 942 | 278 | 188 | 167 | 20,536 | 11,787 |
| Minnesota | 987 | 375 | 395 | 788 | 45,007 | 32,213 |
| Mississippi | 821 | 315 | 657 | 882 | 16,584 | 7,623 |
| Missouri | 997 | 357 | 698 | 2,321 | 64,107 | 42,305 |
| Montana | 1,058 | 384 | 1,058 | 1,613 | 23,276 | 20,275 |
| Nebraska | 1,128 | 393 | 226 | 865 | 123,854 | 32,540 |
| Nevada | 969 | 369 | 485 | 849 | 4,361 | 3,579 |
| New Hampshire | 973 | 300 | - | - | 778 | 240 |
| New Jersey | 918 | 249 | - | 25 | 459 | 149 |
| New Mexico | 894 | 354 | 2,950 | 2,336 | 16,718 | 10,054 |
| New York | 911 | 276 | 273 | 386 | 28,879 | 11,482 |
| North Carolina | 838 | 315 | 1,173 | 1,260 | 9,721 | 5,040 |
| North Dakota | 1,135 | 366 | 341 | 915 | 16,685 | 13,725 |
| Ohio | 908 | 321 | 454 | 738 | 18,614 | 8,571 |
| Oklahoma | 914 | 360 | 3,108 | 3,780 | 79,152 | 43,020 |
| Oregon | 972 | 345 | 583 | 1,104 | 18,857 | 10,971 |
| Pennsylvania | 996 | 300 | 100 | 180 | 34,760 | 12,720 |
| Rhode Island | 951 | 300 | - | - | 95 | 60 |
| South Carolina | 843 | 315 | 253 | 315 | 5,648 | 2,205 |
| South Dakota | 1,133 | 381 | 340 | 991 | 76,704 | 33,299 |
| Tennessee | 820 | 324 | 1,066 | 2,527 | 26,814 | 15,617 |
| Texas | 889 | 354 | 5,334 | 14,160 | 270,256 | 88,500 |
| Utah | 984 | 360 | 295 | 828 | 12,497 | 8,532 |
| Vermont | 842 | 300 | 84 | 60 | 4,968 | 2,340 |
| Virginia | 801 | 330 | 481 | 1,584 | 20,345 | 15,576 |
| Washington | 949 | 342 | 190 | 513 | 18,790 | 5,985 |
| West Virginia | 884 | 297 | 88 | 297 | 4,332 | 4,158 |
| Wisconsin | 949 | 423 | 475 | 1,311 | 70,701 | 57,909 |
| Wyoming | 1,094 | 396 | 438 | 1,386 | 11,596 | 10,494 |
| United States [3] | 952 | 354 | 35,720 | 62,755 | 1,615,102 | 737,797 |

- Represents zero.
[1] Cattle value per head is based on a two-year straight average of the value of beef cows reported in the January 1 Cattle survey from 2010 and 2011.
[2] Calf value per head is based on the market year average calf price. An average weight of 300 pounds was used in all States.
[3] Excludes Alaska. United States value per head for cattle and calves derived.

**Cattle Death Loss (May 2011)** **7**
USDA, National Agricultural Statistics Service

# EXHIBIT 6

**Percent of Total Cattle Predator Losses by Predator – States and United States: 2010**

[Totals may not add due to rounding]

| State | Coyotes | Mountain lions and bobcats [1] | Dogs | Vultures | Wolves | Bears | Other predators | Unknown predators |
|---|---|---|---|---|---|---|---|---|
| | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) |
| Alabama | 38.3 | - | 49.9 | 3.4 | - | - | - | 8.4 |
| Arizona | 15.8 | 7.3 | - | - | - | 1.5 | 0.7 | 74.7 |
| Arkansas | 37.5 | - | 43.1 | - | - | - | 2.2 | 17.2 |
| California | 57.0 | 32.5 | 8.5 | - | - | 1.0 | - | 1.0 |
| Colorado | 17.7 | 4.0 | 0.8 | - | - | 21.4 | 47.6 | 8.5 |
| Connecticut | - | - | - | - | - | - | - | - |
| Delaware | - | - | - | - | - | - | - | - |
| Florida | 40.8 | 1.9 | 9.0 | 3.1 | - | - | 25.6 | 19.6 |
| Georgia | 7.0 | - | 14.1 | 0.1 | - | - | 71.5 | 7.3 |
| Hawaii | - | - | 67.2 | - | - | - | 14.8 | 18.0 |
| Idaho | 3.9 | 1.5 | 0.5 | - | 30.0 | 0.4 | 3.2 | 60.5 |
| Illinois | 66.5 | 17.4 | - | - | - | - | 16.1 | - |
| Indiana | 67.6 | 16.2 | - | - | - | - | 16.2 | - |
| Iowa | 38.0 | 7.1 | 26.1 | - | - | - | - | 28.8 |
| Kansas | 66.1 | 24.6 | 1.8 | - | - | - | 3.4 | 4.1 |
| Kentucky | 50.7 | - | 16.8 | 7.1 | 0.5 | 2.4 | 7.5 | 15.0 |
| Louisiana | 68.8 | - | 4.8 | 1.1 | - | - | 19.6 | 5.7 |
| Maine | - | - | - | - | - | - | - | - |
| Maryland | - | - | - | - | - | - | - | 100.0 |
| Massachusetts | - | - | - | - | - | - | - | - |
| Michigan | 59.5 | - | 25.0 | - | - | - | 15.5 | - |
| Minnesota | 52.1 | 5.4 | 7.0 | - | 16.8 | - | - | 18.7 |
| Mississippi | 79.3 | - | 17.2 | - | - | - | 3.5 | - |
| Missouri | 10.3 | - | 44.0 | - | - | - | - | 45.7 |
| Montana | 4.8 | - | - | - | 44.0 | 6.5 | 3.7 | 41.0 |
| Nebraska | 39.0 | 59.0 | - | - | - | - | - | 2.0 |
| Nevada | 4.7 | 17.3 | - | - | - | - | - | 78.0 |
| New Hampshire | - | - | - | - | - | - | - | - |
| New Jersey | - | - | - | - | - | - | - | - |
| New Mexico | 25.9 | 44.3 | 1.7 | - | 2.4 | 0.4 | 3.4 | 21.9 |
| New York | 7.3 | - | 5.9 | - | - | - | - | 86.8 |
| North Carolina | 26.1 | - | 23.1 | - | - | 6.8 | - | 44.0 |
| North Dakota | 85.8 | - | - | - | - | - | - | 14.2 |
| Ohio | 79.5 | - | - | 6.8 | - | - | 13.7 | - |
| Oklahoma | 35.7 | 6.8 | 19.5 | 7.8 | - | - | 13.6 | 16.6 |
| Oregon | 63.6 | 13.3 | - | - | - | 7.3 | - | 15.8 |
| Pennsylvania | - | - | - | - | - | - | - | 100.0 |
| Rhode Island | - | - | - | - | - | - | - | - |
| South Carolina | 65.8 | - | 6.3 | - | - | - | 25.5 | 2.4 |
| South Dakota | 72.0 | 24.0 | - | 4.0 | - | - | - | - |
| Tennessee | 62.1 | - | 26.4 | - | - | - | - | 11.5 |
| Texas | 22.2 | 27.7 | 6.5 | 6.0 | - | 0.1 | 11.3 | 26.2 |
| Utah | 44.0 | 1.9 | - | - | - | 42.8 | 0.4 | 10.9 |
| Vermont | 100.0 | - | - | - | - | - | - | - |
| Virginia | 31.7 | - | 5.9 | 7.8 | - | 0.8 | 1.7 | 52.1 |
| Washington | 80.7 | 7.5 | - | - | - | - | - | 11.8 |
| West Virginia | 49.5 | - | - | - | - | 18.4 | - | 32.1 |
| Wisconsin | 31.5 | - | - | - | 58.0 | 10.5 | - | - |
| Wyoming | 19.8 | 11.9 | 1.0 | - | 18.6 | 15.7 | - | 33.0 |
| United States [2] | 34.4 | 12.1 | 11.3 | 2.3 | 3.8 | 1.9 | 9.3 | 24.9 |

- Represents zero or less than 0.1 percent.
[1] Includes cougars, pumas, and lynx.
[2] Excludes Alaska.

**Percent of Total Calf Predator Losses by Predator – States and United States: 2010**

[Totals may not add due to rounding]

| State | Coyotes | Mountain lions and bobcats [1] | Dogs | Vultures | Wolves | Bears | Other predators | Unknown predators |
|---|---|---|---|---|---|---|---|---|
| | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) |
| Alabama | 48.4 | 1.5 | 26.0 | 9.9 | - | - | 6.7 | 7.5 |
| Arizona | 38.3 | 31.9 | 5.7 | - | 12.7 | 3.4 | 2.5 | 5.5 |
| Arkansas | 38.7 | 3.2 | 30.6 | 13.8 | - | - | 7.1 | 6.6 |
| California | 75.7 | 11.7 | 4.3 | - | - | 0.1 | 2.3 | 5.9 |
| Colorado | 82.2 | 6.3 | 1.0 | - | - | 7.8 | 0.3 | 2.4 |
| Connecticut | 100.0 | - | - | - | - | - | - | - |
| Delaware | - | - | - | - | - | - | - | - |
| Florida | 77.4 | - | 0.5 | 8.7 | - | - | 6.2 | 7.2 |
| Georgia | 53.7 | - | 15.8 | 12.5 | - | - | 13.3 | 4.7 |
| Hawaii | - | - | 89.9 | - | - | - | 7.5 | 2.6 |
| Idaho | 26.9 | 4.3 | 3.3 | 0.3 | 47.4 | 0.7 | 3.0 | 14.1 |
| Illinois | 87.9 | 7.1 | 1.0 | 0.3 | - | - | 1.6 | 2.1 |
| Indiana | 71.8 | - | 26.8 | 1.4 | - | - | - | - |
| Iowa | 66.9 | 1.0 | 13.9 | - | - | - | 8.4 | 9.8 |
| Kansas | 71.2 | 7.9 | 13.8 | - | - | - | - | 7.1 |
| Kentucky | 79.0 | 0.4 | 8.1 | 2.5 | 0.4 | 0.4 | 1.3 | 7.9 |
| Louisiana | 81.7 | - | 6.1 | 6.9 | - | - | 3.0 | 2.3 |
| Maine | 14.0 | - | - | - | - | - | 86.0 | - |
| Maryland | 56.6 | - | 6.6 | - | - | - | - | 36.8 |
| Massachusetts | - | - | - | - | - | - | - | - |
| Michigan | 55.5 | - | 5.6 | - | - | - | - | 38.9 |
| Minnesota | 35.3 | 1.9 | 1.4 | - | 37.7 | - | 5.2 | 18.5 |
| Mississippi | 65.9 | 1.2 | 16.0 | 3.8 | - | - | 12.1 | 1.0 |
| Missouri | 29.5 | 14.4 | 33.2 | 3.8 | - | 2.2 | 1.5 | 15.4 |
| Montana | 46.9 | 5.2 | - | - | 20.3 | 2.3 | 1.6 | 23.7 |
| Nebraska | 59.4 | 37.5 | - | - | - | - | - | 3.1 |
| Nevada | 61.8 | 2.4 | 1.7 | - | - | 0.1 | 3.6 | 30.4 |
| New Hampshire | - | - | - | - | - | - | - | - |
| New Jersey | 59.4 | - | - | 32.8 | - | 7.8 | - | - |
| New Mexico | 65.2 | 16.4 | 6.3 | - | - | 1.3 | 3.6 | 7.2 |
| New York | 88.5 | 1.8 | 3.6 | - | - | - | - | 6.1 |
| North Carolina | 63.7 | - | 12.1 | 10.4 | - | - | 1.8 | 12.0 |
| North Dakota | 86.2 | 3.7 | 1.7 | - | 0.7 | - | 2.4 | 5.3 |
| Ohio | 90.0 | - | 1.4 | 1.7 | - | - | 6.9 | - |
| Oklahoma | 52.6 | 7.1 | 13.8 | 4.4 | 1.5 | 1.5 | 9.3 | 9.8 |
| Oregon | 70.0 | 8.7 | 0.5 | - | 7.7 | 1.0 | 8.7 | 3.4 |
| Pennsylvania | 66.7 | - | 1.9 | 1.5 | - | - | - | 29.9 |
| Rhode Island | - | - | - | - | - | - | - | - |
| South Carolina | 80.2 | 0.5 | 5.0 | 7.0 | - | - | 3.8 | 3.5 |
| South Dakota | 95.5 | 3.5 | - | - | - | - | 1.0 | - |
| Tennessee | 62.5 | 0.3 | 16.0 | 8.8 | - | - | 0.9 | 11.5 |
| Texas | 40.1 | 15.4 | 9.3 | 14.0 | 0.4 | - | 7.9 | 12.9 |
| Utah | 58.8 | 6.2 | 4.8 | - | 1.8 | 15.4 | 9.8 | 3.2 |
| Vermont | 95.2 | - | - | - | - | - | - | 4.8 |
| Virginia | 65.0 | - | 7.5 | 12.9 | - | 5.4 | 0.8 | 8.4 |
| Washington | 77.3 | 3.4 | - | - | 2.4 | 3.3 | - | 13.6 |
| West Virginia | 80.9 | - | - | - | - | 8.8 | - | 10.3 |
| Wisconsin | 42.0 | 3.2 | - | 0.1 | 47.5 | 0.9 | - | 6.3 |
| Wyoming | 46.5 | 11.5 | 1.7 | - | 14.6 | 7.7 | 3.3 | 14.7 |
| United States [2] | 57.2 | 7.8 | 9.6 | 6.1 | 3.7 | 1.1 | 4.8 | 9.7 |

- Represents zero or less than 0.1 percent..
[1] Includes cougars, pumas, and lynx.
[2] Excludes Alaska.

**Cattle Death Loss (May 2011)** **9**
USDA, National Agricultural Statistics Service

# EXHIBIT 6

**Percent of Total Cattle Non-Predator Losses by Type – States and United States: 2010**

[Totals may not add due to rounding]

| State | Digestive problems | Respiratory problems | Metabolic problems | Mastitis | Lameness or injury | Other diseases |
|---|---|---|---|---|---|---|
| | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) |
| Alabama | 4.9 | 5.3 | 2.6 | 0.7 | 3.9 | 5.9 |
| Arizona | 8.6 | 10.9 | 0.5 | 3.1 | 5.0 | 1.1 |
| Arkansas | 8.1 | 13.6 | 1.2 | 1.1 | 1.2 | 11.0 |
| California | 7.9 | 27.3 | 3.9 | 10.6 | 11.0 | 5.6 |
| Colorado | 18.2 | 39.7 | 1.6 | 2.0 | 5.3 | 7.1 |
| Connecticut | 13.9 | 11.1 | 8.5 | 23.0 | 13.2 | 5.5 |
| Delaware | 8.9 | 2.7 | 1.5 | 21.6 | 6.2 | 6.2 |
| Florida | 5.9 | 10.8 | 3.8 | 5.3 | 6.8 | 2.3 |
| Georgia | 4.6 | 12.5 | 3.1 | 2.5 | 4.6 | 7.0 |
| Hawaii | 1.0 | 0.6 | 0.3 | - | 0.6 | 2.2 |
| Idaho | 13.4 | 25.6 | 5.6 | 7.6 | 9.9 | 8.1 |
| Illinois | 14.0 | 25.6 | 4.5 | 3.2 | 10.5 | 3.9 |
| Indiana | 10.9 | 20.9 | 6.7 | 3.8 | 8.9 | 2.4 |
| Iowa | 10.0 | 45.5 | 1.5 | 2.3 | 6.8 | 3.8 |
| Kansas | 5.2 | 63.8 | 0.3 | 0.7 | 1.8 | 2.9 |
| Kentucky | 9.9 | 35.7 | 1.0 | 1.1 | 3.3 | 1.9 |
| Louisiana | 4.1 | 11.6 | 0.2 | 1.1 | 4.8 | 5.6 |
| Maine | 5.6 | 30.5 | 16.0 | 6.5 | 20.9 | 2.7 |
| Maryland | 9.7 | 6.5 | 6.4 | 7.5 | 9.1 | 5.3 |
| Massachusetts | 9.6 | 8.1 | 13.0 | 16.8 | 6.9 | 0.2 |
| Michigan | 11.4 | 27.1 | 7.6 | 9.2 | 9.1 | 6.0 |
| Minnesota | 13.2 | 24.2 | 5.1 | 6.8 | 8.4 | 4.6 |
| Mississippi | 5.1 | 14.3 | 1.7 | 0.7 | 3.9 | 3.3 |
| Missouri | 4.5 | 11.5 | 1.5 | 1.0 | 5.0 | 8.3 |
| Montana | 6.6 | 16.9 | 0.7 | 0.5 | 5.1 | 4.7 |
| Nebraska | 9.3 | 39.2 | 0.4 | 0.3 | 4.2 | 2.0 |
| Nevada | 8.0 | 11.0 | 4.3 | 3.7 | 8.1 | 6.0 |
| New Hampshire | 8.5 | 6.2 | 9.0 | 7.5 | 11.6 | 9.9 |
| New Jersey | 2.7 | 7.1 | 8.3 | 0.8 | 7.9 | 2.7 |
| New Mexico | 19.8 | 18.2 | 2.9 | 17.7 | 2.7 | 7.2 |
| New York | 11.3 | 11.5 | 8.4 | 13.3 | 17.7 | 4.5 |
| North Carolina | 4.6 | 11.3 | 5.6 | 3.0 | 6.1 | 4.3 |
| North Dakota | 9.7 | 24.7 | 0.7 | 0.2 | 3.0 | 4.2 |
| Ohio | 13.0 | 25.7 | 5.7 | 6.3 | 12.7 | 3.9 |
| Oklahoma | 4.7 | 28.3 | 0.6 | 0.5 | 3.9 | 6.8 |
| Oregon | 9.9 | 9.9 | 4.5 | 5.0 | 12.4 | 3.6 |
| Pennsylvania | 10.1 | 14.3 | 6.1 | 16.8 | 13.2 | 9.8 |
| Rhode Island | 36.6 | - | 3.6 | 3.6 | 13.4 | 5.3 |
| South Carolina | 19.8 | 6.5 | 1.7 | 4.2 | 3.2 | 4.0 |
| South Dakota | 12.6 | 31.1 | 2.7 | 1.9 | 5.4 | 5.2 |
| Tennessee | 5.1 | 11.6 | 1.6 | 1.3 | 5.1 | 5.2 |
| Texas | 7.3 | 22.1 | 1.2 | 1.2 | 2.8 | 4.8 |
| Utah | 12.6 | 19.3 | 5.9 | 3.8 | 6.5 | 2.8 |
| Vermont | 14.0 | 10.0 | 6.6 | 16.7 | 12.8 | 9.5 |
| Virginia | 4.3 | 12.4 | 2.5 | 2.8 | 7.8 | 6.3 |
| Washington | 10.7 | 25.5 | 3.9 | 8.1 | 8.6 | 6.7 |
| West Virginia | 7.3 | 9.2 | 2.1 | 1.3 | 4.6 | 5.6 |
| Wisconsin | 10.8 | 17.3 | 8.2 | 9.4 | 17.5 | 5.0 |
| Wyoming | 5.2 | 11.7 | 1.6 | 1.4 | 3.0 | 5.5 |
| United States [1] | 8.7 | 26.5 | 2.6 | 3.7 | 6.1 | 5.0 |

See footnote(s) at end of table.

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**Percent of Total Cattle Non-Predator Losses by Type – States and United States: 2010** (continued)

[Totals may not add due to rounding]

| State | Weather related | Calving problems | Poisoning | Theft | Other non-predator | Unknown non-predator |
|---|---|---|---|---|---|---|
| | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) |
| Alabama | 16.4 | 16.8 | 3.1 | 1.3 | 25.1 | 14.0 |
| Arizona | 8.5 | 6.7 | 1.9 | 0.1 | 6.1 | 47.5 |
| Arkansas | 16.3 | 12.1 | 6.3 | 0.1 | 19.3 | 9.7 |
| California | 1.5 | 10.2 | - | 0.2 | 12.9 | 8.9 |
| Colorado | 5.2 | 3.3 | 2.3 | 0.1 | 5.7 | 9.5 |
| Connecticut | 0.7 | 9.7 | 4.3 | 0.6 | 4.9 | 4.6 |
| Delaware | - | 20.1 | - | - | 10.8 | 22.0 |
| Florida | 18.5 | 17.6 | 1.5 | 0.1 | 20.7 | 6.7 |
| Georgia | 3.4 | 21.8 | 0.3 | - | 26.4 | 13.8 |
| Hawaii | 74.4 | 6.5 | 0.1 | 2.5 | 9.8 | 2.0 |
| Idaho | 3.1 | 9.0 | 2.6 | 0.1 | 9.7 | 5.3 |
| Illinois | 11.4 | 9.4 | 0.9 | - | 12.5 | 4.1 |
| Indiana | 1.8 | 15.1 | 0.5 | 0.9 | 13.5 | 14.6 |
| Iowa | 8.5 | 7.1 | 0.6 | - | 7.2 | 6.7 |
| Kansas | 13.0 | 3.2 | 0.3 | 0.3 | 4.3 | 4.2 |
| Kentucky | 6.5 | 8.8 | 1.7 | - | 14.5 | 15.6 |
| Louisiana | 17.1 | 15.7 | 4.2 | - | 19.9 | 15.7 |
| Maine | - | 6.7 | - | - | 5.1 | 6.0 |
| Maryland | 1.6 | 12.8 | 0.3 | - | 22.0 | 18.8 |
| Massachusetts | 1.4 | 16.6 | 4.7 | 2.4 | 10.7 | 9.6 |
| Michigan | 1.5 | 8.6 | - | - | 7.7 | 11.8 |
| Minnesota | 5.3 | 7.7 | 1.2 | - | 14.3 | 9.2 |
| Mississippi | 17.1 | 17.4 | 0.7 | 0.6 | 21.6 | 13.6 |
| Missouri | 20.7 | 14.9 | 1.0 | 1.2 | 20.0 | 10.4 |
| Montana | 9.7 | 7.1 | 3.6 | 1.1 | 19.7 | 24.3 |
| Nebraska | 17.9 | 4.8 | 0.4 | 0.2 | 7.2 | 14.1 |
| Nevada | 1.5 | 4.2 | 6.8 | 9.4 | 9.5 | 27.5 |
| New Hampshire | - | 18.5 | - | - | 16.0 | 12.8 |
| New Jersey | 21.3 | 9.4 | - | - | 39.2 | 0.6 |
| New Mexico | 3.2 | 7.2 | 1.8 | 1.1 | 5.3 | 12.9 |
| New York | 1.6 | 11.0 | 2.3 | 0.2 | 10.5 | 7.7 |
| North Carolina | 10.9 | 21.3 | 0.5 | 1.0 | 21.0 | 10.4 |
| North Dakota | 16.0 | 2.4 | 0.4 | 0.4 | 22.4 | 15.9 |
| Ohio | 2.4 | 14.7 | 0.2 | 0.1 | 10.8 | 4.5 |
| Oklahoma | 11.1 | 10.4 | 0.4 | 1.8 | 18.6 | 12.9 |
| Oregon | 3.3 | 8.4 | 1.7 | 0.1 | 29.7 | 11.5 |
| Pennsylvania | 1.3 | 10.1 | 0.3 | - | 9.7 | 8.3 |
| Rhode Island | - | 6.3 | - | - | 31.2 | - |
| South Carolina | 10.4 | 18.4 | 1.4 | 0.2 | 20.0 | 10.2 |
| South Dakota | 13.1 | 5.9 | 3.1 | 0.1 | 13.3 | 5.6 |
| Tennessee | 7.9 | 16.8 | 1.9 | 0.7 | 28.1 | 14.7 |
| Texas | 10.8 | 12.2 | 1.4 | 0.2 | 17.4 | 18.6 |
| Utah | 6.2 | 4.8 | 3.7 | 1.4 | 13.6 | 19.4 |
| Vermont | 0.5 | 10.8 | 0.9 | - | 7.2 | 11.0 |
| Virginia | 19.4 | 14.3 | 2.5 | - | 17.3 | 10.4 |
| Washington | 3.0 | 6.8 | - | 0.1 | 13.8 | 12.8 |
| West Virginia | 28.2 | 18.4 | 2.7 | 2.1 | 9.6 | 8.9 |
| Wisconsin | 3.1 | 10.9 | 1.3 | - | 8.8 | 7.7 |
| Wyoming | 15.2 | 6.6 | 7.5 | 1.3 | 17.0 | 24.0 |
| United States [1] | 9.9 | 9.8 | 1.4 | 0.4 | 13.8 | 12.1 |

- Represents zero or less than 0.1 percent..
[1] Excludes Alaska.

**Cattle Death Loss (May 2011)** **11**
USDA, National Agricultural Statistics Service

# EXHIBIT 6

**Percent of Total Calf Non-Predator Losses by Type – States and United States: 2010**

[Totals may not add due to rounding]

| State | Digestive problems | Respiratory problems | Metabolic problems | Lameness or injury | Other diseases |
|---|---|---|---|---|---|
| | (percent) | (percent) | (percent) | (percent) | (percent) |
| Alabama | 5.0 | 12.7 | 2.5 | 2.8 | 4.7 |
| Arizona | 15.0 | 25.2 | - | 1.1 | 6.2 |
| Arkansas | 4.3 | 24.7 | 0.1 | 1.3 | 4.9 |
| California | 24.1 | 46.6 | 2.1 | 1.6 | 5.8 |
| Colorado | 18.4 | 30.8 | 0.2 | 1.2 | 2.6 |
| Connecticut | 38.8 | 20.5 | 0.4 | 1.1 | 6.0 |
| Delaware | 21.4 | 18.9 | 2.4 | - | 16.0 |
| Florida | 12.4 | 14.1 | 2.0 | 2.7 | 14.4 |
| Georgia | 8.1 | 16.4 | 0.5 | 1.0 | 2.6 |
| Hawaii | 5.6 | 4.7 | - | 2.6 | 4.3 |
| Idaho | 24.9 | 33.9 | 1.8 | 3.0 | 5.5 |
| Illinois | 18.1 | 25.8 | 0.3 | 2.8 | 5.2 |
| Indiana | 25.6 | 29.5 | 0.7 | 0.5 | 1.5 |
| Iowa | 21.0 | 30.7 | 0.5 | 1.3 | 1.7 |
| Kansas | 8.3 | 35.4 | 0.3 | 1.5 | 2.2 |
| Kentucky | 14.8 | 21.0 | 0.1 | 2.1 | 5.9 |
| Louisiana | 4.9 | 22.5 | 0.1 | 0.4 | 3.7 |
| Maine | 24.8 | 30.5 | 4.4 | 6.5 | 2.0 |
| Maryland | 14.6 | 13.4 | 0.6 | 3.8 | 6.9 |
| Massachusetts | 21.8 | 15.0 | - | 10.0 | 7.1 |
| Michigan | 30.1 | 41.7 | 0.1 | 1.4 | 2.9 |
| Minnesota | 27.7 | 31.6 | 1.3 | 2.6 | 2.8 |
| Mississippi | 5.7 | 24.7 | 0.5 | 2.8 | 1.5 |
| Missouri | 10.1 | 24.8 | 0.2 | 1.4 | 2.1 |
| Montana | 14.3 | 13.6 | 0.1 | 0.7 | 1.2 |
| Nebraska | 15.9 | 22.6 | 0.5 | 0.9 | 2.2 |
| Nevada | 12.1 | 21.6 | - | 0.7 | 0.9 |
| New Hampshire | 35.9 | 34.6 | 3.8 | 0.7 | 0.4 |
| New Jersey | 6.0 | 10.2 | - | - | 5.1 |
| New Mexico | 15.1 | 33.1 | 1.3 | 2.9 | 3.8 |
| New York | 32.9 | 31.8 | 2.4 | 3.2 | 7.6 |
| North Carolina | 9.4 | 18.7 | 2.6 | 2.8 | 6.7 |
| North Dakota | 14.5 | 28.6 | 0.4 | 0.8 | 3.0 |
| Ohio | 27.2 | 28.5 | 0.5 | 3.0 | 4.6 |
| Oklahoma | 4.3 | 35.1 | 0.8 | 2.0 | 6.4 |
| Oregon | 18.4 | 31.2 | 1.1 | 1.6 | 3.8 |
| Pennsylvania | 25.3 | 39.0 | 0.4 | 1.3 | 4.3 |
| Rhode Island | 39.0 | 22.0 | - | - | - |
| South Carolina | 24.4 | 10.7 | 1.5 | 0.5 | 2.8 |
| South Dakota | 12.8 | 29.2 | 0.3 | 0.4 | 0.9 |
| Tennessee | 14.4 | 21.0 | 0.6 | 2.6 | 6.6 |
| Texas | 11.8 | 28.2 | 0.5 | 2.2 | 9.2 |
| Utah | 23.4 | 25.7 | 0.5 | 0.9 | 2.1 |
| Vermont | 38.6 | 28.4 | 1.6 | 1.9 | 2.3 |
| Virginia | 9.9 | 12.7 | 0.2 | 1.8 | 3.8 |
| Washington | 19.4 | 31.8 | 0.8 | 2.8 | 4.9 |
| West Virginia | 8.0 | 12.7 | - | 2.6 | 4.2 |
| Wisconsin | 38.1 | 37.5 | 1.3 | 2.0 | 4.3 |
| Wyoming | 9.3 | 18.3 | 0.1 | 0.4 | 3.9 |
| United States [1] | 17.2 | 29.1 | 0.8 | 1.8 | 4.5 |

See footnote(s) at end of table.

--continued

**Percent of Total Calf Non-Predator Losses by Type – States and United States: 2010** (continued)

[Totals may not add due to rounding]

| State | Weather related | Calving problems | Poisoning | Theft | Other non-predator | Unknown non-predator |
|---|---|---|---|---|---|---|
| | (percent) | (percent) | (percent) | (percent) | (percent) | (percent) |
| Alabama | 20.5 | 22.0 | 0.2 | 0.7 | 7.1 | 21.8 |
| Arizona | 9.3 | 12.1 | 0.2 | 3.1 | 3.6 | 24.2 |
| Arkansas | 16.6 | 20.1 | 8.5 | - | 5.9 | 13.6 |
| California | 3.6 | 7.0 | 0.1 | 0.1 | 1.9 | 7.1 |
| Colorado | 15.8 | 17.1 | 2.4 | 0.2 | 4.1 | 7.2 |
| Connecticut | 1.6 | 7.3 | - | - | 4.2 | 20.1 |
| Delaware | - | 35.4 | - | - | - | 5.9 |
| Florida | 11.0 | 29.2 | 0.4 | 0.1 | 0.3 | 13.4 |
| Georgia | 7.0 | 35.6 | 2.6 | - | 3.7 | 22.5 |
| Hawaii | 66.5 | 5.9 | - | 1.2 | 4.3 | 4.9 |
| Idaho | 5.4 | 20.5 | 0.1 | 0.2 | 1.0 | 3.7 |
| Illinois | 13.7 | 20.5 | - | - | 8.6 | 5.0 |
| Indiana | 7.3 | 13.4 | 0.1 | - | 6.1 | 15.3 |
| Iowa | 12.5 | 19.2 | 0.6 | - | 4.1 | 8.4 |
| Kansas | 24.6 | 15.3 | 0.1 | 0.5 | 2.4 | 9.4 |
| Kentucky | 19.4 | 13.5 | 0.7 | 0.6 | 3.5 | 18.4 |
| Louisiana | 23.4 | 22.8 | 3.1 | 2.0 | 5.4 | 11.7 |
| Maine | 11.4 | 10.9 | - | - | 1.3 | 8.2 |
| Maryland | 32.8 | 9.4 | - | - | 5.9 | 12.6 |
| Massachusetts | 10.3 | 12.5 | - | - | 14.7 | 8.6 |
| Michigan | 5.0 | 5.6 | - | 0.2 | 4.3 | 8.7 |
| Minnesota | 7.6 | 16.4 | 0.9 | - | 1.9 | 7.2 |
| Mississippi | 12.7 | 31.1 | 0.4 | 0.6 | 2.1 | 17.9 |
| Missouri | 28.8 | 20.7 | 0.1 | - | 2.2 | 9.6 |
| Montana | 27.1 | 22.4 | 1.3 | 2.3 | 1.6 | 15.4 |
| Nebraska | 28.0 | 23.2 | 0.3 | - | 1.3 | 5.1 |
| Nevada | 9.2 | 7.5 | 0.7 | - | - | 47.3 |
| New Hampshire | - | 19.0 | 1.1 | - | 0.5 | 4.0 |
| New Jersey | 21.6 | 27.2 | - | - | 12.5 | 17.4 |
| New Mexico | 15.1 | 6.0 | 1.1 | 3.2 | 4.5 | 13.9 |
| New York | 1.7 | 10.9 | 0.2 | 0.3 | 4.1 | 4.9 |
| North Carolina | 17.7 | 16.8 | 0.3 | 0.4 | 3.6 | 21.0 |
| North Dakota | 26.3 | 17.7 | 0.2 | 0.1 | 2.8 | 5.6 |
| Ohio | 8.3 | 24.7 | - | - | 0.6 | 2.6 |
| Oklahoma | 15.0 | 17.8 | 0.7 | 1.5 | 4.6 | 11.8 |
| Oregon | 10.5 | 19.2 | 0.2 | - | 2.8 | 11.2 |
| Pennsylvania | 2.5 | 12.9 | 0.6 | - | 3.6 | 10.1 |
| Rhode Island | 4.9 | 29.2 | - | - | 4.9 | - |
| South Carolina | 3.8 | 23.9 | 0.3 | - | 1.2 | 30.9 |
| South Dakota | 36.8 | 15.6 | 0.1 | 0.1 | 0.6 | 3.2 |
| Tennessee | 11.0 | 26.8 | 0.6 | 0.5 | 6.0 | 9.9 |
| Texas | 10.9 | 11.5 | 0.5 | 0.4 | 3.8 | 21.0 |
| Utah | 21.3 | 7.7 | 0.2 | 2.2 | 2.1 | 13.9 |
| Vermont | 1.6 | 9.5 | - | - | 2.2 | 13.9 |
| Virginia | 30.0 | 15.5 | 0.3 | - | 12.1 | 13.7 |
| Washington | 3.7 | 17.1 | 0.1 | - | 3.2 | 16.2 |
| West Virginia | 52.6 | 12.4 | - | 0.6 | 2.2 | 4.7 |
| Wisconsin | 5.5 | 5.7 | 0.3 | - | 1.6 | 3.7 |
| Wyoming | 29.0 | 25.0 | 0.5 | 0.4 | 2.6 | 10.5 |
| United States [1] | 15.4 | 15.8 | 0.6 | 0.4 | 3.3 | 11.1 |

- Represents zero or less than 0.1 percent.
[1] Excludes Alaska.

**Cattle Death Loss (May 2011)** **13**
USDA, National Agricultural Statistics Service

# EXHIBIT 6

**Percent of Operations using Non-Lethal Methods to Prevent Losses of Cattle and Calves to Predators by Method– States and United States: 2010**

[Use of multiple non-lethal methods will result in percentages summing to greater than 100]

| State | Guard animals | Exclusion fencing | Herding | Night penning | Fright tactics |
|---|---|---|---|---|---|
| | (percent) | (percent) | (percent) | (percent) | (percent) |
| Alabama | 53.0 | 32.1 | 1.2 | 1.5 | 1.4 |
| Arizona | 26.8 | 8.5 | 81.8 | 53.4 | 0.1 |
| Arkansas | 51.7 | 15.0 | 0.3 | 11.1 | 3.2 |
| California | 29.8 | 74.6 | 1.6 | 0.5 | 1.4 |
| Colorado | 27.5 | 22.6 | 1.7 | 28.5 | 2.7 |
| Connecticut | 59.0 | 35.2 | 1.2 | 1.2 | - |
| Delaware | - | - | - | - | - |
| Florida | 37.4 | 14.1 | 2.8 | 2.3 | 0.5 |
| Georgia | 49.2 | 31.9 | 1.9 | 0.6 | - |
| Hawaii | 0.8 | 80.6 | 0.4 | - | 2.1 |
| Idaho | 21.8 | 19.6 | 10.9 | 12.7 | 12.8 |
| Illinois | 39.9 | 42.5 | 2.9 | 20.6 | 2.7 |
| Indiana | 16.4 | 36.8 | 2.3 | 18.0 | 4.8 |
| Iowa | 46.5 | 22.3 | - | 6.6 | - |
| Kansas | 19.1 | 10.3 | 7.1 | - | 8.3 |
| Kentucky | 36.9 | 52.2 | 2.2 | 1.7 | 0.2 |
| Louisiana | 31.0 | 38.5 | 7.9 | - | 2.0 |
| Maine | 46.5 | 85.7 | - | 7.6 | - |
| Maryland | - | 80.5 | - | - | - |
| Massachusetts | 26.7 | 93.1 | 1.2 | 22.7 | 0.5 |
| Michigan | 38.6 | 23.3 | - | 2.8 | 0.8 |
| Minnesota | 59.0 | 24.9 | 5.2 | 12.8 | 6.7 |
| Mississippi | 72.4 | 17.2 | - | - | - |
| Missouri | 35.9 | 31.2 | 6.0 | 4.8 | - |
| Montana | 34.6 | 3.1 | 12.7 | 19.8 | 4.4 |
| Nebraska | 24.5 | 48.1 | 1.7 | 5.1 | 2.7 |
| Nevada | 58.1 | - | - | - | - |
| New Hampshire | 4.0 | 59.6 | 5.2 | 13.2 | - |
| New Jersey | 0.8 | 94.1 | - | 17.8 | 19.3 |
| New Mexico | 38.0 | 25.3 | 5.7 | 11.5 | 0.1 |
| New York | 23.8 | 51.0 | 9.3 | 4.9 | 2.0 |
| North Carolina | 64.0 | 36.2 | 0.7 | 0.5 | 0.4 |
| North Dakota | 38.6 | 19.2 | 1.5 | 1.0 | 16.4 |
| Ohio | 30.1 | 59.0 | 2.0 | 22.7 | 0.7 |
| Oklahoma | 41.8 | 24.7 | 8.9 | 3.6 | 3.2 |
| Oregon | 27.3 | 24.4 | 1.7 | 7.2 | 1.9 |
| Pennsylvania | 6.3 | 78.4 | 5.6 | 5.7 | 2.0 |
| Rhode Island | 10.9 | 94.5 | 5.5 | 13.1 | - |
| South Carolina | 16.5 | 65.7 | 7.3 | - | 0.5 |
| South Dakota | 39.9 | 16.9 | 0.6 | 14.6 | 4.5 |
| Tennessee | 33.9 | 33.9 | 4.6 | 4.2 | 0.5 |
| Texas | 50.2 | 24.1 | 4.7 | 1.2 | 1.3 |
| Utah | 17.9 | 79.2 | 6.9 | 0.5 | 0.4 |
| Vermont | 37.3 | 82.7 | 4.5 | 4.5 | - |
| Virginia | 36.8 | 17.8 | 10.1 | 6.0 | 5.1 |
| Washington | 45.7 | 32.2 | 1.6 | 0.4 | 10.7 |
| West Virginia | 47.0 | 47.3 | 15.3 | 9.9 | 0.1 |
| Wisconsin | 27.0 | 41.3 | 5.4 | 22.1 | 5.0 |
| Wyoming | 19.8 | 23.5 | 22.7 | 19.4 | 3.5 |
| United States [1] | 36.9 | 32.8 | 5.3 | 6.6 | 2.5 |

See footnote(s) at end of table.

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**Percent of Operations using Non-Lethal Methods to Prevent Losses of Cattle and Calves to Predators by Method– States and United States: 2010** (continued)

[Use of multiple non-lethal methods will result in percentages summing to greater than 100]

| State | Livestock carcass removal | Culling | Frequent checks | Other non-lethal |
|---|---|---|---|---|
| | (percent) | (percent) | (percent) | (percent) |
| Alabama | 17.2 | 20.4 | 14.2 | 2.4 |
| Arizona | 0.7 | 5.4 | 46.8 | 0.6 |
| Arkansas | 7.8 | 46.6 | 22.5 | - |
| California | 26.6 | 5.2 | 20.3 | 7.3 |
| Colorado | 21.1 | 18.6 | 36.8 | 17.6 |
| Connecticut | 1.2 | - | - | 5.9 |
| Delaware | - | - | - | 100.0 |
| Florida | 74.2 | 68.5 | 80.6 | 0.4 |
| Georgia | 25.1 | 34.9 | 21.0 | 9.2 |
| Hawaii | 2.1 | 12.8 | 9.9 | 4.5 |
| Idaho | 28.8 | 36.3 | 66.4 | 13.4 |
| Illinois | 38.5 | 28.1 | 13.7 | 4.2 |
| Indiana | 40.1 | 31.3 | 35.3 | 4.3 |
| Iowa | 22.8 | 30.7 | 32.3 | 23.9 |
| Kansas | 45.4 | 40.6 | 41.4 | 1.4 |
| Kentucky | 14.2 | 14.2 | 18.1 | 4.8 |
| Louisiana | 17.9 | 19.7 | 24.5 | 18.9 |
| Maine | - | - | - | - |
| Maryland | 14.0 | 32.4 | 29.3 | 1.3 |
| Massachusetts | - | - | - | - |
| Michigan | 15.4 | 24.7 | 14.5 | 11.2 |
| Minnesota | 17.7 | 14.7 | 23.1 | 3.7 |
| Mississippi | 0.7 | 0.7 | 4.1 | 14.0 |
| Missouri | 18.8 | 44.4 | 15.3 | 0.1 |
| Montana | 36.9 | 30.1 | 26.6 | 17.1 |
| Nebraska | 63.7 | 72.7 | 64.9 | 11.6 |
| Nevada | 17.1 | 23.3 | 36.2 | - |
| New Hampshire | 4.0 | 3.8 | 28.5 | 1.1 |
| New Jersey | 2.9 | 8.3 | 20.7 | 0.8 |
| New Mexico | 13.5 | 9.2 | 37.6 | 0.9 |
| New York | 11.5 | 26.5 | 19.3 | 2.0 |
| North Carolina | 10.7 | 2.6 | 9.3 | - |
| North Dakota | 20.8 | 30.8 | 26.6 | 11.5 |
| Ohio | 22.6 | 19.8 | 44.4 | 4.4 |
| Oklahoma | 18.2 | 24.7 | 16.7 | 14.3 |
| Oregon | 12.9 | 12.6 | 60.9 | 5.9 |
| Pennsylvania | 17.5 | 21.2 | 15.2 | 7.4 |
| Rhode Island | 18.5 | 13.1 | 18.5 | - |
| South Carolina | 28.3 | 26.6 | 39.0 | 1.0 |
| South Dakota | 12.1 | 18.8 | 37.7 | 15.3 |
| Tennessee | 25.3 | 22.0 | 45.0 | 7.6 |
| Texas | 8.1 | 31.4 | 29.6 | 7.2 |
| Utah | 12.6 | 21.9 | 17.6 | 50.8 |
| Vermont | 4.5 | 12.7 | 4.5 | - |
| Virginia | 34.3 | 47.9 | 37.7 | 14.8 |
| Washington | 1.3 | 2.6 | 2.2 | 11.4 |
| West Virginia | 10.2 | 33.8 | 15.2 | 13.9 |
| Wisconsin | 19.0 | 22.4 | 31.4 | 6.6 |
| Wyoming | 42.9 | 28.3 | 47.0 | 8.3 |
| United States [1] | 23.9 | 28.9 | 32.1 | 7.0 |

- Represents zero or less than 0.1 percent.
[1] Excludes Alaska.

# EXHIBIT 6

### Statistical Methodology

**Survey Procedures:** A random sample of United States producers were contacted during the January Cattle Inventory survey to provide data for these estimates. Survey procedures ensured that all cattle producers, regardless of size, had a chance to be included in the survey. Large producers were sampled more heavily than small operations. Data were collected from about 40,000 operators during the first half of January by mail, telephone, and face-to-face personal interviews and 78 percent of the reports were usable.

**Estimating Procedures:** These estimates of death loss were prepared by the Livestock Branch of the National Agricultural Statistics Service using producer data from the January 2011 Cattle survey. Cattle and calf inventory estimates were published in the *Cattle* report released on January 28, 2011 while total cattle and calf death losses from all causes were published in the *Meat Animals Production, Disposition and Income* report released on April 28, 2011. In setting the predator and non-predator loss estimates, first total predator and non-predator losses were estimated first as a percent of total losses, then specific predator and non-predator losses were estimated as a percent of total predator and non-predator losses. Value estimates were rounded to the nearest $1,000.

**Revision Policy:** Revisions to previous estimates are made to improve current estimates. Previous year estimates are subject to revision when current estimates are made. Estimates of losses from all causes are subject to revision in next year's Meat Animals Production, Disposition and Income report. No revisions to predator and non-predator loss estimates are planned.

**Reliability:** Since all cattle operators are not included in the sample, survey estimates are subject to sampling variability. Survey results are also subject to non-sampling errors such as omissions, duplications, and mistakes in reporting, recording, and processing the data. The effects of these errors cannot be measured directly. They are minimized through rigid quality controls in the data collection process and through a careful review of all reported data for consistency and reasonableness.

### Terms and Definitions

**Cattle** includes all cows, bulls, steers, and heifers weighing over 500 pounds. This includes beef and milk breeds as well as cattle on feed.

**Calves** include beef and milk breed steers, heifers, and bulls weighing less than 500 pounds.

### Information Contacts

Listed below are the commodity specialists in the Livestock Branch of the National Agricultural Statistics Service to contact for additional information. E-mail inquiries may be sent to nass@nass.usda.gov

Dan Kerestes, Chief, Livestock Branch ..... (202) 720-3570

Scott Hollis, Head, Livestock Section ..... (202) 690-2424
- Travis Averill – Dairy Products Prices ..... (202) 690-2168
- Sherry Bertramsen – Livestock Slaughter ..... (515) 284-4340
- Doug Bounds – Hogs and Pigs ..... (202) 720-3106
- Jason Hardegree – Cattle, Cattle on Feed ..... (202) 720-3040
- Mike Miller – Milk Production and Milk Cows ..... (202) 720-3278
- Everett Olbert – Sheep and Goats ..... (202) 720-4751
- Lorie Warren – Dairy Products ..... (202) 690-3236

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# MOOSE STATUS AND MANAGEMENT IN MONTANA

**Nicholas J. DeCesare[1], Ty D. Smucker[2], Robert A. Garrott[3], and Justin A. Gude[4]**

[1]Montana Fish, Wildlife and Parks, 3201 Spurgin Road, Missoula, Montana, USA 59804; [2]Montana Fish, Wildlife and Parks, 4600 Giant Springs Road, Great Falls, Montana, USA 59405; [3]Fish and Wildlife Ecology and Management Program, Department of Ecology, Montana State University, 310 Lewis Hall, Bozeman, Montana, USA 59717; [4]Montana Fish, Wildlife and Parks, 1420 East Sixth Avenue, Helena, Montana, USA 59620.

ABSTRACT: Moose (*Alces alces*) are currently widespread across Montana where regulated moose hunting has occurred since 1872, >140 years ago. The number of annual moose hunting permits has averaged 652 over the past 50 years. The popular permits are allocated via a random drawing, with an annual average of ~23,000 applicants in 2008–2012 who faced a 1.9% chance of success. Monitoring of moose largely occurs through annual harvest statistics collected via post-season phone surveys. Recent harvest statistics indicate lower hunter success, increased effort, and lower kill per unit effort, concurrent with >50% reduction in available permits since the 1990s. Aerial surveys also show decline in calf:adult ratios. In combination, these data suggest a declining trend in the statewide population, despite some ambiguity of certain data. Potential limiting factors include harvest, predation, vegetative succession and degradation, parasites, and climatic conditions, which were all identified as concerns in surveys of state biologists. Accordingly, Montana Fish, Wildlife and Parks will direct funds derived from moose permit auctions toward calibrating and refining statewide monitoring methods and research of population dynamics and potential limiting factors of Montana moose.

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**Key words**: *Alces alces shirasi*, *Elaeophora schneideri*, harvest statistics, hunter success rates, KPUE, Montana, Shiras moose, subspecies.

Moose (*Alces alces*) colonized North America roughly 14,000 years ago and have since occupied much of Alaska, Canada, and northern portions of the contiguous United States (Hundertmark et al. 2002, Hundertmark and Bowyer 2004). Considered rare throughout the U.S. Rocky Mountains until the mid-1800s (Karns 2007), their earlier presence in several regions of Montana were documented by the Lewis and Clark expedition in 1805–1806, Alexander Ross in 1824, and others (reviewed by Schladweiler 1974). Widespread prevalence of moose in Montana during early settlement is supported to some extent by a review of place names throughout the state, including at least 22 creeks and 6 lakes bearing "moose" in their names (Schladweiler 1974).

Regulation of moose hunting in Montana began in 1872, yet after subsequent decline brought near extirpation, hunting was closed statewide for almost 50 years from 1897–1945 (Stevens 1971). In 1910, the state warden estimated a rebounding population of 300 moose as the result of "ten years of careful protection" (State of Montana 1910). Allowable harvest began again in 1945 with 90 permits issued. Subsequently, annual permit numbers rose quickly to a maximum of 836 in 1962, and thereafter averaged 652 until 2012 (Fig. 1a). The limited number of permits have been allocated via a random drawing process. In 2008–2012, an average of ~23,000 hunters applied annually for <600 permits, with a 1.9% chance of success. Beginning in 1988, one

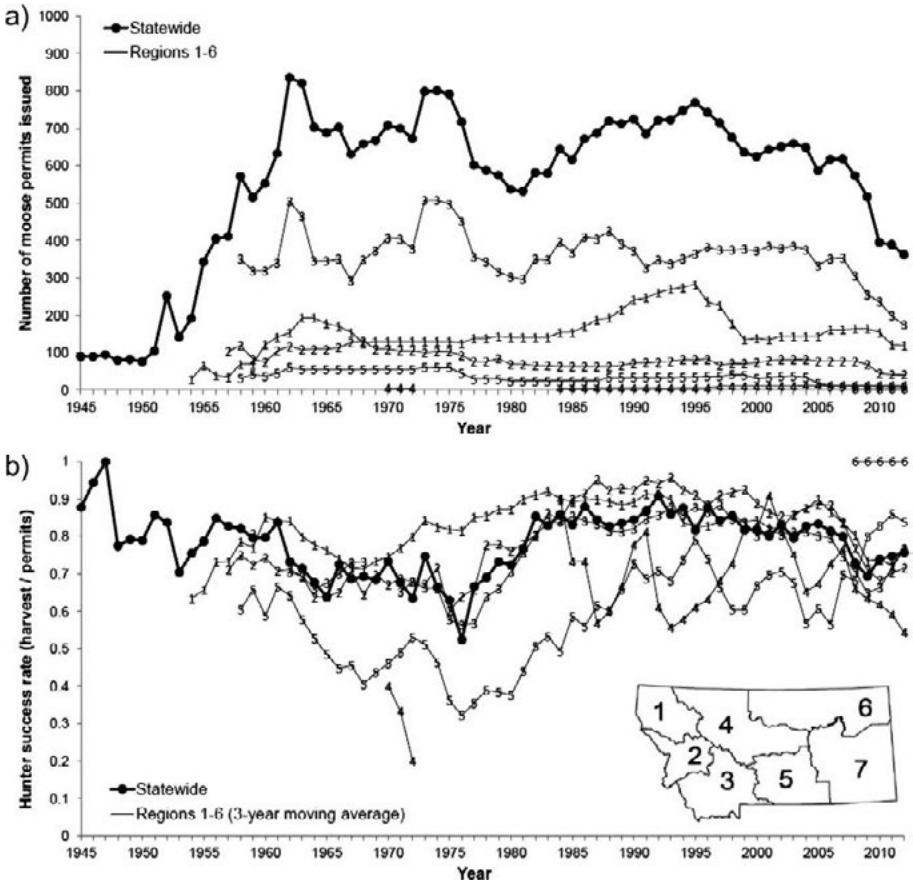


Fig. 1. Statewide and regional trends of a) number of permits issued and b) hunter success rates (number harvested/number of permits issued) for moose in Montana, 1945–2012.

additional permit has been auctioned to the highest bidder, with revenue directly earmarked for moose management or research. Additionally, since 2006 applicants can purchase unlimited numbers of chances at drawing one available moose "super-tag," valid in any permitted hunting district. Along with super-tag chances for other species, revenue from these sales is earmarked for hunting access programs and wildlife habitat conservation.

Moose in Montana typically occur at relatively low density and are vastly outnumbered by seasonally sympatric elk (*Cervus elaphus*), white-tailed deer (*Odocoileus virginianus*), and mule deer (*O. hemionus*) populations. Relative ungulate densities are reflected in their harvest level; in 2012 hunters harvested ~274 moose versus >20,000 elk, 37,000 mule deer, and 49,000 white-tailed deer. Rigorous statewide abundance estimates of moose are lacking, but based on professional opinion among regional management biologists in 2006, the estimated statewide population was 4,500–5,500, albeit without estimable accuracy or precision

(Smucker et al. 2011). Moose are distributed widely across western portions of the state, with lower density extending to the east, as reflected by the current distribution of allowable harvest (Fig. 2). The majority of annual permits are offered in the southwest (56% in Region 3) and northwest (25% in Region 1). In recent decades moose have continued to colonize, or re-colonize, portions of central and eastern Montana allowing for added harvest opportunity.

Moose occupy forested landscapes throughout western Montana ranging from regenerating areas within dense mesic forest, such as the Cabinet Mountains in the northwest, to areas with extensive willow fen habitat, as found within the Centennial and Big Hole Valleys in the southwest. Moose in the prairie landscapes of the east inhabit wetlands, particularly along the Missouri river, other riparian corridors, and areas supporting healthy willow communities.

## TAXONOMY

Moose within the Rocky Mountains of the United States have historically been classified as Shiras moose (*A. a. shirasi*). The subspecies was first described in Wyoming (Nelson 1914), and subsequent morphological sampling by Peterson (1952) suggested its range to extend northward through Montana and into a zone of intergradation with the northwestern subspecies (*A. a. andersoni*) in western Alberta and eastern British Columbia. While genetic evaluation of subspecies designations using mitochondrial haplotypes generally upheld some level of differentiation between Shiras moose in Colorado and representative samples from other subspecies (Hundertmark et al. 2003), such methods have not been applied to evaluate moose in Montana. Particular interest in subspecies distinctions has arisen recently with anecdotal evidence of immigration of moose in northern and northeastern Montana from expanding populations in southern Alberta and Saskatchewan. For example, the Boone and Crockett Club has traditionally used the Canadian border to distinguish Shiras from "Canada" moose (a designation that essentially lumps northwestern and eastern [*A. a. americana*] subspecies into a

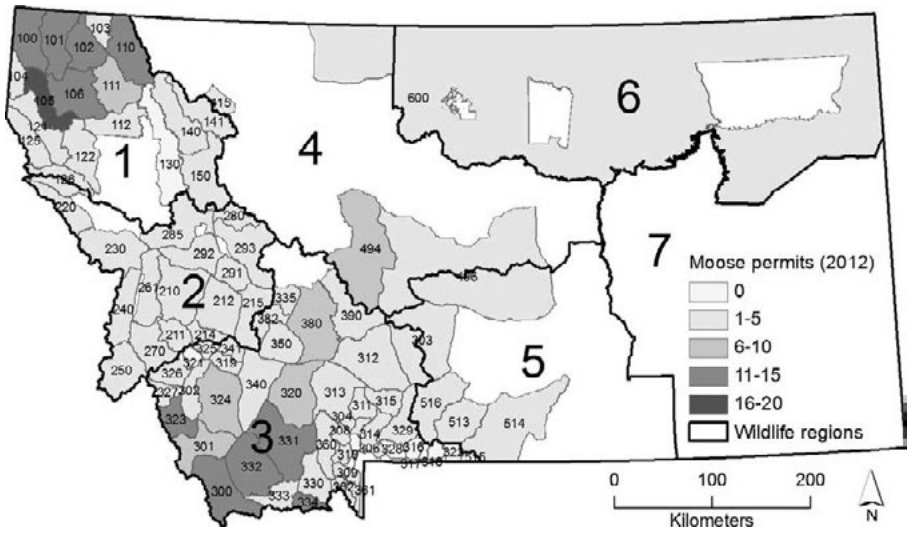


Fig. 2. Number of moose permits issued by moose hunting district in Montana, 2012.

single category) in scoring and record keeping of trophy animals. The advent of hunting in northeastern Montana's hunting district 600 has prompted informal discussion of classifying moose harvested within northern Montana and east of interstate highway I-15 as Canada moose, though none have been submitted for scoring to date (personal communication, J. Spring, Boone and Crockett Club, Missoula, Montana). Further sampling and analysis of population genetic structure of moose within and surrounding Montana may be needed to evaluate and update the subspecies range extents in the region.

## MONITORING METHODS AND DATA

Resources have been limited for monitoring moose given their relatively low abundance and hunting opportunity compared to other Montana ungulates. Post-season surveys of permit holders have been used to estimate wildlife harvest since 1941 (Cada 1983, Lukacs et al. 2011), and in recent years phone surveys are used to collect annual harvest data. Montana Fish, Wildlife & Parks (MFWP) attempts to survey every permit holder to measure hunter success and effort, and adjusts harvest estimates according to annual hunter responses and rates. During 2005–2012, surveys yielded hunter response rates of 81–96% and statewide harvest estimates with coefficients of variation of 0.6–2.3%. These are the most consistent monitoring data through time and across the state, and are estimated distinctly for each district and permit type. Though potentially less precise than more intensive aerial survey methods, hunter statistics provide a cost-effective means for monitoring moose population trend (Boyce et al. 2012). Generally, there are 4 statistics computed annually that provide insight into potential moose population trends: 1) number of permits issued, 2) hunter success rate, 3) days of moose hunter effort, and 4) kills per unit effort (KPUE).

Beyond harvest statistics, MFWP biologists in most regions have made at least intermittent efforts to conduct aerial surveys, but sustained survey efforts are limited to the few areas with historically higher density. In the northwest (Region 1), December helicopter surveys have been conducted annually since 1985 in a subset of moose hunting districts centered around the Cabinet, Purcell, Salish, and Whitefish Mountains. Moose in this densely forested region selectively use and are more visible in regenerating (15–30 years old) stands during early winter, but move into mature, closed-canopy forest as winter progresses (Matchett 1985). While an explicit model with sightability covariates has not been developed for the area, an early 1990s mark-resight study with 81 neck-banded individuals produced average sightability estimates of 0.53–0.55 (Brown 2006). In the southwest (Region 3), fixed-wing aerial surveys have been conducted during most years since the 1960s in the hunting districts of the Big Hole and Centennial Valleys. These surveys typically yield calf:adult ratios and uncorrected minimum counts, and their timing (September–May) has varied considerably by year and district. Sporadic helicopter and fixed-wing aircraft surveys have occurred in other lower-density regions of the state including Regions 2, 4, and 5. The MFWP is currently exploring the utility and cost-effectiveness of standardizing and coordinating survey efforts.

The MFWP is also exploring the utility of cheaper monitoring methods including hunter sighting surveys at voluntary hunter check stations, and post-season phone surveys used to measure deer and elk harvests. While both the observation rate and age ratios collected from hunter sightings can be indicative of population trends (Ericsson and Wallin 1999, Bontaities et al. 2000), there is potential to incorporate spatial and temporal attributes of sightings data into a patch occupancy modeling framework

similar to recent efforts with hunter sightings of wolves (*Canis lupus*; Rich et al. 2013). Additionally, the MFWP is exploring the cost-effectiveness of estimating population trends using the fates and reproductive status of marked individuals (*sensu* Lukacs et al. 2009) which can be integrated into population models that estimate annual growth rate (DeCesare et al. 2012).

## MOOSE HARVEST STATISTICS AND TREND

As a consequence of perceived population declines and declining population indices from harvest data in recent decades, the number of moose permits issued in Montana was reduced by 53% (769 to 362) between 1995 and 2012 (Fig. 1a). Most reductions were in areas with traditionally the most available permits (Regions 1 and 3). In contrast, the first 2 permits ever offered in northeastern Montana (Region 6) were added in 2008. Notably, the 2010 hunting season was the first in more than 50 years when the number of statewide permits was <500 (Fig. 1a).

Statewide hunter success is estimated as the number of moose harvested relative to the number of permits issued, averaging 78.4% during regulated moose hunting in Montana (1945–2012; Fig. 1b). This success rate is similar to that in adjacent Idaho (61–85%; Toweill and Vecellio 2004), but relatively higher than in other areas with typically more moose and moose hunters such as Alberta (30–50%; Boyce et al. 2012), Alaska (28–37%; Schmidt et al. 2005), Newfoundland (25–54%; Fryxell et al. 1988), and Ontario (36–40%; Hunt 2013). From 2008–2012, success rates (average = 73.4%) were lower than the previous 20-year average (83.7%; $t = 2.07$, 23 df, $P < 0.001$). Additionally, hunter effort, defined as the number of days spent hunting moose per hunter, increased from 6.3 in 1986 to ≥11 days/hunter in 2010–2012 (Fig. 3). Similarly, kill per unit effort (KPUE) that integrates hunter success and effort statistics into a metric of

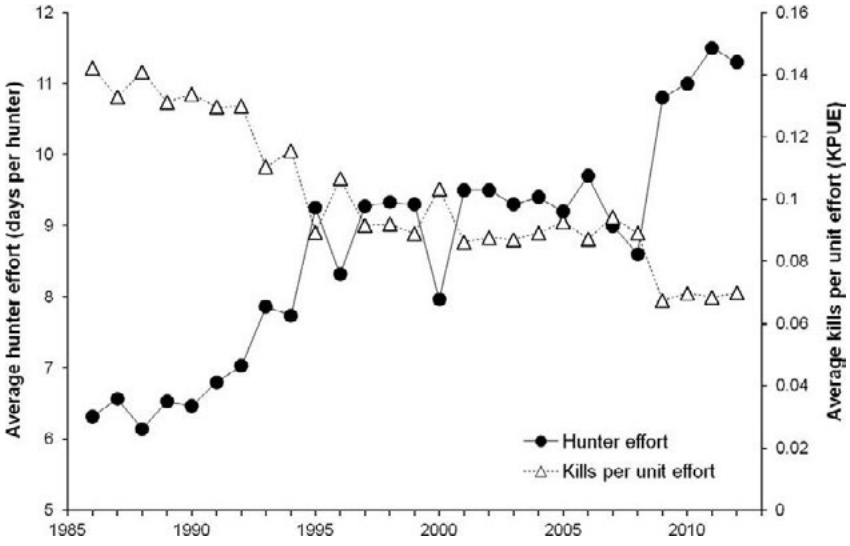


Fig. 3. Statewide annual averages of moose hunter effort (days per hunter) and moose kill per unit effort (KPUE) in Montana, 1986–2012.

hunter efficiency, declined >50% from >0.14 to <0.07 moose killed per hunter-day over the same time period (Fig. 3). The KPUE for antlered bull-specific tags also varied by hunting district level (Fig. 4), reflecting regional differences in moose distribution and ecotypes (e.g., more closed forests in the northwest compared to more open foothills and large riparian complexes in the southwest).

In combination, lower hunter success and KPUE, increased hunter effort, and a concurrent >50% reduction in available permits are indicative of a declining statewide population trend. In Ontario, years with fewer permits resulted in increased hunter success rate, even after accounting for changes in underlying moose density (Hunt 2013), which suggests that hunter behavior can complicate interpretation of hunter statistics (Bowyer et al. 1999, Schmidt et al. 2005). Change in permit type over space and time (e.g., shifting between antlered bull, antlerless, or either-sex permits) can also complicate or confound interpretation of hunter statistics. For example, recent (2008–2012) increases in KPUE also coincide with a prescribed reduction in the antlerless harvest that may reduce KPUE by limiting the proportion of animals hunters are allowed to harvest, regardless of underlying population dynamics. Thus, we cautiously interpret harvest statistics as imperfect indices. Concurrent declines in available permits, success rates, and KPUE may result from population decline and/or reflect other confounding factors.

In addition to statewide hunter statistics, regional calf:adult ratios in areas with consistent aerial survey data indicate decline in recruitment (Fig. 5). Three distinct survey areas show significant ($P < 0.05$) overall declines in ratios since 1980, though the temporal pattern of decline may be non-linear with subsequent stability at a lower level in recent years (Fig. 5). Low or declining recruitment is often associated with declining ungulate populations (e.g., DeCesare et al. 2012), so these data may be corroborative with harvest statistics that indicate a

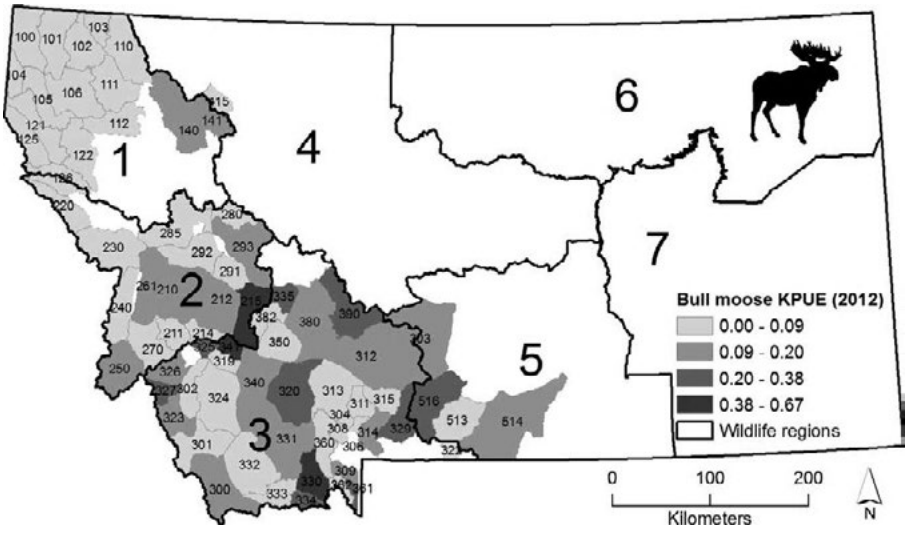


Fig. 4. Bull moose kills per unit effort (KPUE; effort recorded in days) per moose hunting district by hunters carrying antlered-bull-only permits in Montana, 2012.

declining moose population. However, declining recruitment may also reflect an ungulate population approaching carrying capacity (Gaillard et al. 1998, Eberhardt 2002), so this index also does not unambiguously indicate decline.

**Biologist interviews: local trends and management**

In 2010, we used structured interviews of 20 MFWP and cooperating agency biologists to assess the state of knowledge regarding moose population status, management, and factors of concern within Montana (Appendix A). A majority (63%) of responding biologists reported "decreasing" or "stable to decreasing" trends in their populations, with stable and increasing trends reported in some areas. These trend assessments are tempered, however, because only 10% of biologists had adequate data for making management decisions; 55 and 35% described their data as partially inadequate and inadequate, respectively. Lastly, when asked about factors that potentially limit local moose populations, biologist listed predation (70%), habitat succession (45%), MFWP-permitted hunter harvest (45%), parasites and/or disease (40%), Native American hunter harvest (30%), and habitat loss or fragmentation (15%).

## POTENTIAL LIMITING FACTORS

Many factors may currently limit moose abundance and distribution including hunter harvest, predation, habitat succession, parasite and disease prevalence, and climatic conditions. The relative importance of these factors has likely changed over time. Overharvest may have been responsible for decline in moose numbers in the late 1800s (Stevens 1971). By the early 1970s, research

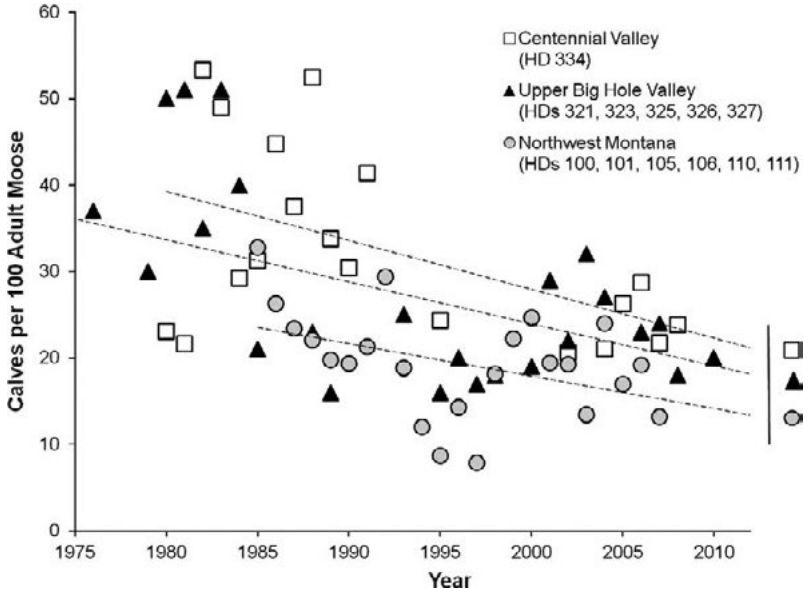


Fig. 5. Annual moose calves per 100 adult recruitment data and associated linear regression trend lines calculated from fixed-wing and helicopter late winter aerial surveys in 3 regions of Montana, 1976–2010.

in southwest Montana indicated that hunter harvest and nutritional inadequacies were the most important factors limiting moose populations, whereas parasites, disease, and predation had little direct effect on mortality rates (Schladweiler 1974). Presently there is a need to re-evaluate the relative importance of potential limiting factors in light of recent changes in many of these factors and subsequent monitoring and research in Montana and elsewhere.

**Hunter harvest**

The goals and objectives behind moose hunter harvest quotas vary somewhat across MFWP regional jurisdictions. Managers in Regions 1 and 3, where populations are largest, generally aim to sustainably maximize hunter opportunity and minimize landowner conflicts (e.g., greater numbers of permits that include either-sex or antlerless opportunities), whereas regions 2, 4, 5, and 6 manage harvest with less intent to affect moose population dynamics (e.g., bull-only hunting or low permit numbers). During the past 2 decades, numbers of antlerless permits were increased substantially in certain areas, particularly in Region 3, in response to depredation complaints, perceptions that moose were unfavorably limiting vegetative growth (i.e., riparian plants), and high moose counts on aerial surveys. These prescriptive increases in moose permits were intended to induce local declines in some hunting districts.

Statewide, the sex ratio of harvested adult moose (i.e., excluding calves) averaged 28% female in 1971–2008, but dropped to an average of 14% in 2009–2012; female harvest is through either-sex and antlerless-only permits. In Region 1, either-sex tags were issued historically, and harvest was typically skewed heavily towards males; the 1984–2004 harvest was 78% bulls, 19% cows, and 3% calves. As of 2012, all permits in this region were changed to antlered-bull only. In Region 3, permits have been typically specified as antlered- or antlerless-only, which is more restrictive to hunters but facilitates targeted management.

Additional moose harvest by members of the Confederated Salish and Kootenai Tribes (CSKT) is permitted off-reservation by the Hellgate Treaty of 1855. One permit per year is allowed to each interested Tribal member for hunting on primarily federal land, with mandatory reporting to CSKT officials. While the sample size of animals harvested is lower than that regulated by MFWP, these harvest data provide additional opportunity for indexing population trend and are without confounding changes in permit number and type. Trends in tribal harvest are similar to that of the MFWP (Fig. 6); total harvest peaked in 1991 at 97 representing an additional 16.3% to the MFWP harvest of 595, and in 2012 the Tribal harvest was only 18, an additional 6.6% to the MFWP harvest of 274 moose. We point out that interpretation of tribal harvest statistics with respect to the rate of population change is also not unambiguous. While some evidence exists of reduced success by tribal hunters (Fig. 6), a portion of the decline can probably be attributed to fewer permit requests. Also, these data do not include information about hunter effort or tribal interest in hunting other game species as allowed by treaty rights.

Illegal harvest of moose also occurs but has not been quantified to date. Data from Idaho suggest that illegal harvest can represent upwards of 31–50% of mortality (Pierce et al. 1985, Toweill and Vecellio 2004), warranting explicit monitoring and documentation of such in Montana.

**Predation**

After decades of predator control in the early and mid-1900s, and subsequent recovery efforts in the late 1900s, Montana currently hosts widespread populations of

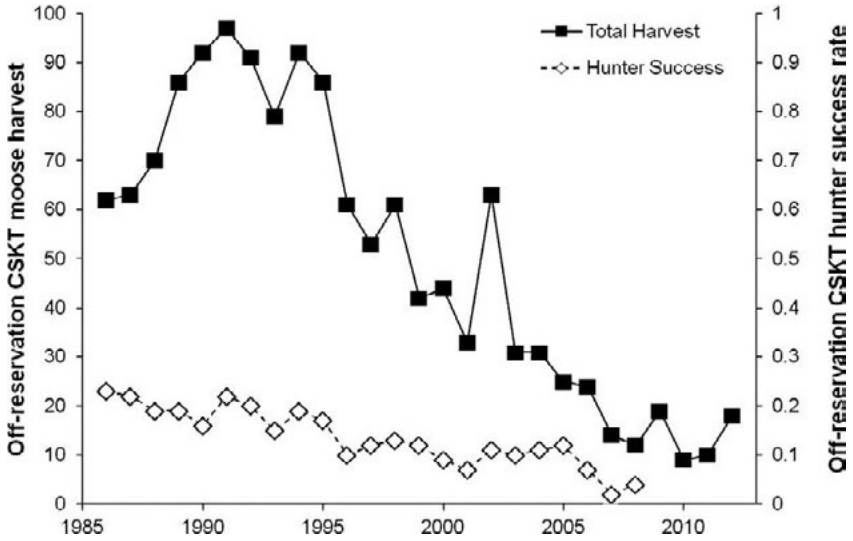


Fig. 6. Moose harvest and hunter success rates by members of the Confederated Salish and Kootenai Tribes (CSKT) off-reservation (primarily on federal lands in western Montana), 1986–2012.

grizzly bears (*Ursus arctos*), black bears (*Ursus americanus*), wolves, mountain lions (*Puma concolor*), and coyotes (*Canis latrans*). While predation was not considered a concern 40 years ago (Schladweiler 1974), the expanded composition and abundance of predator species may have the potential to limit local moose populations. Predation was the most common concern of regional biologists relative to moose population dynamics.

Research on winter prey selection by recolonizing wolves in the North Fork of the Flathead River drainage from 1986–1996 indicated that while wolves disproportionately used areas where deer were concentrated, they preferentially killed larger moose and elk over more abundant deer. Moose, particularly calves and cows, comprised a greater proportion of wolf kills as winter progressed (Kunkel et al. 2004). However, annual survival of 32 adult female moose monitored concurrently in the North Fork (1990–1992) was relatively high (0.9137 ± 0.0773; Langley 1993), with 3 mortalities attributable to predation (1 wolf and 2 grizzly bear). In a recent dietary study of 12 wolf packs in northwest Montana, moose was the most common prey item based on stable isotope analysis, constituting an average of 41% of the diet; however, these results were not supported by scat analysis from a sub-set of 4 packs in which moose averaged 18% of the diet (Derbridge et al. 2012).

High densities of elk and deer throughout much of the Rocky Mountain region may support higher predator populations and facilitate increased predation rates on sympatric moose via apparent competition (Holt 1977). In such cases, a less abundant, secondary prey species can become more vulnerable to depensatory predation when faced with predator populations boosted by more numerous primary prey species (Messier 1995, Garrott et al. 2009). While

moose across much of Canada have been attributed with the role of a primary prey species driving predator-mediated declines in less abundant woodland caribou (*Rangifer tarandus caribou*) populations (DeCesare et al. 2010), they may in fact be vulnerable themselves to such a mechanism within the elk- and deer-dominated prey populations of Montana. The effects of apparent competition from increased predation risk may be reduced somewhat by differential selection of winter and calving habitat among ungulates. Moose in Montana typically use higher elevations during winter and may accordingly spatially separate themselves from increased predation risk in some cases (Jenkins and Wright 1988, Burcham et al. 2000, Kunkel and Pletscher 2001).

The ultimate effect of predators on prey dynamics varies according to predation rates on different age classes (Gervasi et al. 2011), as well as with differences in the nutritional quality of prey habitat (Melis et al. 2009). Because moose may have colonized many areas of western Montana when predators were largely reduced, it is uncertain to what extent recolonized and expanding predator populations pose an additive source of mortality on local populations. In such cases, management of moose populations may require that predation rates be accounted for when deriving sustainable harvest quotas (Hobbs et al. 2012).

**Vegetative succession and degradation**

Moose habitat requirements and preferences have been well documented (reviewed by Peek 2007, Shipley 2010). Moose in Montana use a variety of mid to high elevation forest types in summer, including closed canopy lodgepole pine (*Pinus contorta*) and subalpine fir (*Abies lasiocarpa*) forests, as well as aspen (*Populus tremuloids*) and willow (*Salix* spp.) stands, mountain parklands, and alpine meadows (Knowlton 1960, Peek 1962, Schladweiler 1974). During winter, they often forage on willow where available, and snow depth can either restrict local use and movement (Burkholder 2012) or shift use to conifer forests (Tyers 2003).

Many studies of Shiras moose in the Rocky Mountains have documented the importance of early successional habitats (Peek 2007). Large-extent wildfires in 1910, 1919, and 1929 converted much of the conifer forest in northwest Montana to early-seral stages and moose populations in the state appeared to increase in response (Brown 2006). While the positive association with early successional habitat following wildfires is well documented, negative impacts of the 1988 fires in Yellowstone National Park contradict this tenant (Tyers 2006; Vartanian et al. 2011). During the 1950s–1980s, timber harvest became the dominant form of disturbance shaping conifer forests in the West and was generally favorable to moose, particularly 10–30 years following harvest (Eastman 1974, Matchett 1985, Telfer 1995). It is believed that the high amount of timber harvest combined with fire history may have set the stage for abundant moose populations through the early 1990s (Brown 2006). A time-lagged decrease in early-seral forests has presumably resulted from reduced timber harvesting since the late 1980s (Spoelma et al. 2004).

Riparian areas have been severely degraded globally by a variety of stressors (Richardson et al. 2007), and in some parts of the western United States, cottonwood-willow riparian habitats have been reduced by as much as 90–95% (Johnson and Carothers 1982). Historically, persistent riparian habitat along rivers and streams may have provided long-term stability to moose populations and functioned as corridors to allow moose to expand into ephemeral post-fire habitats (Peek 2007). In many areas of Montana, habitat management has focused on restoration of riparian areas via fencing and

grazing management with the goal of restoring robust willow communities.

**Parasites**

Moose are exposed to a suite of parasites with potential implications for population dynamics. Winter ticks (*Dermacentor albipictus*) are known to occur in moose range across much of North America south of 60° N latitude (Samuel 2004), and have been detected in disparate regions and vegetation types of Montana (N. DeCesare, unpublished data). While data are not available concerning the demographic impact of ticks on moose in Montana, negative effects of ticks on moose populations have been well documented elsewhere (Samuel 2007, Musante et al. 2010). Given that die-offs have been known to occur synchronously across various portions of moose range (DelGiudice et al. 1997), impacts of tick epizootics on moose in Montana seem likely.

Giant liver flukes (*Fascioloides magna*) were reported as the greatest single source of mortality for a declining moose population in northwest Minnesota (Murray et al. 2006, Lankester and Foreyt 2011). Such effects of flukes on moose mortality may be accentuated when individuals are malnourished (Lankester and Samuel 2007). Both *F. magna* and the common liver fluke (*F. hepatica*) have been documented widely within Montana's cattle populations (Knapp et al. 1992), and multiple species of lymnaid snails, the intermediate host, are also known to occur (Dunkel et al. 1996). Data concerning infection rates or impacts of flukes on moose or other wild ungulates in Montana are lacking.

Also of concern in Minnesota and elsewhere in eastern North American is the meningial worm (*Parelaphostrongylus tenuis*). Prevalent in central and eastern moose populations, this parasite is carried by white-tailed deer, transmitted by terrestrial gastropod intermediate hosts, and is commonly associated with moose declines in areas of high overlap with dense deer populations (Lankester 2010). While *P. tenuis* has not been documented in Montana, detection of infected white-tailed deer in western North Dakota suggest the possibility of intermittent spread into portions of Montana (Maskey 2008).

The arterial worm (*Elaeophora schneideri*) is a filarioid nematode found in the common carotid and internal maxillary arteries of ungulates in the west and southwestern US (Henningsen et al. 2012). Mule deer are definitive hosts of carotid worms, while moose and other ungulates are aberrant hosts, susceptible to blockage of blood to the optic nerve, ears, and brain and related symptoms such as blindness, ataxia, necrosis of the muzzle and nostrils, and emaciation (Hibler and Metzger 1974). *E. schneideri* was first detected in moose in Montana in 1971 (Worley et al. 1972), and subsequent sampling of 74 harvested moose detected carotid worms in 3 (4.0%; Worley 1975). More recently, approximately 30% prevalence was detected in Montana among 94 moose harvested in 2009–10 (J. Ramsey, MFWP, unpublished data) and 49% prevalence (n = 165) was detected in Wyoming (Henningsen et al. 2012). While infection is not necessarily lethal, increasing prevalence and the potential for subclinical effects warrant further investigation.

**Climate**

Moose in North America occur across a great range of latitudes (40° N to 70° N), though generally are best-adapted for cold climates (Renecker and Hudson 1986). Winter severity can affect physical condition (Cederlund et al. 1991) and fecundity (Solberg et al. 1999) of moose, yet recent attention has been given largely to concerns over warm temperatures. A small sample (n = 2) of captive moose in Alberta exhibited metabolic and respiratory signs of heat stress

at temperatures above −5°C and 14°C in winter and summer, respectively (Renecker & Hudson 1986). In Minnesota, a heat stress index based on these thresholds explained >78% of the annual variability in moose survival (Lenarz et al. 2009), and annual population growth rates decreased with increasing summer temperatures (Murray et al. 2006). Concerns over heat stress effects on moose are compounded by predicted patterns of future climatic warming across southern moose ranges (Lenarz et al. 2010), yet much remains unclear and the relationships in Minnesota were strictly correlative.

It is not known whether the mechanism linking temperature to demography is a direct link between heat stress and malnutrition (Murray et al. 2006) or an indirect link via parasites or other mortality agents (Samuel 2007). Increased mortality as a result of heat stress is likely to result in decreased abundance and a contraction in moose distribution along the southern range extent, yet local expansions of moose in other southern jurisdictions (e.g., Base et al. 2006, Wolfe et al. 2010, Wattles and DeStefano 2011) and an Ontario field study (Lowe et al. 2010) do not directly support this hypothesis. Within Montana it is unclear whether any climatic variables underlie spatial variation in the productivity of local populations.

## RESEARCH NEEDS AND FUTURE DIRECTIONS

Comprehensive review of the current status of moose and methods in practice for monitoring and management revealed 3 primary research needs in Montana: 1) calibration of various trend indices to evaluate agreement and uncertainty regarding moose population trends, 2) development or refinement of monitoring programs to produce consistent data at appropriate scales to inform harvest or habitat management decisions, and 3) research into rates of adult survival and recruitment and the potential limiting factors of each. Accordingly, during fiscal year 2012–2013 the MFWP began directing moose permit auction funds toward a new research program to address these research needs. Generally speaking, the work aims to provide rigorous and reliable information as a foundation for understanding moose population dynamics and management practices in Montana.

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## LITERATURE CITED

BASE, D. L., S. ZENDER, and D. MARTORELLO. 2006. History, status, and hunter harvest

of moose in Washington state. Alces 42: 111–114.

Bontaities, K. M., K. A. Gustafson, and R. Makin. 2000. A Gasaway-type moose survey in New Hampshire using infrared thermal imagery: preliminary results. Alces 36: 69–75.

Bowyer, R. T., M. C. Nicholson, E. M. Molvar, and J. B. Faro. 1999. Moose on Kalgin Island: are density-dependent processes related to harvest? Alces 35: 73–90.

Boyce, M. S., P. W. J. Baxter, and H. P. Possingham. 2012. Managing moose harvests by the seat of your pants. Theoretical Population Biology 82: 340–347.

Brown, J. 2006. Moose management in northwest Montana: Region 1 annual report. Montana Fish, Wildlife and Parks, Libby, Montana, USA.

Burcham, M., C. L. Marcum, D. McCleerey, and M. Thompson. 2000. Final report: study of sympatric moose and elk in the Garnet Range of western Montana, 1997–2000. University of Montana, Missoula, Montana, USA.

Burkholder, B. O. 2012. Seasonal distribution, winter habitat selection and willow utilization patterns of the Shiras moose on the Mount Haggin Wildlife Management Area. M.S. Thesis, Montana State University, Bozeman, Montana, USA.

Cada, J. D. 1983. Evaluations of the telephone and mail survey methods of obtaining harvest data from licensed sportsmen in Montana. Pages 117–128 *in* S. L. Beasom and S. F. Roberson, editors. Game Harvest Management. Caesar Kleberg Research Institute, Kingsville, Texas, USA.

Cederlund, G. N., H. K. G. Sand, and Å. Pehrson. 1991. Body mass dynamics of moose calves in relation to winter severity. Journal of Wildlife Management 55: 675–681.

DeCesare, N. J., M. Hebblewhite, M. Bradley, K. G. Smith, D. Hervieux, and L. Neufeld. 2012. Estimating ungulate recruitment and growth rates using age ratios. Journal of Wildlife Management 76: 144–153.

———, ———, H. S. Robinson, and M. Musiani. 2010. Endangered, apparently: the role of apparent competition in endangered species conservation. Animal Conservation 13: 353–362.

DelGiudice, G. D., R. O. Peterson, and W. M. Samuel. 1997. Trends of winter nutritional restriction, ticks, and numbers of moose on Isle Royale. Journal of Wildlife Management 61: 895–903.

Derbridge, J. J., P. R. Krausman, and C. T. Darimont. 2012. Using Bayesian stable isotope mixing models to estimate wolf diet in a multi-prey ecosystem. Journal of Wildlife Management 76: 1277–1289.

Dunkel, A. M., M. C. Rognlie, G. Rob Johnson, and S. E. Knapp. 1996. Distribution of potential intermediate hosts for *Fasciola hepatica* and *Fascioloides magna* in Montana, USA. Veterinary Parasitology 62: 63–70.

Eastman, D. S. 1974. Habitat use by moose of burns, cutovers and forests in north-central British Columbia. Proceedings of the North American Moose Conference Workshop 10: 238–256.

Eberhardt, L. L. 2002. A paradigm for population analysis of long-lived vertebrates. Ecology 83: 841–2854.

Ericsson, G., and K. Wallin. 1999. Hunter observations as an index of moose *Alces alces* population parameters. Wildlife Biology 5: 177–185.

Fryxell, J. M., W. E. Mercer, and R. B. Gellately. 1988. Population dynamics of Newfoundland moose using cohort analysis. Journal of Wildlife Management 52: 14–21.

Gaillard, J. M., M. Festa-Bianchet, and N. G. Yoccoz. 1998. Population dynamics of large herbivores: variable recruitment with constant adult survival. Trends in Ecology & Evolution 13: 58–63.

Garrott, R. A., P. J. White, M. S. Becker, and C. N. Gower. 2009. Apparent

competition and regulation in a wolf-ungulate system: interactions of life history characteristics, climate, and landscape attributes. Pages 519–540 *in* R. A. Garrott, P. J. White, and F. G. R. Watson, editors. The Ecology of Large Mammals in Central Yellowstone: Sixteen Years of Integrated Field Studies. Elsevier, San Diego, California, USA.

Gervasi, V., E. B. Nilsen, H. Sand, M. Panzacchi, G. R. Rauset, H. C. Pedersen, J. Kindberg, P. Wabakken, B. Zimmermann, J. Odden, O. Liberg, J. E. Swenson, and J. D. C. Linnell. 2011. Predicting the potential demographic impact of predators on their prey: a comparative analysis of two carnivore–ungulate systems in Scandinavia. Journal of Animal Ecology 81: 443–454.

Henningsen, J. C., A. L. Williams, C. M. Tate, S. A. Kilpatrick, and W. D. Walter. 2012. Distribution and prevalence of *Elaeophora schneideri* in moose in Wyoming. Alces 48: 35–44.

Hibler, C. P., and C. J. Metzger. 1974. Morphology of the larval stages of *Elaeophora schneideri* in the intermediate and definitive hosts with some observations on their pathogenesis in abnormal definitive hosts. Journal of Wildlife Diseases 10: 361–369.

Hobbs, N. T., H. Andrén, J. Persson, M. Aronsson, and G. Chapron. 2012. Native predators reduce harvest of reindeer by Sámi pastoralists. Ecological Applications 22: 1640–1654.

Holt, R. D. 1977. Predation, apparent competition, and the structure of prey communities. Theoretical Population Biology 12: 197–229.

Hundertmark, K. J., and R. T. Bowyer. 2004. Genetics, evolution, and phylogeography of moose. Alces 40: 103–122.

———, ———, G. F. Shields, and C. C. Schwartz. 2003. Mitochondrial phylogeography of moose (*Alces alces*) in North America. Journal of Mammalogy 84: 718–728.

———, G. F. Shields, I. G. Udina, R. T. Bowyer, A. A. Danilkin, and C. C. Schwartz. 2002. Mitochondrial phylogeography of moose (*Alces alces*): late pleistocene divergence and population expansion. Molecular Phylogenetics and Evolution 22: 375–387.

Hunt, L. M. 2013. Using human-dimensions research to reduce implementation uncertainty for wildlife management: a case of moose (*Alces alces*) hunting in northern Ontario, Canada. Wildlife Research 40: 61–69.

Jenkins, K. J., and R. G. Wright. 1988. Resource partitioning and competition among cervids in the Northern Rocky Mountains. Journal of Applied Ecology 25: 11–24.

Johnson, R. R., and S. W. Carothers. 1982. Riparian habitats and recreation: interrelationships and impacts in the Southwest and Rocky Mountain region. USAD Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado, USA.

Karns, P. D. 2007. Population distribution, density, and trends. Pages 125–140 *in* A.W. Franzmann and C.C. Schwartz, editors. Ecology and Management of the North American Moose. University Press of Colorado, Boulder, Colorado, USA.

Knapp, S. E., A. M. Dunkel, K. Han, and L. A. Zimmerman. 1992. Epizootiology of fascioliasis in Montana. Veterinary Parasitology 42: 241–246.

Knowlton, F. F. 1960. Food habits, movements and populations of moose in the Gravelly Mountains, Montana. Journal of Wildlife Management 24: 162–170.

Kunkel, K. E., and D. H. Pletscher. 2001. Winter hunting patterns of wolves in and near Glacier National Park, Montana. Journal of Wildlife Management 65: 520–530.

———, ———, D. K. Boyd, R. R. Ream, and M. W. Fairchild. 2004. Factors correlated with foraging behavior of wolves in and near Glacier National Park,

Montana. Journal of Wildlife Management 68: 167–178.

Langley, M. A. 1993. Habitat selection, mortality and population monitoring of Shiras moose in the North Fork of the Flathead River Valley, Montana. M.S. Thesis, University of Montana, Missoula, Montana, USA.

Lankester, M. W. 2010. Understanding the impact of meningeal worm, *Parelaphostrongylus tenuis*, on moose populations. Alces 46: 53–70.

Lankester, M. W., and W. J. Foreyt. 2011. Moose experimentally infected with giant liver fluke (*Fascioloides magna*). Alces 47: 9–15.

———, and W. M. Samuel. 2007. Pests, parasites, and disease. Pages 479–517 *in* A.W. Franzmann and C.C. Schwartz, editors. Ecology and Management of the North American Moose. University Press of Colorado, Boulder, Colorado, USA.

Lenarz, M. S., J. Fieberg, M. W. Schrage, and A. J. Edwards. 2010. Living on the edge: viability of moose in northeastern Minnesota. Journal of Wildlife Management 74: 1013–1023.

———, M. E. Nelson, M. W. Schrage, and A. J. Edwards. 2009. Temperature mediated moose survival in northeastern Minnesota. Journal of Wildlife Management 73: 503–510.

Lowe, S. J., B. R. Patterson, and J.A. Schaefer. 2013. Lack of behavioral response of moose (*Alces alces*) to high ambient temperatures near the sourthern periphery of their range. Canadian Journal of Zoology 88: 1032–1041.

Lukacs, P. M., J. A. Gude, R. E. Russell, and B. B. Ackerman. 2011. Evaluating cost-efficiency and accuracy of hunter harvest survey designs. Wildlife Society Bulletin 35: 430–437.

———, G. C. White, B. E. Watkins, R. H. Kahn, B. A. Banulis, D. J. Finley, A. A. Holland, J. A. Martens, and J. Vayhinger. 2009. Separating components of variation in survival of mule deer in Colorado. Journal of Wildlife Management 73: 817–826.

Maskey, J. J. 2008. Movements, resource selection, and risk analyses for parasitic disease in an expanding moose population in the northern Great Plains. Ph. D. Thesis, University of North Dakota, Grand Forks, North Dakota, USA.

Matchett, M. R. 1985. Habitat selection by moose in the Yaak River drainage, northwestern Montana. Alces 21: 161–190.

Melis, C., B. Jędrzejewska, M. Apollonio, K. A. Bartoń, W. Jędrzejewski, J. D. C. Linnell, I. Kojola, J. Kusak, M. Adamic, S. Ciuti, I. Delehan, I. Dykyy, K. Krapinec, L. Mattioli, A. Sagaydak, N. Samchuk, K. Schmidt, M. Shkvyrya, V. E. Sidorovich, B. Zawadzka, and S. Zhyla. 2009. Predation has a greater impact in less productive environments: variation in roe deer, *Capreolus capreolus*, population density across Europe. Global Ecology and Biogeography 18: 724–734.

Messier, F. 1995. On the functional and numerical responses of wolves to changing prey density. Ecology and conservation of wolves in a changing world. Canadian Circumpolar Institute, Occasional Publication 35: 187–198.

Murray, D. L., E. W. Cox, W. B. Ballard, H. A. Whitlaw, M. S. Lenarz, T. W. Custer, T. Barnett, and T. K. Fuller. 2006. Pathogens, nutritional deficiency, and climate influences on a declining moose population. Wildlife Monographs 166: 1–30.

Musante, A. R., P. J. Pekins, and D. L. Scarpitti. 2010. Characteristics and dynamics of a regional moose *Alces alces* population in the northeastern United States. Wildlife Biology 16: 185–204.

Nelson, E. W. 1914. Description of a new subspecies of moose from Wyoming. Proceedings of the Biology Society of Washington 27: 71–74.

Peek, J. M. 1962. Studies of moose in the Gravelly and Snowcrest Mountains,

# EXHIBIT 7



Montana. Journal of Wildlife Management 26: 360–365.

———. 2007. Habitat relationships. Pages 351–375 in *in* A.W. Franzmann and C. C. Schwartz, editors. Ecology and Management of the North American Moose. University Press of Colorado, Boulder, Colorado, USA.

Peterson, R. L. 1952. A review of the living representatives of the genus *Alces*. Royal Ontario Museum. Life Sciences Division, Toronto, Ontario, Canada.

Pierce, D. J., B. W. Ritchie, and L. Kuck. 1985. An examination of unregulated harvest of Shiras moose in Idaho. Alces 21: 231–252.

Renecker, L. A., and R. J. Hudson. 1986. Seasonal energy expenditures and thermoregulatory responses of moose. Canadian Journal of Zoology 64: 322–327.

Rich, L. N., E. M. Glenn, M. S. Mitchell, J. A. Gude, K. Podruzny, C. A. Sime, K. Laudon, D. E. Ausband, and J. D. Nichols. 2013. Estimating occupancy and predicting numbers of gray wolf packs in Montana using hunter surveys. Journal of Wildlife Management 77: 1280–1289.

Richardson, D. M., P. M. Holmes, K. J. Esler, S. M. Galatowitsch, J. C. Stromberg, S. P. Kirkman, S. P. Pysek, and R. J. Hobbs. 2007. Riparian vegetation: degradation, alien plant invasions, and restoration projects. Diversity and Distributions 13: 126–139.

Samuel, W. M. 2004. White as a Ghost: Winter Ticks and Moose. Natural History Series, Volume 1. Federation of Alberta Naturalists, Edmonton, Alberta, Canada.

———. 2007. Factors affecting epizootics of winter ticks and mortality of moose. Alces 43: 39–48.

Schladweiler, P. 1974. Ecology of Shiras moose in Montana. Montana Department of Fish and Game, Helena, Montana, USA.

Schmidt, J. I., J. A. Y. M. Ver Hoef, J. A. K. Maier, and R. T. Bowyer. 2005. Catch per unit effort for moose: a new approach using Weibull regression. Journal of Wildlife Management 69: 1112–1124.

Shipley, L. 2010. Fifty years of food and foraging in moose: lessons in ecology from a model herbivore. Alces 46: 1–13.

Smucker, T., R. A. Garrott, and J. A. Gude. 2011. Synthesizing moose management, monitoring, past research and future research needs in Montana. Montana Fish, Wildlife, and Parks, Helena, Montana, USA.

Solberg, E. J., B. E. Saether, O. Strand, and A. Loison. 1999. Dynamics of a harvested moose population in a variable environment. Journal of Animal Ecology 68: 186–204.

Spoelma, T. P., T. A. Morgan, T. Dillon, A. L. Chase, C. E. Keegan, and L. T. DeBlander. 2004. Montana's forest products industry and timber harvest, 2004. Resource Bulletin, USDA Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado, USA.

State of Montana. 1910. Biennial report of the state game and fish warden of the State of Montana, 1909–1910. Montana Fish, Wildlife, and Parks, Helena, Montana, USA.

Stevens, D. R. 1971. Shiras Moose. Pages 89–95 in T. W. Mussehl and F. W. Howell, editors. Game Management in Montana. Montana Fish, Wildlife, and Parks, Helena, Montana, USA.

Telfer, E. S. 1995. Moose range under presettlement fire cycles and forest management regimes in the boreal forest of western Canada. Alces 31: 153–165.

Toweill, D. E., and G. Vecellio. 2004. Shiras moose in Idaho: status and management. Alces 40: 33–43.

Tyers, D. B. 2003. Winter ecology of moose on the northern Yellowstone winter range. Ph. D. Dissertation, Montana State University, Bozeman, Montana, USA.

———. 2006. Moose population history on the northern Yellowstone winter range. Alces 42: 133–149.

VARTANIAN, J. M. 2011. Habitat condition and the nutritional quality of seasonal forage and diets: demographic implications for a declining moose population in northwest Wyoming, USA. M.S. Thesis, University of Wyoming, Laramie, Wyoming, USA.

WATTLES, D. W., and S. DESTEFANO. 2011. Status and management of moose in the northeastern United States. Alces 47: 53–68.

WOLFE, M. L., K. R. HERSEY, and D. C. STONER. 2010. A history of moose management in Utah. Alces 46: 37–52.

WORLEY, D. E. 1975. Observations on epizootiology and distribution of *Elaeophora schneideri* in Montana ruminants. Journal of Wildlife Diseases 11: 486–488.

———, C. K. ANDERSON, and K. R. GREER. 1972. Elaeophorosis in moose from Montana. Journal of Wildlife Diseases 8: 242–244.

## APPENDIX A: MOOSE MANAGEMENT SURVEY QUESTIONS PROVIDED TO 20 MFWP BIOLOGISTS IN 2010.

1. In your experience and professional judgment, what are the major concerns or limiting factors for moose in your area of responsibility (can choose more than one)?
   - [ ] Disease
   - [ ] Predation
   - [ ] Hunter harvest
   - [ ] Habitat loss/ fragmentation
   - [ ] Habitat succession
   - [ ] Other: _____
2. How would you describe the current status of moose within your area of responsibility?
   - [ ] Decreasing
   - [ ] Stable
   - [ ] Increasing
3. What type of moose management decisions are you typically required to make?
   - [ ] Harvest quota recommendations
   - [ ] Habitat enhancement
   - [ ] Habitat conservation
   - [ ] Large carnivore harvest recommendations
4. What information do you currently have and use for moose management (this information should be collected at the time of interview)?
   - [ ] Landowner reports
   - [ ] Hunter reports
   - [ ] Unadjusted trend counts
   - [ ] Sightability-corrected population estimates
   - [ ] Recruitment ratio counts
   - [ ] Bull: Cow ratio counts
   - [ ] Harvest estimates
   - [ ] Habitat condition
5. Which limiting factors have you addressed with moose management programs or decisions (this question will be accompanied by collection of past management actions: season proposals & rationales, regulations, specific habitat enhancement projects, land management plans, etc.)?
   - [ ] Disease
   - [ ] Predator harvest or control
   - [ ] Moose harvest
   - [ ] Habitat management
   - [ ] Habitat conservation
   - [ ] Other: _____
6. How would you describe your moose survey and inventory information?
   - [ ] Adequate to make decisions for moose management
   - [ ] Adequate in some ways, not adequate in others
   - [ ] Not adequate to make moose management decisions
7. What information would most help you in your efforts to conserve and manage moose populations in your area?
8. Can you list previous research projects and products from your area, and describe how results have been applied in your current management program?

# EXHIBIT 8

*Letter from Governor John Huntsman, Jr. to Gale Norton about proposed boundaries for the Northern Rocky Mountain DPS*

Office of the Governor

**State of Utah**

JON M. HUNTSMAN, JR.
*Governor*

GARY R. HERBERT
*Lieutenant Governor*

March 6, 2006

Gale Norton
Secretary of the Interior
United States Department of the Interior
1849 C Street, N.W.
Washington DC 20240

Subject: Advanced Notice of Proposed Rulemaking for Delisting of Northern Rocky Mountain Gray Wolves

Dear Secretary Norton,

My purpose in writing is to express disappointment in the proposed boundary of the Northern Rocky Mountain (NRM) Distinct Populations Segment (DPS) for the Gray wolf and urge you, and the U.S. Fish and Wildlife Service (USFWS), to consider an alternative boundary.

On January 10, 2006, I sent you a letter requesting the entire State of Utah be included in the proposal to create an NRM DPS, and wolves within it be delisted. This request was consistent with the previously proposed boundary for a Western Gray Wolf DPS (65 FR 43450, July 13, 2000). In addition, the Utah Division of Wildlife Resources (UDWR) submitted comments through the formal process making the same request. To date we have not received a response from your office or the USFWS. Nor does it appear that the USFWS addressed the comments we submitted.

We do not believe that the DPS boundary currently being proposed is consistent with either the requirement for discreteness of a DPS or statements made by the USFWS in their 90-day finding on the Wyoming petition, which initiated the delisting proposal (70 FR 61770, October 26, 2005). According to USFWS policy a DPS may be considered discrete if it satisfies one of the following conditions: 1) It is markedly separated from other populations as a consequence of physical, physiological, ecological or behavioral factors; and/or 2) It is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a) (1) (D) ("the adequacy of existing regulatory mechanisms") of the ESA (61 FR 4722, February 7, 1996).

East Capitol Complex Building, Suite E220, Salt Lake City, Utah 84114

# EXHIBIT 8

The Wyoming petition makes three arguments for discreteness including differences in management among populations in the United States and Canada, physiological differences between populations, and geographic and ecological factors separating populations. In its 90-day finding, the USFWS agreed that each of these arguments was consistent with its own data and information (70 FR 61770, October 26, 2005). We take no issue with the differences in management or the physiological differences put forward in the Wyoming petition or the UFWS evaluation of these contentions and we believe that these are valid. We also believe there are geographic barriers separating the NRM wolf population from other populations, however, we do not believe there are geographic barriers separating the majority of Utah from the NRM wolf population. Nor do we believe that the current boundary proposal represents a discrete geographic barrier.

In the 90-day finding on the Wyoming petition the USFWS states: "we believe that the existing geographic isolation of wolf populations far exceeds the Vertebrate Populations Policy's criterion for discreteness" (68 FR 15818, April 1, 2003). The USFWS supported this statement based on the results of suitable habitat modeling published in scientific journals by Carroll et al. (2006) and Oakleaf et al. (in press) (70 FR 61770, October 26, 2005). Both of these publications clearly identify dispersal corridors of suitable habitat connecting the NRM wolf population with Utah (Figures 1 and 2) and Carroll et al. (2006) shows suitable habitat continuing throughout most of Utah (Figure 2).

Based on the findings of Carroll et al. (2006) and Oakleaf et al. (in press) we propose the following boundary for the NRM DPS, which we believe is consistent with the USFWS policy regarding the creation of a DPS and satisfies the requirement for discreteness. Beginning at the Utah-Idaho Border we propose that the boundary of the NRM DPS follow I-84 south to I-15, then south on I-15 to the Utah - Arizona Border, then east on this border to the Colorado River, and then east and north along the Colorado River to the Utah - Colorado Border (Figure 3). Our justification for this boundary proposal is as follows: 1) this area consists of suitable wolf habitat that is directly connected to the NRM wolf population (Carroll et al. 2006), and 2) we believe the physical characteristics of the Colorado River corridor through this area which includes the Grand Canyon, Lake Powell and Cataract Canyon represent a substantial barrier separating the NRM wolf population from the Mexican wolf population in central Arizona and New Mexico.

It is also important to recognize that Utah is not part of the historic range of the Mexican wolf (Figure 4) and therefore should not be subject to recovery efforts related to it. It is crucial that any boundary adjustments, whether for the NRM DPS or for the Mexican Wolf Nonessential Experimental Population Area, not result in inadvertent full protection for wolves (through "similarity of appearance" or other rule interpretations) that were intended to have lesser protection, whether in the context of a delisted population or an experimental population.

If our proposed boundary were to be adopted there is no reason to believe that wolves dispersing to Utah would not be managed responsibly. The Utah Wildlife Board passed the Utah Wolf Management Plan on June 9, 2005. This plan outlines how wolves will be managed in Utah and is similar to the current 4(d) rule under which wolves are being managed in the 10(j) area encompassing Idaho, Montana and Wyoming. In addition to a species specific management plan, wolves are also protected under State code and administrative rules. We believe that the existing regulatory mechanisms in Utah are adequate in light of section 4(a) (1) (D) ("the adequacy of existing regulatory mechanisms") of the ESA.

Thank you for taking the time to consider this request. We look forward to your response and the results of the upcoming meeting between USFWS Director Dale Hall, UDWR Director Jim Karpowitz and members of Utah's congressional delegation.

Sincerely,

Jon M. Huntsman, Jr.
Governor

cc: Dale Hall

Literature Cited:

Carroll, C. M. K. Phillips, C. A. Lopez-Gonzalez, and N. H. Schumaker. 2006. Defining recovery goals and strategies for endangered species: the wolf as a case study. Bioscience 56:25-37.

Oakleaf, J. K., D. L. Murray, J. R. Oakleaf, E. E. Bangs, C. M. Mack, D. W. Smith, J. A. Fontaine, M. D. Jimenez, T. J. Meier and C. C. Niemeyer. In Press. Habitat selection by recolonizing wolves in the northern rocky mountains of the United States. Journal of Wildlife Management. In Press

# EXHIBIT 8



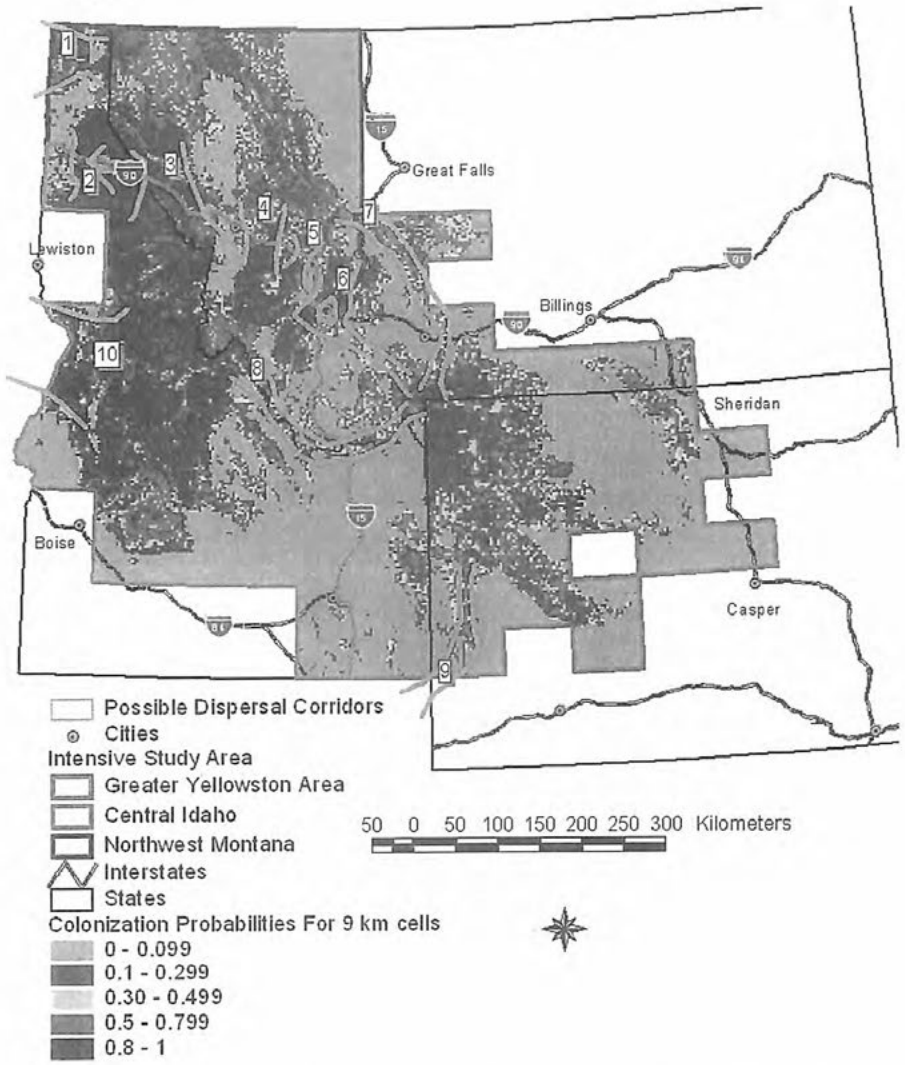



Figure 1. Suitable wolf habitat in the northern rocky mountains and dispersal corridors identified by Oakleaf et al. (in press) (adapted from Oakleaf et al. in press)

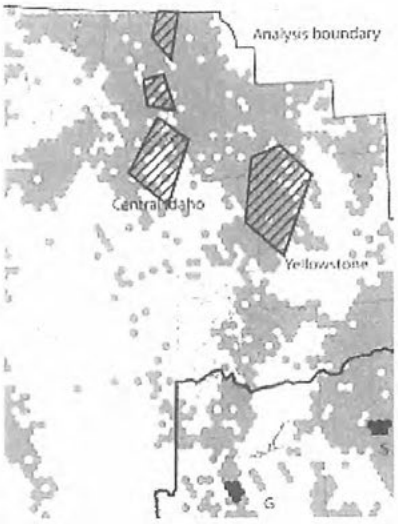



Figure 2. Map of occupied (cross hatched areas) and suitable (shaded areas) wolf habitat in the intermountain region, identifying suitable wolf habitat in Utah that is directly connected to the northern rocky mountain wolf population (Adapted from Carroll et al. 2006).

# EXHIBIT 8




Figure 3. Proposed boundary for a northern rocky mountain distinct population segment for the gray wolf, which includes suitable wolf habitat in Utah that is directly connected to the NRM wolf population.

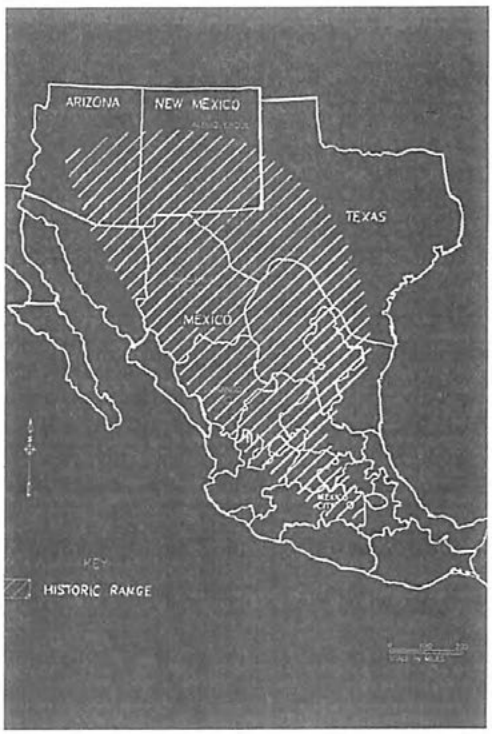



Figure 4. Historic range of the Mexican wolf

# EXHIBIT 9

*Letter from Jon Huntsman, Jr. to P. Lynn Scarlet inquiring about the delisting of wolves in the State of Utah*

STATE OF UTAH

JON M. HUNTSMAN, JR.
GOVERNOR

OFFICE OF THE GOVERNOR
SALT LAKE CITY, UTAH
84114-2220

GARY R. HERBERT
LIEUTENANT GOVERNOR

November 30, 2007

P. Lynn Scarlett, Deputy Secretary
U. S. Department of the Interior
1849 C Street, NW
Washington, D. C. 20240

Dear Secretary Scarlett:

The purpose of this letter is to inquire about the progress of de-listing wolves under the Endangered Species Act (ESA) in the State of Utah.

As you may recall, during a meeting last January with Utah Department of Natural Resources Executive Director Styler, it was agreed that if the Utah Wolf Management Plan was determined to be adequate, a delisting process, parallel to that being undertaken for the Northern Rocky Mountain (NRM) population would take place in Utah. The Utah Wolf Management Plan was submitted to the U. S. Fish and Wildlife Service (Service) Regional Director Mitch King in late January 2007. To date, we have received no communication about the status of this review. Meanwhile, it appears the delisting of the NRM population is moving forward. We respectfully request for the Service and the Department of the Interior to expedite the review of Utah's plan and start a similar delisting process for Utah.

Now that it is determined that wolves in the NRM are recovered, it makes ecological and economical sense to include Utah in the delisting process. The Service stated it has no plans to recover wolves in Utah. Furthermore, the Service noted that suitable wolf habitat in Utah occurs in isolated and fragmented sections, and is connected to the NRM habitat (see attached for details). A wolf finding its way to Utah would most certainly come from the NRM, a potentially delisted population.

Please respond to this inquiry with a plan, including a timeline, for how the Department of the Interior and the Service plan to proceed with the delisting of wolves in Utah. If you need additional information, please contact Michael Styler, Executive Director of the Utah Department of Natural Resources at 801-538-7201 or mikestyler@utah.gov. Thank you.

Sincerely,

Jon M. Huntsman, Jr.
Governor

cc: Michael Styler

# EXHIBIT 10

*Letter from Governor Gary Herbert to Secretary of the Interior Ken Salazar about the review of the Utah Wolf Management Plan and delisting wolves in Utah*

COPY

STATE OF UTAH

GARY R. HERBERT
GOVERNOR

OFFICE OF THE GOVERNOR
SALT LAKE CITY, UTAH
84114-2220

GREG BELL
LIEUTENANT GOVERNOR

February 25, 2010

RECEIVED
MAR 1 / 2010
WILDLIFE DIRECTOR'S OFFICE

The Honorable Ken Salazar
Secretary of the Interior
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Subject: Review of the Utah Wolf Management Plan and Delisting of Wolves in Utah

Dear Secretary Salazar,

This letter serves to renew our request to have the Utah Wolf Management Plan officially reviewed by the U.S. Fish and Wildlife Service (Service) and to have wolves in all of Utah removed from the protection of the Endangered Species Act. This issue has been ongoing for several years and former Governor Jon Huntsman sent two letters to your predecessor (Gale Norton) and one to former Deputy Secretary Lynn Scarlett regarding the status of wolves in Utah. These letters received no response. Copies of the letter are attached for your reference.

Delisting of the Northern Rocky Mountain (NRM) wolf population in only a small portion of northern Utah, as is currently the case, presents a serious dilemma. The Utah Wildlife Board approved the Utah Wolf Management Plan in 2005. This plan was intended for implementation when all of the State of Utah was delisted; however, this plan cannot be fully implemented given the current situation. The management of wolf conflicts is untenable, because the Utah Division of Wildlife Resources (Division) lacks authority to respond to conflicts in most of the state. Consequently, the Utah Legislature has recently passed a law requiring the Division to "*manage wolves to prevent the establishment of a viable pack in all areas of the State where the wolf is not listed as threatened or endangered under the Endangered Species Act until the wolf is completely delisted under the act and removed from federal control in the entire state*". As soon as delisting is accomplished in the entire state, the Utah Wolf Management Plan will be fully implemented.

To alleviate this situation, we urge the Service and the current administration of the Department of the Interior to honor the commitments made by then Interior Deputy Secretary, Lynn Scarlett, during a meeting in January 2007 with Utah Department of Natural Resources, Executive Director, Mike Styler. In this meeting, Ms. Scarlett promised to expedite a review of Utah's wolf management plan and to initiate a process to delist wolves in all of Utah. The Utah Wolf Management Plan was submitted to the director of the Mountain-Prairie Region of the Service shortly after this meeting. To date (3-years later), we have yet to receive any communication about the status of this review despite several inquiries.

# EXHIBIT 10

We believe that wolves in Utah should be removed from the protections of the Endangered Species Act for the following reasons:

1. Utah has a Wolf Management Plan as a result of a rigorous public process that is fair and based on sound biological and social principles.

2. The Service has no intention to actively recover wolves in Utah through reintroductions or any other means (Ed Bangs, Wolf Recovery Coordinator, U.S. Fish and Wildlife Service, Pers. Communication). As such, it seems inconceivable that the Service would create the dilemma described above by delisting only a small portion of Utah and retaining management authority for the majority of the state with no intentions of pursuing recovery.

3. As noted in the final rule to delist the NRM wolf population and two recently published studies (Oakleaf et al. 2006 and Carrol et al. 2006), the potentially suitable wolf habitat in Utah is fragmented and isolated and therefore will not contribute to wolf recovery. Given this, delisting Utah is analogous to the inclusion of unsuitable habitat in the eastern portions of Montana and Wyoming and southern Idaho in the NRM delisting.

4. As recognized in the final rule to delist the NRM wolf population, Utah has adequate regulatory mechanisms in place in the form of state code, administrative rule, and a species management plan to ensure that any wolves that might disperse into Utah would have adequate legal protection.

Given these factors we hope you will agree that the only viable way forward is for the Department of the Interior and the Service to honor its previous commitment to expedite the review of the Utah Wolf Management Plan and initiate a process to delist wolves in Utah.

We respectfully request that the Service respond to this inquiry with a plan, including a timeline, describing how your administration will proceed with delisting wolves in Utah. If you need additional information, please contact Mr. Mike Styler, Executive Director, Utah Department of Natural Resources at (801) 538-7201 or mikestyler@utah.gov.

Thank you for your consideration.

Sincerely,

Gary R. Herbert
Governor

cc: Mike Styler, Executive Director, Utah Department of Natural Resources
James Karpowitz, Director, Utah Division of Wildlife Resources

# EXHIBIT 11

*Letter from Governor Gary Herbert to Secretary of the Interior Ken Salazar on a recovery plan for the Mexican wolf and delisting other wolves in the U.S.*


STATE OF UTAH

GARY R. HERBERT
GOVERNOR

OFFICE OF THE GOVERNOR
SALT LAKE CITY, UTAH
84114-2220

GREG BELL
LIEUTENANT GOVERNOR


September 22, 2011

Ken Salazar, Secretary
Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Dear Secretary Salazar:

I am writing in regard to the on-going efforts by the Fish and Wildlife Service to list and develop a recovery plan for the Mexican wolf and delist the remainder of wolves in the United States. The State of Utah is participating on the Mexican wolf recovery team and we have serious concerns about the apparent direction the Service is taking. Under the ESA, the Service can protect the Mexican wolf as either a *distinct population segment* ("DPS") or as a *subspecies*. All of the states (Utah, Arizona, and Colorado) participating on the Mexican wolf recovery team support listing the wolf as a DPS rather than as a subspecies.

Despite the obvious advantages of a DPS listing over a subspecies listing, the Service remains inexplicably resistant to the concept. Thus far, the Service maintains it must list the Mexican wolf as a subspecies to ensure the greatest degree of management flexibility and legal defensibility. It further resists all efforts by the participating states to exclude Utah and Colorado from the Mexican wolf recovery equation, despite the lack of evidence that either state was within its core historic range. The only explanation they give is that Utah and Colorado have unoccupied wolf habitat, and therefore must contribute to the recovery of the Mexican wolf, even though the wolves that once occurred in Southern Utah and Colorado were a separate subspecies.

The State of Utah's position is twofold: 1) delist wolves in the remaining portions of the State; and 2) list and successfully recover the Mexican wolf in compliance with ESA and using the best scientific evidence available. The unavoidable conclusion is that the Mexican wolf must be listed, managed and protected by means of a distinct population segment that is confined to the core historic range of the subspecies. A more detailed letter explaining our position is being sent to Service Director Dan Ashe by the Utah Department of Natural Resources.

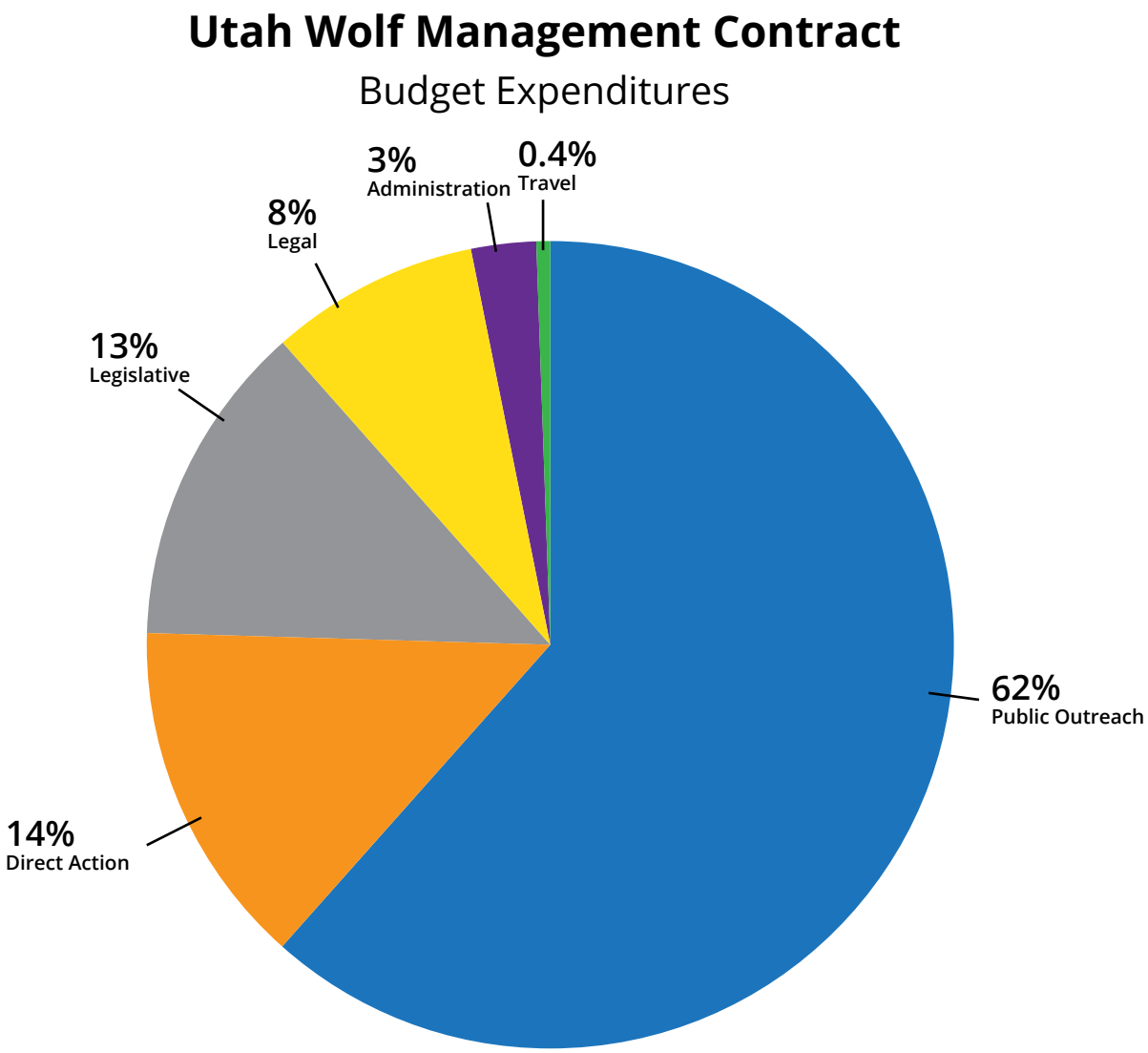
The State of Utah will vigorously resist any effort by the Service to: 1) leave wolves listed in the State, 2) list the Mexican wolf as a subspecies, or 3) include Utah within any distinct population segment created to protect wolves under the ESA.

Sincerely,

Gary R. Herbert
Governor

# EXHIBIT 12

*Utah Wolf Management Contract Budget Expenditures July-December 2019*




| July 1, 2019-December 31, 2019 (Six Months) | |
|---|---|
| **Total Expenditures - 6 months** | **$1,126,077** |
| Public Outreach | $692,837 |
| Direct Action | $158,269 |
| Legislative | $144,996 |
| Legal | $94,798 |
| Administration | $30,151 |
| Travel | $5,026 |

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