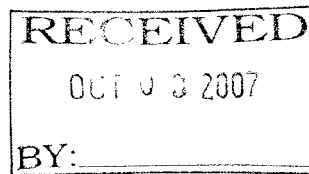


Copy for the record



000021

August 3, 2007

U.S. Fish & Wildlife Service  
Western Gray Wolf Recovery Coordinator  
585 Shephard Way  
Helena, MT 59601

Sirs:

Since the politics here in Wyoming will not allow decent management of wolves, we cannot classify them as predators. We must change the law. Here's the other side of the story.

Many Wyomingites are wolf haters, not wolf hunters. One professor called it pathological hatred. Because we didn't want wolves in the first place, we'll live and breathe this grudge against wolves and the feds until the last wolf is wiped out again. Like the Idaho governor, Wyoming's governor Freudenthal is prejudiced (or is performing for his hyper-conservative constituents), calling the Fish & Wildlife the "Fish & Wolf Service." USF&W kept rejecting the Wyoming Game & Fish Commissioners' wolf management plan because it failed to provide adequate controls. Just by changing the status from vermin (predator) to "trophy game" was needed but Wyoming and the gov didn't like being told what Wyoming could and couldn't do. Until recently, according to Wyoming law, wolves—once delisted—could be dispatched at any time by any means for any reason except in national parks. Trophy game status assured a controlled, science-based management of wolves; it provided financial support through the sale of wolf licenses, and also allowed control of nuisance wolves. WG&FD wildlife biologists came out with this plan originally before the G&F Commission messed up the recommendations with dual classification. In 2004, the gov filed a lawsuit against the feds about wolves. In January 2007 an impending "compromise" imploded after legislation that would have increased the area in which wolves could be exterminated as vermin was reported out of the Wyoming senate and house.

Wyoming should ponder the central question in Jon T. Coleman's award-winning book *Vicious: Wolves and Men in America* (Yale, 2004): Why is it that for 400 years Americans were not content to just kill wolves? Why did we persecute and torture an

animal that both science and history informs us is a rather shy beast? Once Europeans hit the east coast, animals perished in the millions. Like grim Siamese twins, extinction and colonization marched across North America in tandem. In Wyoming the buffalo and grizzly almost reached extinction. The wolf did.

With predator status, history will repeat itself. Wyoming Game & Fish will be helpless to prevent inhumane treatment—legitimizing sadism-- of the wolf by the many wolf haters in this state. Because we have missed coming up with a wolf management plan—that old “we gotta do it our way” philosophy, we’ve missed out on congressionally earmarked funds for wolf management. Idaho gets about a million a year and Montana gets half that amount because they attacked the problem from the start. Of course Wyoming is rich so who cares!

History tells us that wolves are a special case. No other animal generates such intense emotions. Folklore and children’s stories help perpetuate that intolerance and hate. From John James Audubon in 1814 witnessing a farmer torture 3 wolves by hamstringing them and siccing his dogs on them to finish them off all the way to a grandfather telling his grandchildren how his father, when migrating westward with wife and 8 kids, were attacked by a pack of wolves and had to toss the kids one by one to the pack to keep it from attacking the oxen. Don’t believe it? Read *Vicious* where “vicious” means men not wolves. That story came from the family’s oral history tapes. even though research showed that “no wolf ever tasted the flesh of a living human child or adult in the recorded history of North America.

Sure, wolves kill livestock (in 12 years they’ve accounted for less than one percent of all livestock deaths; they prefer elk). But we didn’t merely kill the wolves. We fed them fishhooks—good for internal bleeding, we dragged them to death behind horses, we set live wolves on fire, we wired their mouths and penises shut, then released them. Disproportionate action between injury and persecution? I’ll bet not to many Wyomingites. Read Coleman for more sickening details. Can we risk that? Think of lawsuits. Think of the big eagle-killing scandal we had a few years ago. A study by economist John Duffield reveals that wolf watching in the Greater Yellowstone area provides local communities with \$70 million annually. Sure some wolves must be killed—but ethically (or is that too hard for Wyomingites to swallow). With trophy game hunting status, WG&F can enforce principles of fair chase, appropriate weapons and sportsmanship, and set harvest quotas on wolves according to management zones. Sell hunting permits. Collect a few dollars.

According to Exum guide Jack Turner, we have a few Wyoming statutes that address inhumane-treatment of our wildlife: can’t hunt with artificial lights at night, or run

down game with vehicles, and we can't keep animals such as bears, cougars, wolves or hybrid wolf/dogs. That's good. Wyoming's Cruelty to Animals statutes prohibit causing undue suffering—or cruelly beating, injuring, or mutilating an animal but it exempts “hunting, capture, or destruction of any predatory animal” from these actions (Title 6, Chapter 3, Article 2). . So Wyoming wolf haters can still burn alive a trapped wolf, or pour gas into its den to torch the pups, or even dream up worse things. Think about it.

Franz Camenzind of the Jackson Hole Conservation Alliance suggested a plan back in May that sounds good to me. Give trophy game status throughout Wyoming, to be managed by the WG&F so we can keep track of the wolves.

Divide the state into 3-4 management zones with the wolves in the core of the GYE receiving the greatest protection; those farther out would have less protection, and so on. There should be mandatory reporting of any wolf deaths caused by humans.

Manage wolves for potential problems: Ranchers etc. can protect their property/livestock on private or public land with proof and if they take the same precautionary methods that Montana has been doing.

*Korraine G. Bonney*

*Copy for the record*

U.S Fish & Wildlife Service  
Western Gray Wolf Recovery Coordinator  
585 Shephard Way  
Helena, MT 59601

August 3, 2007

Sirs: Re: Wolf Rule Change that Allows Wolves to be Killed More Easily

1. I am adamantly for trophy game status for wolves so the WG&F can enforce principles of fair chase, appropriate weapons, and sportsmanship and that harvest quotas on wolves be set according to management zones. Sell hunting permits. Collect a few dollars.
2. Too many sources have said that game herds are currently well above optimal population levels, and in a few areas there are more elk than the habitat can support. impacted by other factors—loss of habitat to subdivision, drought, and oil and gas drilling. In 12 years wolves have accounted for less than one percent of all livestock deaths so look to the above for the other reasons.
3. The USFWS should NOT allow aerial gunning of wolves to mitigate wolf impacts on big game herds.
4. Proposals for wolf removal MUST go through a scientifically based independent peer review process, with a final decision by the USFWS. The USFWS MUST not give the states blanket approval for an entire program of killing wolves.

Sincerely,

*Lorraine G. Bonney*

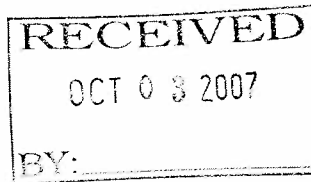
Lorraine G. Bonney  
7085 Short Cut, PO Box 129  
Kelly WY 83011  
(307) 733-6392



HC 67, BOX 680 • CLAYTON, ID 83227 • 208/838-2431 • FAX 208/838-2685

September 28, 2007

Wolf Comments  
Wyoming Game and Fish Department  
5400 Bishop Blvd.  
Cheyenne, WY 82006



000022

re: Wyoming Wolf Management Plan

Sirs,

Our organization is strongly opposed to your plan for wolf "management". Wyoming, a neighbor of both Montana and Idaho, seems to have a propensity to move backwards instead of developing a plan for the future.

Gray wolves were eradicated from most of the United States many years ago, mostly out of unsubstantiated risk of significant danger to livestock, as well as to human inhabitants. When this myth was finally debunked and scientists acknowledged that much of the imbalance that appeared in our ecosystems (both animals and plants) was due to mankind's ridiculous desire to "manage" or, in the case of wolves, extirpate them almost entirely, forward-looking Americans began to realize that wolves were critical and central to maintaining healthy habitat and wildlife.

Despite the ongoing resistance to science and biology in particular, wolves began to be re-introduced into Idaho and Montana about 1995. Over the succeeding 12 years, the wolf has shown his species to be extremely adaptable and successful in reclaiming appropriate habitat. Furthermore, over that time span, it has become clear that the presence of wolves has not only resulted in more native behavior in potential prey species (primarily elk and deer and beaver), but that historically failing aspen populations began to show signs of recovery. It was clear that wolves changed the behavior of cervids such that they began to be wary of spending time nibbling on aspen shoots. Historically high numbers of coyotes, a co-predator of the wolf, began to show signs of abating, due to the direct competition with wolves for prey and territory.

The bottom line is that the reintroduction of wolves has brought a healthy change in the west. Humans now realize that God's plan of balance with both prey species and predator species had been working well, until man interceded.

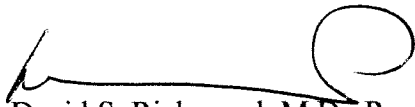
We recommend that you reconsider your plan to include changes to accommodate the following:

1. Leave wolves in Grand Teton completely protected. There is no justification for removing wolves from this protected landscape, which requires their presence for self-regulating balance.
2. Plan to maintain the current population, despite political pressure from the ranching community. No arbitrary shooting goals.
3. If unavoidable conflicts occur, use lethal control as a last resort.

We are confident that Wyoming residents can open their hearts and minds to the balance in nature, as God has intended. It makes no sense to return to the old days, prior to reintroduction, when Wyoming ecosystems relied solely on human action to achieve results.

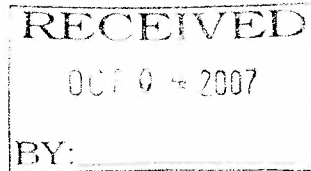
Thank you for accepting our comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'David S. Richmond', with a large, stylized loop at the end.

David S. Richmond, M.D., President  
Friends of the West  
Clayton, Idaho 83227

Douglass E. Owen  
3215 W 2600 N  
Arco, ID 83213



9-29-07

**000023**

Dear Sirs:

As a resident of the Greater Yellowstone Ecosystem I feel compelled to comment on Wolf Recovery.

1. At the minimum wolves need to be managed to maintain the current population and preferably to have their numbers increase to provide a more appropriate gene pool.
2. The use of non-lethal methods to resolve and prevent conflicts should be the first priority, with use of lethal methods as the last resort.

Sincerely,  
Douglass E. Owen

Supt. 30, 2007

Wyo. Game  $\frac{1}{2}$  fish  
5400 Bishop Blvd.  
Cheyenne, WY  
82006

RECEIVED

OCT 04 2007

BY:

00024

Gentlemen & Ladies -

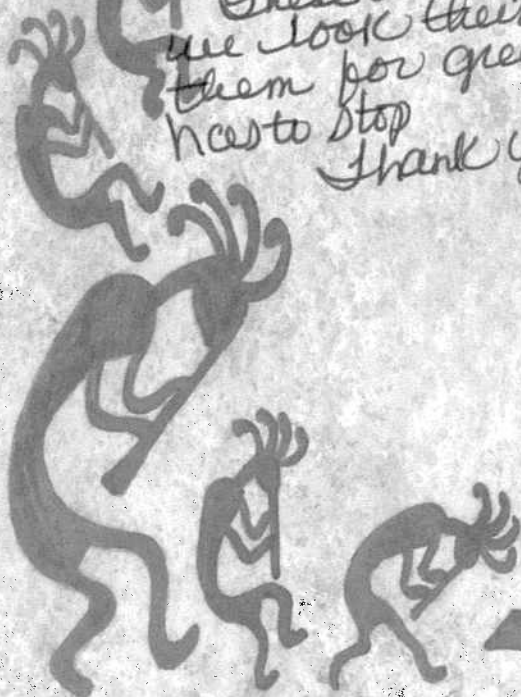
We wish you to manage wolves  
by maintaining the current population  
not based on arbitrary goal. shooting of  
hundreds of the beautiful animals. Also,  
please use non-lethal methods to  
resolve & prevent conflicts and use  
lethal methods as a last resort.

Please Do Not Kill the Grand  
Teton's Wolves.

These animals were here before  
we took their habitat away from  
them for greedy purposes. It is  
now to stop

Thank you

Cordially,  
Jerry & Sally Nichols  
#10 Trotter Rd.  
Cody, WY  
82414



#Babine

Wolf Comments  
Wyoming Game & Fish Dept.  
5400 Bishop Blvd.  
Cheyenne, WY 82006

000025

RECEIVED
OCT 4 2007
BY:

1431 River Rd. #6  
Missoula, MT. 59801  
October 29, 2007

Wildlife People:

Don't you understand the balance of nature?  
Wolves are a natural predator to be included  
in the food chain. Wolves must be managed by  
by maintaining current population — not a  
shoot out. I worked 8 summers in Yellowstone,  
do not kill Grand Teton wolves!

Dummy up you "Wildlife people", look at Montana's  
management.

Shreen Wetzel

← my cat, another predator, but I won't shoot her.

W G & F, #000026

10/2/07

I know there are folks who don't like wolves and feel an economic hardship because of wolves — but there are those of us who appreciate that but find the wolves an economic benefit — plus a benefit to a healthy ecosystem.

Wyoming's wolf management plan looks more like a wolf-elimination plan. Please adjust it to allow the wolves a better chance to make it.

I am especially opposed to killing wolves based on elk (or other prey) numbers. They had their predator/prey complex figured out long before we showed up.

Wolves that are based primarily on public lands — esp. YNP & GYNP and adjoining national forest & BLM lands, should not be subject to unregulated takings.

Please manage the wolves so they will remain a healthy population and part of the big picture. The rest of the country as well as many Wyo citizens will appreciate a fair chance for them. TES —  
Ernie Ball

Grand Wolf Study Team:

10-1-2007  
#000027

Please realize the natural place in  
the ecosystem that historically included  
viable wolf populations, that, under  
present politically based decision  
would, again, upset the balance in  
prey species.

Especially vulnerable would be the  
Grand Teton wolf population.

Thank You Loren L. Whaley

Box 536  
Col. Falls  
59912 MT.

10/2/07

RECEIVED

OCT 05 2007

Y:

000028

Wolf Comments,  
Please care about  
wolf recovery - they  
mean so much to our  
American heritage!

Please use non-lethal  
methods to resolve and  
prevent conflicts.

Please defend the  
Grand Teton wolves.

Sincerely,

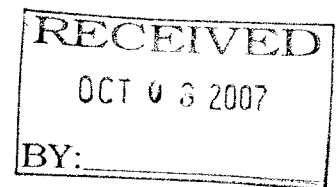
Sallie Krawcheck

P.O. Box 627 835 39

Kooskia, ID 83539

208-926-7052

Linda and Jean-Pierre Georges  
8417 Stirrup Ln.  
Longmont, CO 80503  
Oct. 3, 2007



Wyoming Game and Fish Dept.  
Wolf Comments  
5400 Bishop Blvd.  
Cheyenne, WY 82006

000029

Dear Commissioners:

I am assuming that comments from out of state on the management of your wolf population are viewed with some skepticism. This is understandable; at the same time, please keep in mind that many of us out-of-staters are the folks your tourism industry strives to attract.

I regret that I cannot attend the hearing at Pinedale, our favorite stop-over on the way to Driggs, or the Tetons and Yellowstone area. If I could attend, this is what I would say:

Your wolf plan is a thinly disguised effort to maintain only enough live wolves so that you can say "we are trying" with a straight face. As a conservation plan, it is completely inadequate. To classify these animals only as predators or as game animals is to devalue a tremendous service that they perform for our (and your) ecosystems. For example, many of us have read of the bounce-back of songbirds because of the renewal of willows and other foliage, thanks to depredation of wolves on the elk population. I support this wholeheartedly. Human hunting does not play at all the same type of role in culling, as you well know.

So I ask of you the following things:

--Please do not establish an arbitrary and derisory target population of wolf pairs; this is not science, it is politics. Work with the wolves you have, and continue to allow ranchers to be compensated (as they are) for damage; encouraging them to use wolf depredation discouragement practices.

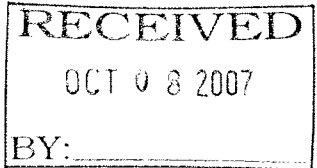
--Leave the Grand Teton wolves alone; we do not pay good money to your hotels and restaurants to watch ground squirrels. We tourists like to see (or hear) big predators as well as big "game". And as birdwatchers, we like to see flourishing populations of breeding birds, whose habitat must be protected from excessive ungulate munching!

--Please use non-lethal methods of control; these are increasing and increasingly affordable. Lethal methods should be reserved for times when all else has been tried, but are generally used when there is a dearth of imagination.

Thank you for soliciting public comment, and good luck with your work on improving Wyoming's wildlife management. Soon, you will be wishing us the same with our increasing natural wolf migration here in Colorado.

Yours sincerely,  
Linda Andes-Georges

A handwritten signature in black ink, appearing to be "Linda Andes-Georges", written over the typed name.



**000030**

October 3, 2007

Wolf Comments  
Wyoming Game and Fish Department  
5400 Bishop Blvd.  
Cheyenne, Wyoming 82006

Wyoming Game and Fish Department:

I am writing in regard to your state wolf management plan which I wish Montana would adopt but we are at the mercy of the environmentalists in this state. Your plan is what ours (Montana's) should be. Keep up the good work.

Sincerely,

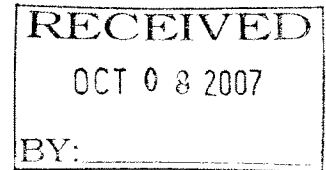
A handwritten signature in cursive script that reads "Keith E. Martin".

Keith E. Martin  
346 Limestone Road  
Nye, Montana 59061  
(406) 328-6307

000031

255 Hwy. 10  
Jelm, WY 82063  
4 October 2007

Wyoming Game and Fish  
5400 Bishop Boulevard  
Cheyenne, WY 82006



To Whom It May Concern:

I appreciate this opportunity to comment on Wyoming's Revised Draft Wolf Management Plan. This letter is a more complete version of comments I submitted on-line.

I urge Wyoming Game & Fish to reconsider this plan in light of the scientific literature regarding trophic cascades and the ecological benefits of effective densities of large predators. This information has been available for several years, and I have no doubt that Department biologists are aware of it. The Draft Plan's failure even to mention it is a glaring omission and prevents an informed, intelligent decision about wolf management.

First, please note that these comments are my personal opinions, submitted for myself only and not in my capacity as a state employee. I also point out that I hold an M.S. degree in wildlife biology and a law degree. I have done work on predators (both grizzly bears and river otters), and have taught Biodiversity Conservation and the Law, as well as public land law and various natural resources seminars. I have written about ecosystem services and the Endangered Species Act (ESA). Finally, I am a hunter. I have purchased Wyoming hunting licenses for deer, antelope, and/or elk almost every year I have lived in the state (about 18).

The Draft Plan's objective seems to be to maintain as few wolves as possible, while avoiding the risk of their once again needing protection under the ESA. Unfortunately, this "minimum viable" population concept is inconsistent with modern ecological understanding. There is growing evidence that restoring or rehabilitating ecosystems from which highly interactive species, including large predators, have been lost can depend on re-establishing those species at functional levels. Indeed, it appears that restoring large carnivores can rehabilitate entire ecosystems—healthy prey populations, vegetative communities, biodiversity generally, riparian areas, stream channels and hydrological function, and aquatic communities. The Draft Plan fails altogether to consider the potential ecological benefits of having wolves in the system.

Aldo Leopold developed theories about trophic cascades, or the top-down effects of predators, in the 1930s and 40s. Research in the past ten years lends substantial support to those theories. Major contributors to the recent scientific literature include Robert Beschta, and William Ripple, both professors at the College of Forestry, Oregon State University. Dr. Beschta was a member of the U.S. Forest Service Committee of Scientists. His top-down research, with Dr. Ripple and others, in Yellowstone, Zion, and Wind Cave National Parks has demonstrated dramatic connections between large carnivores and entire ecosystems, including streams and hydrological functioning. (For links to their numerous publications on

trophic cascades, see <http://www.cof.orst.edu/cascades/articles.php>. Articles on similar work in Jasper National Park and Yosemite and Olympic National Parks are in press or under review.)

Among their findings are negative impacts to riparian vegetation functions and stream channel characteristics of the Gallatin River, and reduced cottonwood recruitment in the Lamar River drainage, both resulting from the extirpation of wolves. The return of aspens to the Lamar Valley was the subject of an article in the August issue of *Biological Conservation*; it also was reported in the July 27 issue of *Science*. According to emeritus ecologist Michael Soulé, this study “lends support to a prediction made a decade ago that the aspen in Yellowstone would recommence growing’ after the gray wolf was brought back and began to reduce the elk population.” (See “Aspen Return to Yellowstone with Help from Some Wolves,” 7/27/07, quoting Soulé). The regeneration of aspen, cottonwoods, and willows further suggests to Dr. Beschta, who is a forest hydrologist, that the condition of the badly degraded Lamar River is in turn beginning to improve.

Drs. Beschta and Ripple report that the story, across the board, is the same—removal of wolves (in wolf/elk systems) or suppression of cougars (in cougar/mule deer systems) leads to an overabundance of ungulates with resulting impacts on vegetation, biological diversity, and riparian and stream functioning. Their Zion research (see William J. Ripple & Robert L. Beschta, “Linking a Cougar Decline, Trophic Cascade, and Catastrophic Regime Shift in Zion National Park,” 33 *Biological Conservation* 1397-1408 (2006)) perhaps best demonstrates these relationships (because it was possible to make simultaneous comparisons between similarly situated drainages, one in which cougars were present and the other, where cougars had been absent for c. 50 years). The attached drawing graphically illustrates the findings of their Zion study.

Dr. Soulé’s work is also noteworthy. He and colleagues James A. Estes, Joel Berger and Carlos Martinez Del Rio (of the University of Wyoming), published an article in 2003 (“Ecological Effectiveness: Conservation Goals for Interactive Species,” *Conservation Biology*, Vol. 17, pp. 1238–50), in which they argued that “strongly interacting but extirpated species [including large predators] should be restored throughout all those parts of their potential range, where their absence may contribute to ecological degradation or simplification.” In their view, the regeneration of aspen and willow in Yellowstone in the first few years following wolf reintroduction suggested that wolves had “reached ecologically effective densities in small parts of Wyoming (in the vicinity of YNP and GTNP) and possibly in Montana and Idaho” (p. 1244).

Soulé et al.’s conclusions (at p. 1244) included the following:

- (1) The absence of these [strongly interacting] species from previously occupied regions may result in the simplification of ecosystems.
- (2) Ecologically effective densities of strongly interacting species [including wolves] can vary by as much as an order of magnitude and are highly contingent and contextual.
- (3) For [wolves], the ecological variables that may

influence determinations of effective densities include primary productivity, weather, prey behavior and its variation in space and time, the presence of multiple (alternative) prey species, competition among herbivore prey, prey life history and its variation in space, and the potential for nonadditive interactions and competition among predators species. ... (4) If not harassed, predator species . . . naturally achieve densities above the threshold for ecological effectiveness, except in regions of exceptionally low or variable primary productivity.

While they cautioned (at p. 1246) that “globally applicable estimates of ecologically effective densities” for these species would “likely be meaningless,” they nevertheless urged (at p. 1247) that these

kinds of uncertainty ... should not discourage managers from establishing operational targets or thresholds for ecosystem recovery. Examples of such qualitative objectives would be . . . the restoration of canopy recruitment of trees and forest understory diversity where plant reproduction has been arrested by excessive herbivore browsing, and ... the recovery of beaver wetland ecosystems where their disappearance is an indirect consequence of carnivore eradication.

I reviewed Wyoming’s Revised Draft Wolf Management Plan with this article and the trophic cascades research in mind. The Plan mentions neither the ecological role of wolves nor the connections among habitat quality, populations of wolves and other predators, and prey species. (Portions of the Plan seem to assume that wolves and human hunters are interchangeable, even though they target different prey animals and operate at different times of the year, at different intensities, and in different ways.) The Plan says nothing about aspen or willow communities—about their importance to wolf prey species or the reasons for their generally degraded condition—even though the scientific literature has contained such information for years. In fact, the Plan gives precious little attention to habitat considerations of any sort. The Department asserts (at p. 18) that it can “assure adequate prey abundance to sustain a wolf population, as well as the hunting and trapping tradition enjoyed by many in Wyoming” simply by “balancing natural [ungulate] population fluctuations and public hunting.” But it provides no explanation of, much less any evidence to support, this statement, which ignores both the importance of *habitat* to ungulate populations and the role of predators in maintaining both prey populations and *habitat condition*.

The State’s calculations of target wolf populations are rooted, not in ecology, but in (1) political considerations of how many wolves will be tolerated by certain segments of the Wyoming populace, and (2) what the ESA, as construed by the U.S. Fish and Wildlife Service, requires. For instance, the Plan claims (at pp. 1, 3) that the proposed management program “will provide for a sustainable wolf population, while minimizing wolf/human conflicts” and that it “should guarantee that the Federal [ESA] recovery criteria ... are met and maintained after delisting.”

While the Plan might provide for minimum viable populations (essentially, token or symbolic levels) of wolves, it forecloses any possibility of using wolves to improve ecosystem health. Since healthy ecosystems are among the most effective defenses against threats posed by significant environmental change, including global warming, the Department not only writes off an opportunity to enhance big game and stream habitats in the near term, it shortchanges future generations of Wyomingites.

It's an old saw that on western public lands "the feds manage the habitat and the states manage the wildlife." Wyoming law reflects this, stating that it is the "policy of the state to provide an adequate and flexible system for control, propagation, management, protection and regulation of all Wyoming wildlife." Wyo. Statutes § 23-1-103. While Wyoming does not *own* most wildlife habitat within the state, its authority and ability to *manage* wildlife entails significant power to affect (i.e., manage) wildlife habitat as well. Indeed, the management of predators can largely determine the condition, or alternative states, of ecosystems. Sadly, the Draft Plan ignores this tool and, with it, the State's tremendous, untapped power to promote healthy ecosystems.

HB-213 provides that "the department shall manage the gray wolf population as necessary to ensure the long-term health and viability of any big game animal herd that is being threatened in this state." This is appropriate and may be desirable in localized areas (for instance, if moose subpopulations are being especially hard hit by wolf predation). But it is also the Department's role to *educate* legislators and the public that the long-term health of big game herds is dependent on sustaining healthy habitats, which in turn depends on maintaining ecologically effective populations of wolves and other large predators.

If the number of wolves in the YNP-GTNP area drops to the Plan's target level (basically, 10-15 breeding pairs), the beneficial effects of wolves on those ecosystems are likely to decline. In fact, if there is a threshold density at which wolves effect changes in the ecosystem, wolves could cease to be ecologically functional. It goes without saying that wolves will *not* achieve ecologically effective densities in areas where they can be shot on sight.

The Department has suggested that its Plan reflects an attempt to find a "balance." For instance:

- "The purpose of this plan is to ... provide for a sustainable wolf population, while minimizing wolf/human conflicts."
- "it is important that the Department balance the wolves' need for prey with the public's investment in these ungulate populations and maintain their opportunity to hunt and otherwise enjoy them in a sustainable and responsible manner" (at p. 27)
- "the Department seeks to build a balanced management approach that acknowledges the complexity of the political, social and environmental factors associated with wolves and their management." at 28

But politics plainly outweighed science in the “balance” struck by the Plan. The Plan does *not* ‘acknowledge[ ] the complexity of ... environmental factors associated with wolves.’ The Department was far too willing to conclude that “some habitats [are] unsuitable for long-term [wolf] occupancy due to the potential for conflict.” Even areas where wolves could thrive, such as the Wyoming Range and the southern end of the Wind River Range, were “excluded from the DAU because of the potential for persistent conflicts due to existing numbers of domestic sheep.” This latter policy choice is indefensible, given the broad support in the state for maintaining the environmental qualities of, and hunting and fishing opportunities in, the Wyoming Range (reflected by the equally broad opposition to oil and gas leasing in this area).

Of course, much is not known about wolves in the Northern Rockies. But initial, published, peer-reviewed reports indicate that the effects of wolf reintroduction have been and will continue to be ecologically positive. It is irrational to sacrifice the gains we’ve achieved or might yet achieve by setting wolf population targets at ecologically suboptimal levels. It doesn’t make sense to maintain big game herds at levels that undermine ecosystem health and carrying capacities, just to satisfy the demands of a few hunters for tags in certain areas. For sportsmen or –women like myself, the hunting experience involves more than bagging an animal. Far more important is the opportunity to hunt in prime habitat, knowing that wildlife populations are diverse and healthy. It makes even less sense to write off a potentially effective means of enhancing ecosystem health to accommodate a marginally economic and environmentally damaging enterprise like livestock production. I have expressed my views on this issue elsewhere (*see* Donahue, *The Western Range Revisited* (1999)), and I won’t restate them here. Suffice it to say that it is irrational to support livestock grazing on public lands—when cattle and sheep directly compete with native ungulates for forage and water, introduce disease, and negatively impact native habitats—yet begrudge wolves the elk or deer or moose that they “deprive hunters of.”

Wolves have significant support in Wyoming. Granted, many, perhaps most, livestock producers and some big game hunters will never be convinced of the wisdom of maintaining wolves. But we are not likely to achieve greater tolerance of wolves among these population segments unless the ecological benefits of wolves become common knowledge. The Draft Plan recognizes, but trivializes, the Game and Fish’s important role in public education. Educating the public should go far beyond the items outlined in the Plan at pages 28-29. The Department should be educating all sportspersons as well as the general public about the ecological benefits of large predators, including wolves. The public needs that information to be able to weigh in on this important decision.

As noted above, maintaining healthy ecosystems is among the best defenses against threats posed by significant environmental change, including global warming. It is unrealistic, and dangerous, to ignore our unraveling landscapes. Compelling reasons should be required to reject any demonstrably effective habitat restoration tool, including reestablishing effective densities of wolves. For these reasons, I urge you to see wolf management as the opportunity it is, rather than as a legal obligation to be minimally satisfied.

What follows are specific comments regarding the text of the Plan. The Plan language (copied and pasted from the Plan) is set forth first, followed by my comments and queries.

**p. 3:** “The purpose of this plan is to establish guidelines for wolf management in Wyoming that will provide for a sustainable wolf population, while minimizing wolf/human conflicts, and ensuring the long-term health and viability of all big game herds once wolves are removed from Federal protection under the ESA.”

- The Department cannot credibly claim that the Plan “ensur[es] the long-term health and viability of all big game herds” when it ignores the importance of habitat condition and disregards the trophic cascades literature.

**p. 4:** “suitable wolf habitat in Wyoming is restricted to the northwestern corner of the State (Oakleaf et al. 2006).”

- “Suitable” is a manipulable term. A wildlife management plan should consider the ecological suitability of available habitat, not merely or primarily the political palatability of restoring a native predator.

**p. 5:** “Wolves are of national interest, and the national public, not just the license-buying public of Wyoming, should share in the funding of wolf management.”

- I agree that funding should be widely shared, but the Plan should at least acknowledge the national/federal contributions to wolf management in terms of the reintroduction program and the provision of habitat on public lands.
- Perhaps the Plan also should recognize that substantial public funding went toward *eradicating* wolves in the early 1900s, largely for the benefit of livestock producers—the same sector whose interests now serve as the chief political roadblock to reestablishing ecologically effective densities of wolves.
- The facts that wolves *are* of national interest and that Wyoming, Montana, and Idaho are advocating congressional funding of a Northern Rocky Mountain Grizzly Bear and Gray Wolf Management Trust (see p. 30) should mean that local, parochial interests will not be allowed to trump that national interest.

**p. 7:** “human exploitation tends to be the highest form of mortality in most wolf populations.”

**p. 14:** “human-caused mortality is a major factor in most wolf populations.”

- Compare Soulé et al.’s observation: “If not harassed, predator species . . . naturally achieve densities above the threshold for ecological effectiveness ....” The Department’s Plan for most of the state ensures that wolves *will be* harassed and thus will have little or no discernable effect on ecosystem health. *If* ecologically effective densities of wolves are maintained in the Trophy Game Area, it will be fortuitous and not the result of the Department’s proposed management.

**p. 7:** “Recent studies of wolf-prey relationships in and adjacent to YNP have documented >85% of wolf kills to be elk, followed by bison, moose, deer, and pronghorn (*Antilocapra americana*) (Smith et al. 2006, Smith et al. 2002, USFWS 2002, Jaffe 2001, Mech et al. 2001).”

- Has anyone studied or documented whether, and if so the extent to which, other foods (e.g., small mammals) form a part of the diet of wolves in the northern Rocky Mountains?

**p. 8:** “From 1897-1907 bounties were paid on 20,819 wolves in Wyoming alone [Seton 1929:261 .... Wolf depredation on livestock undoubtedly intensified due to the depletion of natural prey and expanding livestock presence.”

- This statement overlooks the salient facts that (1) “depletion of natural prey” was primarily a result of loss and degradation of habitat due to the “expanding livestock presence,” (2) wolves were extirpated primarily to benefit the livestock industry, and (3) extirpation of wolves and other predators, combined with the “expanding [and continuing] livestock presence,” explains much of the deteriorated conditions on public lands today.

**p. 8:** (1) “While livestock losses to wolves are minimal industry-wide, losses to individual operators can be significant . . . .”

(2) “Wolf depredation rates on cattle were 0.12, 0.37, and 0.87/1000 available in Minnesota, British Columbia, and Alberta, respectively (Mack et al. 1992). ... Depredation rates on sheep were 2.37 and 0.54/1,000 available in Minnesota and British Columbia ....”

(3) “Control of offending wolves, improved livestock management practices (e.g., carcass management, fencing, etc.), compensation for losses, and communication with the public have been suggested as means to enhance wolf recovery where wolf-livestock conflicts exist ....”

- Why—as a matter of economics, ecology, or equity—should wolf population targets be set according to the economic impacts on a few individual livestock operators? The Plan never justifies this decision. It seems simply to be a foregone conclusion. The Plan does not discuss, much less propose: (1) reliance on more economically efficient alternatives of non-lethal methods of wolf deterrence or livestock protection, which can be implemented by those individual operators, or state (publicly funded) compensation for losses outside the Trophy Game Area; or (2) information programs to educate the public about the ecological values of wolves.

**p. 11:** “The amount of data that is available from radio-collared individuals is marginal for most packs and does not exist for some other packs. As such, the area within this DAU should provide suitable habitat to account for any unknown movement patterns that might exist for some packs.”

- The last sentence is a non sequitur. What does this statement mean?

**p. 14:** “Since the Department will be required to monitor the status of wolves Statewide while they are under the initial dual status protocol ....”

- What is meant by “initial dual status protocol”? Does the Department plan to revise or abandon the dual-status approach at some point?

**p. 15:** “Wolf mortality quotas will be based on desired pack densities for each WMU and total numbers of packs at the DAU level.”

- Criticisms: First, the Department is not proposing to establish “desired pack densities” in terms of ecological need or effectiveness. Second, the Plan says nothing about the likelihood that wolves will not be overharvested under the general license regime. (Indeed, the Plan does not indicate whether a general license will allow the holder to kill one or more wolves.) Third, the Plan does not specify under what conditions (or triggering events) “limited quota harvest regimes [will be] utilized.”

**p. 17: “Genetics/Connectivity:** Connectivity implies that wolves in each of the three States are functionally connected through emigration and immigration events, resulting in the exchange of genetic material between sub-populations.”

- The fact that wolves may be shot on sight in most of the state will significantly reduce the potential for genetic exchange.

**p. 17:** “Designation of habitat linkage zones or migration corridors is impractical for a habitat generalist and highly mobile species like the gray wolf. Outside refuges such as national parks, legal protection across broad landscapes and public education will facilitate those functional connections across the region (Forbes and Boyd 1997). . . . No specific linkage corridors are proposed in Wyoming.”

- Isn’t the need for linkage zones or corridors greatest for “highly mobile” species?
- Recovery corridors for wolves *have* been established in the past. See, e.g., *Thomas v. Peterson*, 753 F.2d 754 (9<sup>th</sup> Cir. 1985) (referring to a recovery corridor established by USFWS for wolves in Idaho).
- The Plan proposes no “legal protection across broad landscapes” outside the GYA (Trophy Game Area). Similarly, it proposes no “public education” concerning the ecological benefits of reestablishing wolves.

**p. 17:** “Dispersing wolves will travel through some habitats unsuitable for long-term occupancy due to of the potential for conflict. Lone wolves in these areas may not be immediately removed through agency actions unless conflicts arise. However, wolves in these areas may be subject to liberal public take regulations. Public education efforts will emphasize that lone wolf sightings do not necessarily mean a pack is forming in the area.”

- This statement reflects the Department’s blatant disregard of ecology and epitomizes its narrow view of public education.

**p. 18:** “To maintain wolf habitat, the Department must continue to manage for viable, robust ungulate populations.”

- To maintain healthy ungulate populations and habitat, the Department should be concerned about managing for ecologically effective densities of wolves.

**p. 18:** “The Department manages ungulate populations by balancing natural population fluctuations and public hunting. This adaptive management approach will assure adequate prey abundance to sustain a wolf population, as well as the hunting and trapping tradition enjoyed by many in Wyoming.”

- First, how can this statement be reconciled with the one on p. 16: “Currently it is unlawful to take trophy game animals by trapping in Wyoming”? There are few if any persons alive today who ever “enjoyed” trapping wolves in Wyoming.

- Second, the notion that ungulate populations can be “managed” by “*balancing*” natural population fluctuations and public hunting,” or that such “management” qualifies as “adaptive,” is simplistic and unsupported by ecology. The premise is also false: Ungulate population fluctuations are not “natural” where they are not subject to effective control by predation.

**p. 19:** “Nor will the Department compensate livestock producers for livestock that are killed by wolves where wolves are designated as predatory animals.”

- Compensation for livestock losses would be a more cost-effective, ecological, and equitable approach to managing wolves.

**p. 20:** “Results of the study can be found at:  
[http://www.forestry.umt.edu/personnel/faculty/mike/pcrp/.](http://www.forestry.umt.edu/personnel/faculty/mike/pcrp/)”

- This link does not appear to be available to the public. I have been unable to access the report.

pp. 20-2: “**Management Actions**”

No Action

Aversive Conditioning or Deterrence:

Relocation

Removal

Property Owner Take Permit

- These subheadings reflect the overly narrow approach that the Department is taking to wolf management. Basically, its view of “management” is preventing or minimizing conflicts between wolves and human economic enterprises by moving or removing wolves.

**p. 21:** “damaging property or attacking livestock”

- What property damage other than livestock loss is meant by this phrase? Attacks on pets?

**p. 21:** “Lethal control may be used when other options are not practical or feasible. Removal is often the most effective management option for wolves that kill livestock (Bangs et al. in press).”

- The Department may hope that readers will interpret “removal” in the sense of removing individual “offending” wolves. But taken to its logical extreme (in the context of this Plan), this statement means that all wolves could be removed from an area in the event of any conflict with wildlife. “Removal” in this sense is not “management.”

**p. 21:** “Wolves in Minnesota do not appear to impact white-tailed deer populations overall, but there are some localized effects of wolf predation in the poorest quality deer habitat.... Biologists in Wisconsin have reported that habitat and climate influenced deer populations more than wolf predation.... Studies in YNP identified winter severity as a major influence on the level of wolf predation on elk, with wolf predation higher in more severe winter. However, wolf predation had an increasingly additive effect on mortality of female elk as the ratio of wolves to elk increased in the Northern Yellowstone Elk Herd (White and Garrott 2005). A subsequent study by Eberhardt et al. (1997) [sic; should be 2007] suggested wolf predation may have less impact on elk

population trajectory than harvest by hunters due to greater selection (by wolves) of calves and older female elk with 'low reproductive value.'"

- This text seems to rebut concerns about wolf impact on hunter harvest opportunities. Yet, as indicated in the next excerpt and comment, the Department uses it for just the opposite purpose.

**p. 21:** Eberhardt et al.'s "recommendation to discourage harvest of calves seems to contradict the notion that wolf predation has a lesser impact than hunting harvest."

- Not necessarily. It seems to me that they're just saying that *hunter* harvest of *calves* should be discouraged.

**p. 21:** "authors did not quantitatively assess the degree to which wolf predation of female calves, which normally have very high survivorship through the winter, may impact the population trajectory."

- Is there any reason to think female calves are any more vulnerable to predation than males? If not, then predation rates should be proportional to the sex ratio in the population, and this statement is a canard.

**p. 21:** "If calf harvest has the potential to affect the elk population trajectory, then wolf predation of calves has a much greater potential impact."

- I assume "greater" means "greater than that of hunters. In any event, this conjecture directly contradicts the conclusion by Eberhardt et al.

**p. 21:** "Furthermore, as wolf populations increase and wolf predation exceeds hunter harvest, the impact caused by wolves can become as important or more important than the impact caused by hunters."

- This statement ignores the importance of habitat, especially trophic cascades. It also seems to ignore the Plan's own assertions about "balancing" take by wolves and hunters.

**p. 22:** "Localized impacts of wolves on prey may be greatest on crucial ungulate winter ranges and elk winter feedgrounds ...."

- Wolves might be the immediate cause of these impacts, but the ultimate causes are the feedgrounds and livestock production. (*See also* Plan at p. 23.) Artificial feeding of wildlife is inadvisable for many reasons. (For example, the Department itself admits (at p. 24) that "Crowding aggravates the risk of brucellosis transmission among elk.") Elk feedgrounds would not be "necessary" but for the impact of livestock on elk habitat, the conflicts between livestock production and elk on winter ranges, and the relative lack (until recent years) of natural predation on elk populations.

**p. 22:** "Potential impacts to specific populations of moose are a concern. There is crucial moose winter range in the Buffalo Valley/Spread Creek portion of the Jackson Herd Unit. Population trend counts for the Jackson Herd Unit were relatively stable 1991-2000, with a decline beginning in 2001 (Figure 4). The ratio of calves per 100 cows in the population is used as an indicator of recruitment of young into the population. These ratios and the population trend counts indicate the moose population was fairly stable from 1991 to 2000, but trending

downward the last 6 years (Figure 4). Research done by Berger (pers. comm.) on the Jackson moose herd points to several factors that likely contribute to this decline. Pregnancy rates of adult cow moose in the area have been fluctuating between 70-80% since 1994. These rates are in the bottom 10% of all moose populations in North America and significantly lower than pregnancy rates reported by Houston (1968) for the Jackson moose herd in the 1960s, which averaged over 95%. Starvation was the primary source of adult female moose mortality in this study from 1994-2001, accounting for 57% of all known mortality. Wolf predation accounted for 3%. Starvation also was a significant factor in reducing moose calf survival from an average of about 90% to nearly 10% in 2001 (Berger, pers. comm.). These data indicate a population under the influence of larger environmental and/or density dependent factors. However, wolf predation can be a major factor in moose calf survival. In 1998, calf survival decreased to nearly 40% due mostly to wolf predation (Berger, pers. comm.)....

- This paragraph is confusing. Are the terms calf-per-100-cow ratio and “pregnancy rate” used interchangeably? The terms do not (necessarily) have the same meaning. If they are *not* being used interchangeably here, how were pregnancy rates determined?
- Given that “starvation was the primary source of adult female moose mortality ... from 1994-2001,” shouldn’t the Department attempt to determine the reasons for starvation? Are wolves preventing moose from foraging? Is habitat condition, weather, or other factors contributing?
- If the Department is suggesting that wolves are the cause of the low “pregnancy rates,” how does it explain the low rate in 1994 and 1995, given that wolves were “first observed in the Jackson area in small numbers during the winter of 1997-1998”? (See p. 23.)
- Who is Berger and why is he/she not identified? What were the results of this research? Why have they not been published? The reader is given no basis on which to judge the worth of this “pers. comm.”
- Regarding the statement—“Starvation also was a significant factor in reducing moose calf survival from an average of about 90% to nearly 10% in 2001”: Is 90% the “average” for 1994-2001? How do the terms “primary source” and “significant factor” differ in meaning with respect to starvation as a cause of mortality in cows and calves, respectively? Can the Department (or Berger) explain why starvation played such a significant role in calf mortality in 2001? What role did starvation play in the other years in the period 1994-2001, when “Starvation was the primary source of adult female moose mortality”? Why are there data available for calf survival in 1998 due to wolf predation, but not for the other years in the (presumed) period 1994-2001?
- Presumably, none of these figures reflect statistical differences. Not only are populations subject to such factors as weather, habitat, disease, and parasites, as well as predation, but as the Plan recognizes (at p. 24, Fig. 4): “Factors such as snow cover and other environmental conditions can influence the way animals concentrate on winter ranges or their visibility from the air and thus affect the results of trend counts from year to year.”

**p. 22:** “The large amount of elk prey available in the Jackson area may cause wolf numbers to increase and remain high, possibly resulting in impacts to the moose numbers in the area.”

- This statement *either* ignores the relevance of habitat to predator/prey populations, *or* implies that elk populations are unnaturally high in the Jackson area, *or both*.